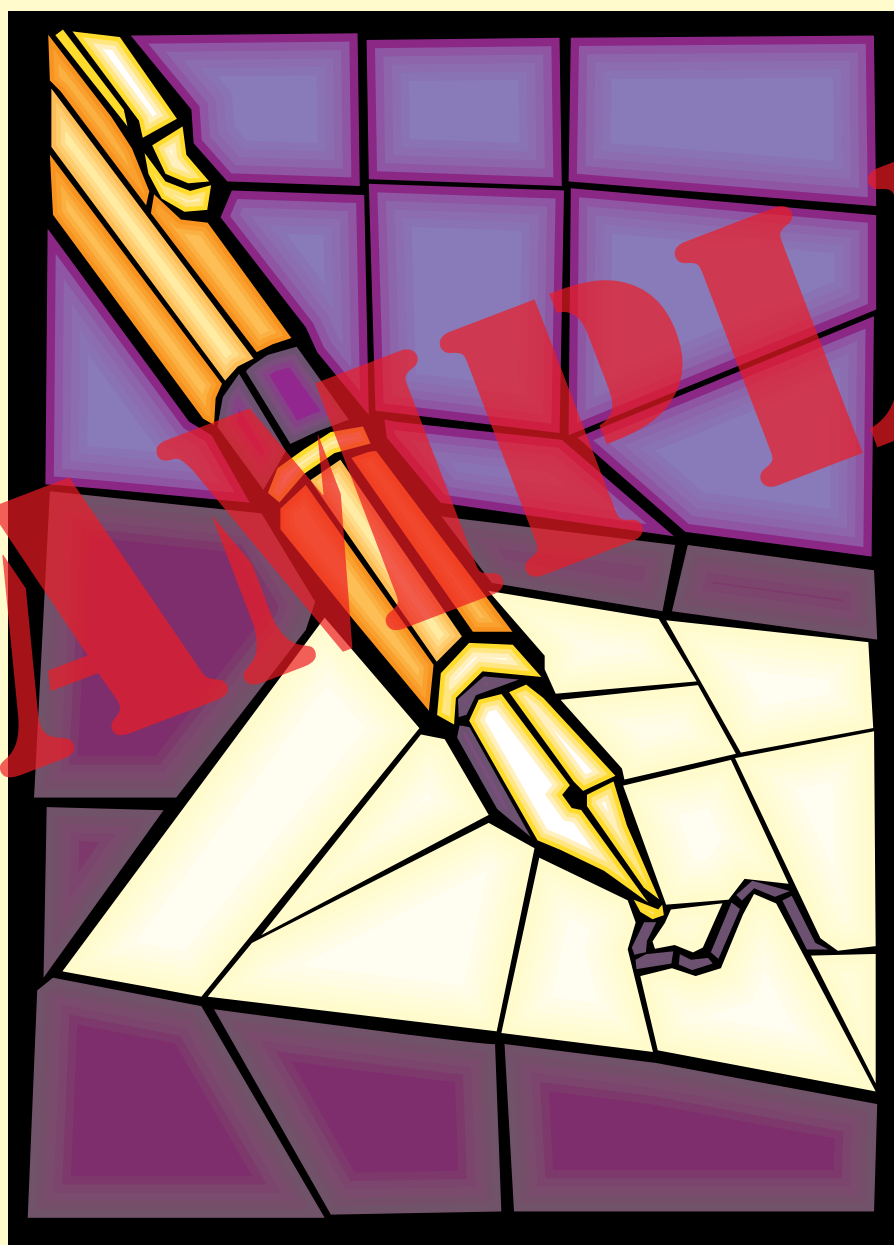


The Test Writer's Guide to Crafting Good Questions

— First Edition —



Jill Meryl Levy • Firebelle Productions

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**Jill Meryl Levy
Firebelle Productions**

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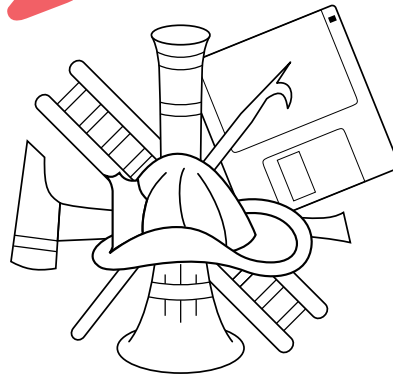
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**This book is
organized into
six chapters.**



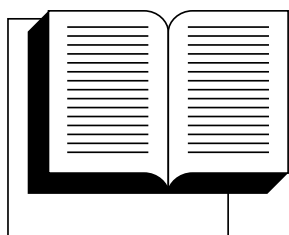
**Chapter 1:
Focus on the
Right Concepts**

**Chapter 2:
Write the
Questions Well**

**Chapter 3:
Don't Give Away
the Answers**

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Preface

The Scope of This Book

This book is designed to help test writers develop quality exams by illustrating some of the differences between effective and ineffective test questions. Most of the examples are multiple-choice or true/false, because these questions are used most often. However, the book briefly addresses matching, fill-in, and essay questions too. It's beyond the scope of this edition to address more advanced topics, such as test validation.

The Organization of This Book

This book starts by coaching test writers to focus on the right concepts—the information that really matters. Subsequent sections of the book concentrate on the mechanics of writing good test questions, including how to avoid common problems that make questions difficult for test takers to read or interpret, that make questions vulnerable to challenges, or that give away the answers. Toward the end of the book are a few tips on using good grammar and on formatting the test for ease of reading.

Each topic begins with the rationale behind the rule or guideline. The rationale is followed by sample test questions illustrating common problems and suggested improvements.

The Sample Questions

The sample questions come from two fields (emergency response and law), because these are the two worlds I come from. But the principles of test writing are universal, regardless of the subject matter.

I provided answers to all of the questions (except the essay questions), sometimes with brief explanations for readers who may not be familiar with the material. I believe that makes it easier for readers to see what makes a question effective or ineffective. I generally did not cite sources, however, because my emphasis is not on the content of the questions as much as it is on the art of writing good questions.

The Background Behind the Book

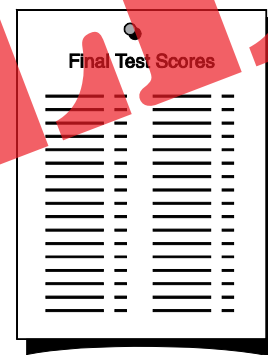
Most of the information in this book comes from thirty years of experience as a trainer, author, and student. But I owe a debt of thanks to the National Board of Medical Examiners, whose publication *Constructing Written Test Questions for the Basic and Clinical Sciences (Third Edition)* both validated everything I'd written on my own and gave me many more valuable ideas for this book.

Feedback Welcome

Like any good book, this one is still a work in progress. I welcome feedback. It's through customer feedback that books are improved for future readers.

Jill Meryl Levy

This book is designed to help test writers develop quality tests and quizzes by illustrating differences between effective and ineffective questions.



The first chapter coaches test writers to focus on the right concepts.

Subsequent chapters concentrate on the mechanics of writing good questions.

**I'm grateful
to the friends
and colleagues
who inspired me
to write
this book ...**

Thanks

**... and to those
who reviewed
the draft
and provided
valuable
feedback.**

Acknowledgements

First and foremost, I'm grateful to the friends who have played pivotal roles in my career. Robert Charles Innis, Drew Bardet, and Glenn Bardet first captured my heart in junior high school. But a few years later, they and a fourth friend, Kevin McQuiston, inspired in me a passion for writing and set me on the path that led to my becoming a firefighter, an author, and a paralegal. These special friends will always have a place in my heart.

I probably wouldn't have considered paralegal school were it not for attorney Louis S. Abronson, who quickly recognized that any client who brought him a binder of evidence resembling a well-researched and well-organized book would excel at legal research and writing. Louis prodded me to go to paralegal school, accepted me as an intern, and has since made me part of his legal team.

I'm grateful to Bryan A. Garner, Peggy Mathieson, Gene Lindenbaum, and Joanne Banker Hames, for helping me hone my legal research and writing skills. The training they've given me is priceless.

This book grew out of a special project that Melisa Dawn Frick encouraged me to do in her trademark law class. It began as a brief newsletter on writing good test questions and blossomed into something more comprehensive than I ever dreamed possible.

I owe a special thanks to the people who reviewed the draft of this book and provided valuable input. Some are longtime friends and colleagues who have devoted many hours to reviewing several of the books I've written. Some have many years of teaching and test writing experience. Others have never taught a class or written a test, but as students—as consumers—are equally interested in improving the quality of test questions. This book is a more valuable resource thanks to the efforts of the following people:

- Marejka Behman, Paralegal
- Michelle R. Brady
Environmental, Safety & Occupational Health Manager
- Karen Fang Conroy, Manxome Solutions
- Ola Cook, Writer and Editor
- Stefani Dawkins, Paralegal Studies and Business Leadership Instructor
- Melisa Dawn Frick, Paralegal Studies Instructor
President of the Paralegal Association of Santa Clara County
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- Gene Lindenbaum, J.D., Paralegal Studies Instructor
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- Janice Plummer, Paralegal
- Annie G. Reed, M.A., J.D.
- Dan Roe, Executive Director (Emeritus), AZSERC
- Tom Scully, EnMagine
- Kevin M. Smith, Deputy Fire Marshal - Hazmat
Chino Valley Independent Fire District
- Len Williams, CPA

Finally, I thank all of the instructors who inspired me via their tests, both good and bad.

Chapter 1

Focus on the Right Concepts

This chapter is about how to focus on the right concepts when writing test questions. Too many test writers do what is easy for them instead of what is right for the test takers. And so tests are filled with vocabulary questions, trivia questions, and other weak questions that don't address the most important things test takers should know. This chapter is designed to solve that problem.

Some of the topics in this chapter will overlap others. That is intentional. The need to write quality test questions is so great ... and poor quality test questions are so prevalent ... that it warrants the emphasis (and sometimes the repetition).

People often have a lot at stake when they take tests. You owe it to them to write quality questions that add value and challenge the test takers.

People often have a lot at stake when they take tests.



Always strive for quality. Write test questions that add value and challenge test takers.

Keep Your Eye on the Ball

Rationale

Always keep your eye on the ball when writing test questions. Before you start, consider the following:

- What is the purpose of the test?
- Have you reviewed applicable codes, regulations, and standards to ensure that you cover the competencies expected of your test takers?
- What are the most important things for test takers to know in the real world or to remember from the material they studied?
- Who are your test takers? How urgently do they, at their level, need to know the information?
- Where is the line between what test takers *need to know* versus what professionals in the field can or should look up?
- Where is the line between what test takers *need to know now* versus what they will become fluent with later?
- What is appropriate for this particular test versus another one down the line?

If you start with these considerations in mind, you can avoid wasting time and energy on unimportant topics. But then as you write each question, ask yourself, "Is it really important for test takers to know this?" Put yourself in their positions or the positions they may be in upon successful completion of the exam. Evaluate your test questions from that perspective.

Who are the test takers? Are they new recruits in a police academy or fire academy? If so, test them on concepts that will help ensure their safety and enable them to do their jobs effectively. Mentally put them in that patrol car or fire engine en route to a 911 call, and test them on what they need to know from that perspective. Are the test takers future paramedics or emergency medical technicians? Mentally put them at an accident scene with someone's life in their hands. Test them on information that will help them save that life.

Evaluate every potential question in terms of its usefulness to the test takers. Do police officers need to know the composition of the gunpowder in their weapons? Probably not. Do they need to know how to properly maintain their weapons? Absolutely. This is common sense. And yet so many test writers focus on the wrong things. Why? Because the easiest questions to write are often ones based on less important concepts.

Consider the level of supervision test takers will have in the field. There's a world of difference, for example, between an entry level paralegal working under the close supervision of an attorney and a rookie police officer who, even under the close supervision of a field training officer, may be forced to act independently in a life-or-death situation. Thus a paralegal student doesn't have to be tested on attorney-level responsibilities, whereas a police cadet does need to know many of the same things that a seasoned officer knows.

Keep your eye on the ball when writing test questions.



What are the most important things for test takers to know in the real world?

Consider whether each test question is appropriate for *these* test takers at *this* time. For example, on *this* test, it may be sufficient to understand the consequences of failing to file a lawsuit within the statute of limitations. On another test at a more advanced level, it might be important to know the statute of limitations for particular types of cases.

When you write tests for a class, your questions should reflect the depth to which the material was covered in the classroom or in the textbook. If the textbook contains chapter objectives or review questions, use these as tools to help determine test-worthy material.

Keep your eye on the ball when writing test questions. Focus on the action that counts. Focus on the things that will enable test takers to hit the ground running at the level expected of them in the field.

Examples

Example 1: All of the questions below represent information that legal professionals should know. But the first one emphasizes vocabulary, whereas the other two stress application of the information. The answers to these three questions are (d), true, and (a), respectively.

Fair: Under the doctrine of _____, if a defendant intends to harm one person but, because of bad aim or other cause, he harms another, he can be prosecuted as if the one harmed was the intended victim.

- a. Negligence
- b. Strict liability
- c. Constructive intent
- d. Transferred intent

Good: T/F Under the doctrine of transferred intent, if a defendant intends to harm one person but, because of bad aim or other cause, he harms another, he can be prosecuted as if the one harmed was the intended victim.

Good: Jeff fires a gun at Steve, intending to kill him. Steve dives out of the way, escaping injury. But the bullet strikes and kills Marjorie instead. Under the doctrine of transferred intent, Jeff can be prosecuted for:

- a. First-degree murder.
- b. Second-degree murder.
- c. Voluntary manslaughter.
- d. Involuntary manslaughter.

Focus on the action that counts.



Evaluate every potential question in terms of its usefulness to test takers. Focus on things that matter the most.

To use a sports analogy, there's a lot of activity on the court that doesn't affect the score.



Your questions should be ones that "affect the score." Focus on things that will enable test takers to hit the ground running at the level expected of them in the field.

Example 2: It's interesting to know that motor vehicle accidents are the leading cause of spinal cord injuries, but it's more important that first aid students be taught to anticipate spinal cord injuries under any of the circumstances listed below and to treat injured people accordingly. The answer to this question is (b).

Fair: Which of the following is the leading cause of spinal cord injuries?

- a. Falls
- b. Motor vehicle accidents
- c. Fights and other acts of violence
- d. Sports and recreational accidents

The following is a better question, because it forces test takers to determine which of these signs is the first and most important indication of the severity of injury and the urgency of treatment. The answer is (a).

Good: The first and most important sign of brain injury is:

- a. Changes in a person's level of consciousness.
- b. Blood and cerebrospinal fluid in the ears and nose.
- c. Bruising, especially around the eyes and behind the ears.
- d. Partial or complete loss of movement in any body part.

Example 3: Attorneys and paralegals should know the difference between official reporters (those printed under the authority of the government) and unofficial reporters (those printed by a commercial publishing company without special authority from the government). But it's not crucial. It's more important to know where to look for the information one needs. The answer to both of these questions is (d).

Fair: Which of the following is an official publication?

- a. Federal Reporter
- b. Federal Supplement
- c. Pacific Reporter
- d. United States Reports

Good: Which of the following publications contains court opinions from the U.S. Supreme Court?

- a. Federal Reporter
- b. Federal Supplement
- c. Pacific Reporter
- d. United States Reports

Triage the Content

Rationale

When faced with more patients than they can effectively handle at once, emergency personnel triage those patients, quickly categorizing them based on how urgently they need medical attention and how likely they are to survive. You can triage your potential content in much the same way, making it easier to determine what material is test-worthy and what is not. Remember, too, that this will vary depending on who your test takers are and what the purpose of the test is. You can make up names of your own, but most content falls into one of three categories:

- Need-to-know
- Nice-to-know
- Trivial or unimportant (a.k.a. Who cares?)

This is really another way of saying “keep your eye on the ball,” which was covered in the previous pages. It also overlaps other guidelines that follow this one. But it’s so important that it’s worth emphasizing in different ways.

As you start planning your test, identify the information test takers *need* to know. Write your first questions based on that material. Once you’ve included all the need-to-know material, if you need additional questions to meet your target, look to the nice-to-know information. If you use this approach, you may never write another trivial question again.

Examples

Example 1: Someone studying criminal law needs to know what does and does not qualify as self-defense, because that affects the way a homicide case is handled. So the following is a good question. The answer is (a).

Need: When may a defendant charged with homicide use a self-defense claim?

- If he honestly and reasonably believed he was about to be killed or seriously injured.
- If he killed someone who threatened to kill him as soon as they were alone.
- If he accidentally killed a police officer while resisting what he believed was an unreasonable arrest.
- All of the above.

The following question could be need-to-know or nice-to-know, depending on the audience. It’s more important to attorneys or paralegals who will specialize in criminal law than to students who are merely getting an overview of criminal law as part of their training. The correct answer is (c).

Need/Nice: What is the standard of proof generally required for a criminal defendant to meet the burden of persuasion on an affirmative defense?

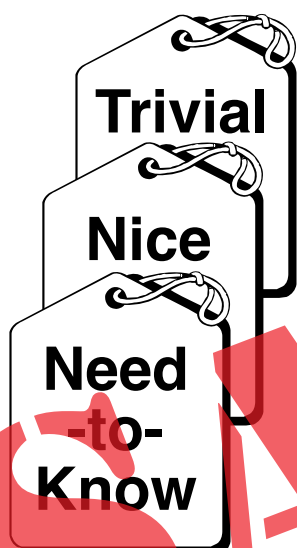
- Beyond a reasonable doubt
- By clear and convincing evidence
- By a preponderance of the evidence

You can triage potential test content much the way emergency personnel triage patients to determine priorities.



Write your first questions based on need-to-know information. If you need additional test questions, pick from the nice-to-know material.

You'll never write another trivia question if you triage your potential content before writing your tests.



It's easy to separate trivia from need-to-know and nice-to-know information.

The answer to the following question is false. But the question would be trivial on a criminal law test, because the only thing that matters is the law of the land wherever attorneys or paralegals are working. Does the state allow a defense of voluntary intoxication, or does it not?

Trivial: T/F In *Montana v. Egelhoff* (1996), the U.S. Supreme Court determined that due process requires that states allow criminal defendants to use a defense of voluntary intoxication.

Example 2: This first question covers information that firefighters must know about flame impingement on a compressed gas cylinder or tank. The correct answer is (a). Most compressed gas cylinders are equipped with a pressure relief device, but relief devices are prohibited on cylinders containing highly toxic materials.

Need: You are responding to a fire at a chemical facility known to have compressed gases in both small cylinders and large tanks. One of your immediate concerns is the potential for a BLEVE (boiling liquid expanding vapor explosion) from flame impingement. En route, you and your crew review key safety concerns. Which of the following statements is **not** accurate?

- a. All compressed gas cylinders are equipped with a pressure relief device to prevent rupture when exposed to fire.
- b. Reliable indicators of an impending BLEVE include a rising sound from a venting relief device and discoloration of the tank due to fire.
- c. Large pressure vessels impinged on by fire have been known to fail catastrophically within 10 to 20 minutes or even days afterwards.
- d. The greatest danger is from flame impingement on the vapor space versus the liquid space of a tank.

Here's another question that might fit into either the need-to-know or nice-to-know category. The answer is true. However, emergency responders must consider the *entire* tank vulnerable, because there is still significant risk of failure at the sides. Thus a better question might be one that requires them to use appropriate reference sources to identify minimum evacuation distances based on the contents of the tank.

Need/Nice: T/F If a high-pressure cargo tank or rail car is impinged on by fire, the greatest risk of tank failure will be at the ends of the tank.

The answer to the following question is (c). But firefighters may have no idea how full a tank is when they respond to a fire. And a fire scene is not the place to lay odds on the risk of a BLEVE; one has to go into the incident as if the risk is 100%. So the following question is trivial.

Trivial: Most BLEVEs occur when liquefied gas containers are approximately _____ full.

- a. Less than 1/4
- b. From 1/4 to 1/2
- c. From 1/2 to 3/4
- d. More than 3/4

Look to Codes, Regulations, and Standards for Ideas

Rationale

When things go wrong in the real world, investigators may look at training records to see if workers were properly trained. One of the factors investigators consider is how closely the course objectives met the training requirements outlined in codes, regulations, and standards. If the training falls short, the parties responsible may be held liable for resulting damages.

When deciding what material to use for test questions, start by looking at the codes and regulations that dictate what training employees must have and how they must perform on the job. This is different from testing people on the codes and regulations themselves.

Codes and regulations contain the minimum training requirements required by law. However, many industries have standards for professional competence that exceed these minimum requirements. When that's the case, the training should be based on these standards for professional competence. Otherwise, if something goes wrong, the parties responsible for the training can still be found negligent for providing only the minimum training versus a higher level of training considered the standard of care in the industry.

When you look at codes, regulations, and standards, look for phrases such as those listed below. Often you'll see similar expectations identified as objectives at the start of every chapter in a textbook.

- "The employer's training program must include ..."
- "The [type of worker] shall identify ..."
- "The [type of worker] shall describe ..."
- "The [type of worker] shall demonstrate ..."
- "The [type of worker] shall be able to ..."

Examples

Example 1: The first question below is appropriate in any workplace where employees must dial an internal phone number to report emergencies. The second one focuses on reporting a hazardous materials incident.

Good: The site's internal phone number for reporting emergencies is _____.

Good: Identify at least five details you should provide emergency operators when reporting a hazardous materials incident.

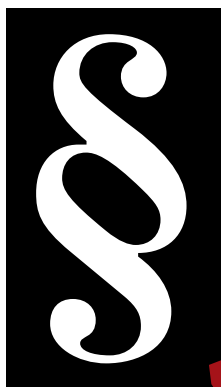
Both questions are built on generic training requirements. For instance, OSHA requires that employees who work with or around hazardous materials be trained in their employer's site safety and health plan. But OSHA regulation 29 CFR 1910.120(e) is less detailed than the industry standards published by the National Fire Protection Association (NFPA). The applicable standard, known as NFPA 472, requires employees to demonstrate a knowledge of how to initiate the emergency notification process.

When things go wrong in the real world, investigators often look at training records to see if workers were properly trained.



If training falls short of requirements outlined in codes, regulations, and standards, the parties responsible can be held liable.

Codes, regulations, and standards often give good guidelines to help you develop test questions.





Look for clues:

“The employer’s training program must include ...”

“The [type of worker] shall be able to ...”

Example 2: Let’s continue with the hazardous materials example. Per NFPA 472, employees must be given basic training in how to use the *Emergency Response Guidebook* (ERG)—a tool designed primarily for firefighters, police officers, and other emergency responders. Employees must be able to determine the appropriate ERG guide number based on the name of a hazardous material, a four-digit UN/NA identification number, or a placard. This question tests their ability to do so. (The answers are shown in gray.)

Good: Using a current copy of the *Emergency Response Guidebook*, complete the following chart:

Hazardous Material	UN/NA Number	ERG Guide
Anhydrous Ammonia	1005	125
Fuming Sulfuric Acid	1831	137
MEK	1193	120
ANFO	—	112
Ethylene Oxide	1040	119
Sodium Cyanide	1689	157
Methane or Natural Gas	1971	115
Methanol (Methyl Alcohol)	1230	131
	—	127
	—	111

Notice that this example and the ones that follow don’t test memorization. They test the ability to use essential reference sources.

Example 3: Again, we’ll build on the hazardous materials example. Just identifying an ERG guide number is of limited value. People must be able to use the information found in the ERG. So we’ll create a scenario and develop questions around it.

Good: — *Questions 1 to 5 refer to the following scenario* —

A truck driver making a delivery to the hospital dropped a tank containing ethylene oxide as he was unloading his truck. The cylinder valve was damaged, and now ethylene oxide is leaking into the loading dock.

1. The UN/NA identification number for ethylene oxide is _____.
2. The ERG guide number for ethylene oxide is _____.

3. According to the ERG, which is the greater concern with ethylene oxide?
 - a. The health hazard
 - b. The fire or explosion hazard
 - c. Unknown - there is no indication
4. What is the recommended initial isolation distance listed in the ERG guide for a spill or leak of ethylene oxide?
5. Ethylene oxide is also listed in the Table of Initial Isolation and Protective Action Distances. Complete the following chart with the recommended isolation distances for ethylene oxide.

	<u>Small Spill</u>	<u>Large Spill</u>
First Isolate	_____	_____
Then Protect - Day	_____	_____
Then Protect - Night	_____	_____

The answers to the previous questions are as follows:

1. UN/NA number 1040
2. ERG guide number 119
3. Health hazard - (a)
(The greatest concern is listed first in each ERG guide.)
4. 100 meters (330 feet) in all directions
5.

	<u>Small Spill</u>	<u>Large Spill</u>
First Isolate	30 m (100 ft)	150 m (500 ft)
Then Protect - Day	0.1 km (0.1 mi)	0.8 km (0.5 mi)
Then Protect - Night	0.2 km (0.1 mi)	2.5 km (1.6 mi)

Example 4: Good ideas for test questions can often be found in documentation from national and state organizations. For example, the American Association for Paralegal Education (AAPPE) has identified skills that graduates should be able to demonstrate upon completing a paralegal program. Among those are the ability to locate sources of law and to properly cite those sources. The following question requires test takers to demonstrate that ability. The answer to the question is *International Shoe Co. v. Washington*, 326 U.S. 310 (1945).

Good: Identify the landmark case in which the U.S. Supreme Court established the principle that a defendant can be sued in another state if he or she has "certain minimum contacts" with the forum state such that exercising jurisdiction "does not offend the traditional notions of fair play and substantial justice." Cite this landmark case using proper *Bluebook* citation format.

Of course, in a legal research class, you can go much further. Instead of using simple multiple-choice, true/false, and fill-in questions, you can give students a research problem and ask them to write a legal memorandum like they would in a law office. Giving students a task that resembles what professionals do in the real world is a valid way to test what they have learned.

Many industries have standards for professional competence that exceed the minimum requirements found in codes and regulations.



When that's the case, test questions should be based on the standards for professional competence.

Write for the Right Audience

Rationale

It's essential to write questions for the right audience. What might be a good question for one set of test takers could be a dangerous question for others. Context matters.

Examples

Example 1: The answer to the following question is true. The description accurately reflects how blasting agents are classified by the Department of Transportation. In that regard, this is a good question. But it's dangerous on a test geared for firefighters and other emergency responders.

Wrong: T/F Blasting agents such as ANFO (ammonium nitrate-fuel oil mixture) are relatively insensitive and present little risk of accidental explosion under normal conditions of transport.

When firefighters respond to a 911 call, it's not because hazardous materials are "under normal conditions of transport." Firefighters need to know how these materials will behave under emergency conditions. Otherwise, lives may be lost. The following are more appropriate questions for emergency responders. The answers are true and (c), respectively.

Right: T/F Although blasting agents are relatively insensitive under normal conditions of transport, they can explode when impinged on by fire.

Right: A tipster has reported finding a van loaded with ANFO (ammonium nitrate-fuel oil mixture). While en route to the scene, you review the potential for explosion. ANFO is:

- a. Relatively sensitive to heat, shock, and friction.
- b. Relatively insensitive, with little chance of accidental explosion.
- c. Relatively insensitive under normal conditions of transport, but likely to explode when impinged on by fire.

Example 2: Shown below are two more otherwise good questions that are potentially dangerous on a test geared for firefighters and other emergency responders. The answers are true and (b), respectively.

Wrong: T/F Anhydrous ammonia is classed as a nonflammable gas (Class 2.2).

Wrong: Anhydrous ammonia is classified as a/an:

- a. Flammable gas (Class 2.1).
- b. Nonflammable gas (Class 2.2).
- c. Inhalation hazard (Class 2.3).
- d. Poisonous material (Class 6.1).

If information is presented in the wrong context, it can be dangerous.



If test questions aren't geared for the specific audience, people may walk away from your test remembering information that could prove harmful.

The revised questions are more appropriate for emergency responders. The answers are true and (d), respectively. For reasons that are beyond the scope of this book, anhydrous ammonia is classified as a nonflammable gas by the Department of Transportation, despite having a flammable range of 16% to 25%.

Right: T/F Anhydrous ammonia has a flammable range of 16% to 25%.

Right: You have responded to an anhydrous ammonia leak at a nearby packing plant. During the safety briefing, you remind everyone that anhydrous ammonia is:

- a. A flammable gas.
- b. A nonflammable gas.
- c. Classified as a flammable gas, but is very difficult to ignite.
- d. Classified as a nonflammable gas, but has a flammable range of 16% to 25%.

Example 3: Even if a question does not involve life-or-death scenarios, it may involve make-or-break concepts. The intended answer to both questions below is (d). But the first question is problematic. It has no clear answer, and it runs the risk that test takers will walk away with misinformation that can cause them to make errors later in their careers.

Issue statements may be either persuasive or analytical, depending on the documents they're used in. For a persuasive issue statement, such as would be used in a brief to the court, the correct answer is (d). For an analytical issue statement, such as would be used in a legal memorandum evaluating the merits of a client's case, the answer is (c). If an attorney is not analytical and objective at that stage in the case, it can adversely affect the client. The first question below conveys the idea that it applies to all issue statements, whereas the revised question targets only persuasive issue statements.

Poor: What makes a good issue statement?

- a. It advocates for your client.
- b. It contains a premise designed to pull the court toward your conclusion.
- c. It clearly and concisely states the applicable law, key facts of the case, and the question to be answered.
- d. All of the above.

Revised: What makes a good persuasive issue statement?

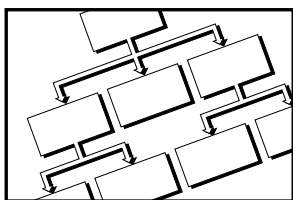
- a. It advocates for your client.
- b. It contains a premise designed to pull the court toward your conclusion.
- c. It clearly and concisely states the applicable law, key facts of the case, and the question to be answered.
- d. All of the above.

Consider who your test takers are, what their needs are, and how they will use the information.



Even when lives are not at stake, questions may involve make-or-break concepts. Put those questions in the proper context to make sure people walk away from your test with the correct information.

Approach test writing with the attitude that your reach—and your obligation—extends beyond the test takers.



Take seriously the idea that someone else's future is in your hands via the ultimate performance of your test takers.

Remember the Obligation to People Downstream

Rationale

Good test writers maintain an attitude that their reach—and their obligation—extends beyond test takers to people “downstream.” Written tests are not the sole measure of person’s knowledge or capabilities, but they are often the final hurdle—the one that determines whether someone will graduate, become certified or licensed, be hired or promoted, and so forth. So it’s crucial that tests be well-written and accurately reflect the information professionals must know in the real world.

Step out of the role of test writer for a moment and put yourself into the role of a patient, for example. Do you want your life in the hands of a healthcare provider whose performance in school was marginal and who graduated only by virtue of a weak test that failed to demonstrate competency? Probably not. The same concept applies to any other profession.

If you look at testing from the perspective of people downstream, you can get a clearer picture of what is at stake. You should function as a gatekeeper—passing people who are capable of doing the job and failing those who are not. Otherwise, someone downstream may pay a steep price.

Examples

Example 1: The first question below is not bad, but just knowing what causes hypovolemic shock is not enough. First aiders need to know how to recognize shock in the early stages, how serious shock can be, and how to care for someone in shock. Instructors who reinforce this information can save lives through their students. The answers to the first three questions below are (a), (e), and true, respectively.

- Fair:* Hypovolemic shock is caused by:
- A loss of blood in the circulatory system.
 - Failure of the heart to circulate blood adequately.
 - A spinal or head injury that causes the nervous system to lose control over the vascular system.
 - A severe allergic reaction.
 - Toxins produced by a severe infection.
- Good:* Which of the following signals is often the first indication that a person is developing shock?
- Pale, cool, moist skin
 - Rapid, shallow breaths
 - Rapid, weak pulse
 - Altered level of consciousness
 - Restlessness or irritability
- Good:* T/F A person can die from shock even if the injuries themselves are not fatal.
- Good:* Describe the appropriate first aid measures for a person in shock. Be thorough.

Example 2: This question does not have a clear answer. More importantly, it's short-sighted, because if law students walk away from the test thinking that the statute of limitations is three years, they leave with a partial answer—one that may cause them to miss a critical deadline and forever deprive a client of the right to sue a negligent doctor.

Poor: In California, the statute of limitations for medical malpractice is ____ year(s) from the date of injury.

- a. One
- b. Two
- c. Three
- d. Four

A potential client deserves an attorney who knows the statute of limitations well enough to preserve the right to sue. The answers to the three questions below are (a), (d), and (c), respectively.

Good: In California, the statute of limitations for medical malpractice is three years from the date of injury or _____ year(s) after the plaintiff discovers, or through the use of reasonable diligence should have discovered, the injury, whichever comes _____.

- a. One ... first
- b. One ... last
- c. Two ... first
- d. Two ... last

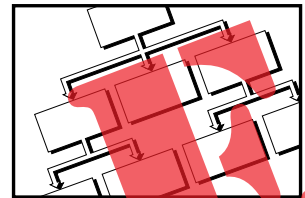
Good: When can the statute of limitations for medical malpractice can be tolled beyond three years in California?

- a. Upon proof of fraud.
- b. For intentional concealment.
- c. Upon discovery of the presence of a foreign body that has no therapeutic or diagnostic purpose or effect.
- d. All of the above.
- e. None of the above.

Good: You have been contacted by a potential client who believes that her former doctor was negligent. She says that her knee never healed properly post-surgery and was recently reinjured as a result. While doing some Internet research into post-surgical complications, she ran across some articles suggesting that her doctor may have performed the wrong surgical procedure thirteen months ago. Based on California law, how does the statute of limitations affect her right to sue?

- a. The potential client is out of luck, because the statute of limitations has passed.
- b. The potential client still has the right to sue, because she is within the statute of limitations.
- c. The potential client may have the right to sue if the court agrees that the delayed discovery is reasonable, even though there were earlier indications that something was wrong.
- d. The potential client lost the right to sue by not seeking a second opinion when she first suspected that her knee was not healing properly post-surgery.

Consider the consequences if people “fail a test” in the real world.



Write questions that minimize the risk of real-world failures and the consequences that go with them.

Questions shouldn't be so easy that the answers are obvious, even to people who know nothing about the subject.

duh

Such easy questions don't measure what students have learned in class or whether employment candidates are qualified for the jobs they seek.

Avoid No-Brainers

Rationale

Questions shouldn't be so easy that the answers are obvious, even to people who know nothing about the subject. Such easy questions don't measure what students have learned in class or whether employment candidates are qualified for the jobs they seek.

Examples

Example 1: Although firefighters are expected to know about the fire triangle, the information is so basic that it's hardly test-worthy material. At most, it might be acceptable on a pre-employment test, but not on a test given to recruits in a fire academy or to firefighters taking a promotional exam. The answer is (d).

Poor: Which of the following is **not** part of the fire triangle?

- a. Fuel
- b. Heat
- c. Oxygen
- d. Chemical chain reaction

Example 2: This question is obvious, because the word *trademark* is in both the premise and the answer. But there's a second problem in that the U.S. Patent and Trademark Office is part of the Department of Commerce. Although answer (a) is clearly the best answer, the question invites debate from people who choose answer (b).

Poor: Federal trademark registration in the United States is administered by the U.S.:

- a. Patent and Trademark Office.
- b. Department of Commerce.
- c. Department of State.
- d. Department of the Treasury.

Example 3: The following question is another no-brainer. The answer is false.

Poor: T/F The federal government is one of unlimited powers.

Example 4: Here's one more that is common knowledge, not a measure of what emergency medical technicians or paramedics should have learned as a result of their advanced training. The answer is true.

Poor: T/F A person experiencing a heart attack may complain of a squeezing pressure in the chest.

Example 5: This one can be answered with common sense too. The answer is true.

Poor: T/F The law imposes a higher standard of care on doctors, lawyers, and other skilled professionals than it does on unskilled ordinary individuals.

Avoid Trivia Questions

Rationale

Above all else, avoid trivia questions.

One of the worst things a test writer can do is fill the test with questions that have little to do with the objectives, whether they be the objectives of a class, a certification exam, a hiring process, or a promotional test. What's a trivia question? It's one that generates a response of "Who cares?" It's one that no self-respecting test taker would think to study for unless someone provided clear warning that the material would be on the test.

Trivia questions are easy to write, much more so than quality questions. They are often easier to defend too, because they are seldom open to interpretation. But trivia questions are a lot like empty calories. They add fat to fill a test, but they don't add value.

Some questions are borderline. They're valuable enough that they don't count as pure trivia, but neither are they the most effective way to measure knowledge. We'll look at examples of borderline questions too.

Examples

Example 1: The following question might be appropriate if the subject of the test is the history of pipelines, but not if the subject is emergency response to hazardous materials incidents. The answer is (c).

Trivial: Pipeline safety regulations are a result of the Natural Gas and Pipeline Safety Act of:

- a. 1966.
- b. 1967.
- c. 1968.
- d. 1969.

If firefighters are faced with a pipeline emergency, they don't care about when the regulations were written. They need to know how to identify the hazards and how to mitigate the incident. The following question is more appropriate. The answer is (c).

Important: The most important reason for calling the pipeline company before shutting off valves at a pipeline leak is to:

- a. Determine how much product will continue to flow after the valves have been shut off.
- b. Give the pipeline company time to alert customers who may be affected by the shutdown.
- c. Ensure that shutting off a valve will not cause problems elsewhere in the line.
- d. Ensure that the pipeline company makes mandatory notifications to other agencies.

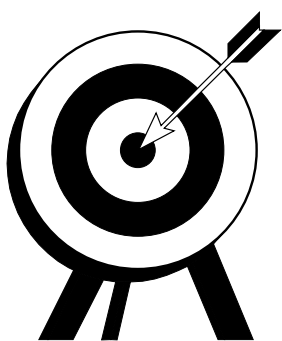
Although the best answer above is (c), all of the distractors are relevant concerns. So test takers need to think carefully when answering the question. The question may be difficult for some people, but no more difficult than handling this scenario in the real world.

**Stay on-target.
Avoid trivia
questions that
have little to
do with the
objectives.**



**Test questions
should be
relevant to
what test takers
will do in the
real world.**

Emphasize need-to-know information when writing test questions.



The further you get from what test takers need to know in the real world, the more likely it is that you are writing trivia questions that don't belong on the test.

Example 2: Unless one is studying the U.S. Supreme Court justices and the roles they played in shaping our nation's laws, it doesn't matter who dissented in *Terry v. Ohio* or how the votes were divided. What matters is how that decision affects what police officers can or cannot do today. The answers to the questions below are (b), false (8:1), and (b), respectively.

Trivial: Who was the lone U.S. Supreme Court justice to dissent in *Terry v. Ohio*?

- a. Hugo Black
- b. William Douglas
- c. Thurgood Marshal
- d. Earl Warren

Trivial: T/F *Terry v. Ohio* was decided on a vote of 5 to 4.

Important: In *Terry v. Ohio*, the U.S. Supreme Court upheld the right of police to frisk a person for weapons when that person's behavior is suspicious and police are acting to ensure their safety and the safety of others nearby. The Court held that search for weapons is permissible when based on _____ that the person is armed and dangerous.

- a. A hunch
- b. Reasonable suspicion
- c. Probable cause to believe
- d. Certainty

Example 3: Who cares how hot a flare burns? Whatever the temperature, it's hot enough to cause injury. What matters is how to use flares safely. The answers to the questions below are (b) and (a), respectively.

Trivial: A road flare burns at approximately _____ °F

- a. 1000
- b. 1400
- c. 1800

Important: When igniting a road flare, you should strike it:

- a. Away from your body.
- b. Toward your body.
- c. Either (a) or (b). It does not matter.

Example 4: When people study for tests, they often focus on broad concepts versus the minor details associated with them. Both questions below are true, but it's the last five lines of the revised question—the application of the law—that test takers are most likely to have studied.

Trivial: T/F The economic model of negligence is attributed to Judge Learned Hand.

Better: T/F In one of the leading cases on negligence, *U.S. v. Carroll Towing*, Justice Learned Hand reasoned that a party could be found negligent if the financial burden of taking precautions was less than the probability that the accident could have been prevented by those precautions multiplied by the cost of the accident.

Note that in the previous question, the name of the case and the name of the justice are correct. It would be grossly unfair to trick test takers by substituting incorrect names, because that's not where their focus should be when answering the question.

Borderline Questions

Again, some questions are valuable enough that they don't count as pure trivia, but neither are they the most effective way to measure knowledge. The information may be categorized as nice-to-know versus need-to-know. It may be something that people can easily look up but don't need to memorize. It may be something that will become second nature to people after they've worked in the field or in the position for a while, but it's not something they need to know now.

Should you use borderline questions on a test? It depends. If you've covered all the need-to-know information and require a few more questions to fill out the test, a borderline question might be appropriate. But if you haven't hit all the key points in your existing questions, focus on need-to-know concepts instead.

Consider, also, how well the material was covered in the class, the textbook, or other resource that test takers were told to study before the test. If it was emphasized enough that test takers are likely to remember it, it's fair game. If it was mentioned only briefly, a question about it would be unfair.

Example 5: Here are three questions about unequal pupils, a common sign in patients experiencing a stroke or head injury. What makes the second question better than the first one is that there's less emphasis on the statistic than there is on the fact that a small percentage of the population normally have unequal pupils. But the third question is superior, because it encompasses everything that unequal pupils may indicate. The answers are (b), true, and (d), respectively.

Trivial: Approximately _____ percent of the population normally have unequal pupils.

- a. 1 to 5
- b. 6 to 10
- c. 11 to 15
- d. 16 to 20

Borderline: T/F Approximately 6 to 10 percent of the population normally have unequal pupils.

Better: Unequal pupils may be indicative of:

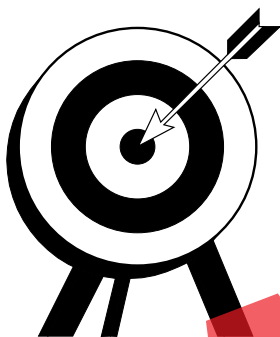
- a. A head injury.
- b. A stroke.
- c. A normal condition in up to 10% of the population.
- d. All of the above.
- e. Answers (a) and (b).

Some questions are not truly trivia questions, but neither do they cover the most important material.



Borderline questions may be appropriate on a test after you've covered all of the key points.

Borderline questions are those that convey helpful information, even if the information is not essential.



Sometimes what separates a borderline question from a good one is how much the information was emphasized in a class, textbook, or other reference material that test takers were told to study.

Example 6: The first question below conveys an important legal principle. But it's more important for law students to understand when respondeat superior does or does not apply. The answers to these questions are true and (a), respectively.

Borderline: T/F The Latin phrase *respondeat superior* means "Let the master answer."

Better: Your client wants to buy a business, but he is concerned about his potential liability if someone is injured on the premises. Before meeting with you, he did some superficial research into when respondeat superior applies. He is correct about all of the following **except**:

- a. It is a form of negligence, where both the employer and employee must be found liable for wrongdoing.
- b. It applies if the harm was caused by an employee, not by an independent contractor.
- c. It is generally designed to protect third parties, not employees who may be injured by fellow employees.
- d. It applies only if the harm was caused while employees were engaged in conduct that was within the course and scope of employment.

Example 7: Knowing the expansion ratio of water gives firefighters an appreciation for how effective steam can be in fighting a fire, so the first question below has merit. But the second question tests whether firefighters know how to apply the information in the field. The answers to the questions are (d) and (c), respectively.

Borderline: Water expands approximately _____ times its original volume when converted to steam at 212°F (100°C).

- a. 1000
- b. 1200
- c. 1500
- d. 1700

Better: What kind of pattern should firefighters use to generate the most amount of steam?

- a. A straight stream
- b. A narrow fog pattern
- c. A wide fog pattern

Example 8: If you taught a class on copyright law and repeatedly referred to Title 17 of the United States Code, a question about where to find copyright law is fair game. But if you focused on the concepts themselves with only brief references to Title 17, the question is borderline. Students who pursue a career in copyright law will become intimately familiar with it, and those who don't can find it easily if they need to know. So use your limited number of test questions for more important things.

Weak: Title 17 of the United States Code covers _____ law.

Borderline: Copyright law is contained in Title _____ of the United States Code.

Avoid Weak Vocabulary Questions

Rationale

Most vocabulary questions show only that test takers recognize a term. They do not show that test takers understand its significance. (A few exceptions are shown at the end of this section.)

Vocabulary questions are easy to write, which is why test writers often use them. But their value—or lack thereof—becomes immediately obvious when you look at what people are expected to know in the real world. Is it enough for them to regurgitate terms and definitions? If yes, vocabulary questions are fine. If not, it's far better to incorporate the terminology into performance-based questions. Always look at the big picture. What is expected of people in the real world?

Examples

Example 1: The following are poor questions, because it's not enough for emergency medical personnel to know terms and definitions. They must know far more to fulfill their responsibilities. The answers to the questions below are (b), false, and *cyanosis*, respectively.

Weak: What is a bluish color of the skin called?

- a. Pallor
- b. Cyanosis
- c. Jaundice
- d. Discoloration

Weak: T/F A bluish color of the skin is called pallor.

Weak: A bluish color of the skin is called _____.

The questions above are a form of cheating. They show that the test writer took the easy way out rather than put an honest effort into writing questions. But they also cheat the ill or injured person whose life may depend on the test takers someday.

The following are better questions. They not only test if test takers know the word, they also show if test takers know what cyanosis typically indicates. The answers are (d), true, and *inadequate oxygen in the blood*, respectively.

Better: What is cyanosis characteristic of?

- a. Heat stroke
- b. High blood pressure
- c. Carbon monoxide poisoning
- d. Inadequate oxygen in the blood

Better: T/F Cyanosis typically indicates inadequate oxygen in the blood.

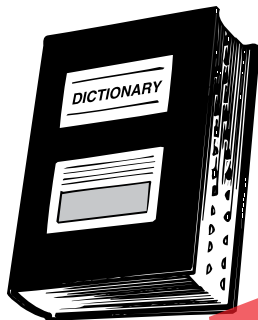
Better: Cyanosis may be present with many injuries or illnesses. What does it typically indicate?

Avoid weak vocabulary questions. They show only that test takers recognize a word.



Use questions that measure whether test takers understand the significance of the information.

Vocabulary questions seldom reflect the level of knowledge expected of people in the real world.



It's better to incorporate terminology into performance-based questions.

The next questions are even better, because they test multiple concepts. They require test takers to know what cyanosis means, what causes it, and how to begin treating the patient. The answers are (a), true, and *reassess the airway*, respectively.

Best: If a patient is cyanotic, the first thing you should do is:

- a. Reassess the airway.
- b. Elevate the patient's legs.
- c. Monitor and record vital signs.
- d. Loosen constrictive clothing.

Best: T/F If a patient is cyanotic, the first thing you should do is reassess the airway.

Best: If a patient is cyanotic, what is the first thing you should do?

Example 2: The answers to the following questions are true, *stare decisis*, and (a), respectively. But the questions do nothing to show that test takers know how *stare decisis* works in the real world.

Weak: T/F The Latin term for the doctrine of precedent is "stare decisis."

Weak: The Latin term for the doctrine of precedent is _____.

Weak: The Latin term for the doctrine of precedent is:

- a. Stare decisis.
- b. Certiorari.
- c. Prima facie.
- d. Res ipsa loquitur.

The following questions test vocabulary while also testing a higher level of understanding. The answers are true, *stare decisis*, and (a), respectively.

Better: T/F Case law is based on the concept of *stare decisis*.

Better: In general, _____ requires trial courts to follow published case law from appellate or supreme courts within the same jurisdiction.

Better: What does *stare decisis* mean in terms of how courts at different levels and in different jurisdictions will decide a case?

- a. *Stare decisis* applies only to published cases from appellate or supreme courts, not to unpublished cases or to published cases from trial courts.
- b. In a state with more than one appellate court district, a decision by one appellate court is binding on all the others throughout the state.
- c. Decisions made by a higher court in the same jurisdiction are persuasive authority, but lower courts can decide similar cases differently if they have good reason.
- d. Recent case law from other jurisdictions trumps older case law from the same jurisdiction.

Example 3: Here is a simple matching question that requires test takers to pair terms and definitions. It's better than the vocabulary questions in the previous examples, because it accomplishes more with less effort. But it's still just a vocabulary question. The answers are (g), (d), (a), (e), (c), and (h).

Fair: Next to each term in Column 1 below, write the letter of the corresponding definition in Column 2.

<u>Column 1</u>		<u>Column 2</u>
1. Myocardial infarction	_____	a. Severe allergic reaction
2. Cerebrovascular accident	_____	b. Rapid heartbeat
3. Anaphylactic shock	_____	c. Fluid in the lungs
4. Syncope	_____	d. Stroke
5. Pulmonary edema	_____	e. Fainting
6. Tension pneumothorax	_____	f. Inadequate oxygen
		g. Heart attack
		h. Collapsed lung

Again, it's possible to test multiple concepts at the same time. The question below requires test takers to know what the terms mean while demonstrating that they know telltale symptoms associated with the conditions. The answers for this matching question are (c), (g), (e), (f), (h), and (b).

Better: For each of the following signs and symptoms, select the most likely cause:

1. _____ Paralysis, weakness, numbness, or loss of sensation on one side of the body. Speech disturbances. Loss of bowel or bladder control. Unequal pupils.
2. _____ Light-headedness. Pale, moist skin. Sudden and temporary loss of consciousness, usually followed by rapid recovery once the patient is lying down.
3. _____ Possible chest pain or pressure that is unrelieved by rest or nitroglycerin. Anxiety. Sense of impending doom.
4. _____ Difficulty breathing, especially when lying down. Rapid, shallow breaths. Frothy, pink sputum in severe cases.
5. _____ Severe respiratory distress with rapid deterioration. Unequal chest movement. Distended neck veins. Tracheal deviation.
6. _____ Flushed, itching, or burning skin. Edema, especially of the face and tongue. Wheezing. Difficulty breathing that may worsen rapidly.

Conditions

- a. Abdominal aortic aneurysm
- b. Anaphylactic shock
- c. Cerebrovascular accident
- d. Ketoacidosis
- e. Myocardial infarction
- f. Pulmonary edema
- g. Syncope
- h. Tension pneumothorax

The potential answers in the revised question were put in alphabetical order for ease of reading. This is often a good practice with one- or two-word answers, but it's not a necessity.

Matching questions are often used to test vocabulary.



But most can be rewritten to test more complex concepts while also ensuring that test takers know the terms and definitions.

If both lists in a matching question contain an equal number of items, test takers can use the process of elimination to help fill in all the answers.



The question is more challenging when the lists contain an unequal number of items.

Example 4: Here we have another vocabulary question. Unlike the example on the previous page, this question contains an equal number of items in each list. So test takers who don't know all of the terms and definitions can still do fairly well through the process of elimination. The answers are (e), (f), (d), (a), (g), (b), and (c).

Fair: Match each of the terms in Column 1 with a definition in Column 2.

<u>Column 1</u>		<u>Column 2</u>
1. Corpus delicti	_____	a. "The thing speaks for itself"
2. Mens rea	_____	b. "To stand by things decided"
3. Nolle prosequi	_____	c. "To speak the truth"
4. Res ipsa loquitur	_____	d. "Not to wish to prosecute"
5. Scienter	_____	e. "Body of the crime"
6. Stare decisis	_____	f. "Guilty mind"
7. Voir dire	_____	g. "Knowingly"

The revised question is more effective for demonstrating that test takers understand the concepts associated with these terms. And this time, there are three more definitions than there are terms, so test takers can't use the process of elimination. They must know the material. The answers are (a), (e), (f), (j), (i), (h), and (b).

Better: Match each of the terms below with the appropriate definition.

- | | |
|----------------------|-------|
| 1. Corpus delicti | _____ |
| 2. Mens rea | _____ |
| 3. Nolle prosequi | _____ |
| 4. Res ipsa loquitur | _____ |
| 5. Scienter | _____ |
| 6. Stare decisis | _____ |
| 7. Voir dire | _____ |
- The physical evidence of a crime.
 - The process of questioning potential jurors.
 - The party who makes the decisions in a lawsuit.
 - A law passed against or in favor of a specific individual.
 - A state of mind involving criminal intent or recklessness.
 - Legal notice that a lawsuit or prosecution has been abandoned.
 - The wrongful deed that comprises the physical components of a crime.
 - The doctrine requiring courts to follow precedent set in earlier judicial decisions.
 - A degree of knowledge that makes a person legally responsible for his or her act or omission.
 - A doctrine that justifies a presumption of negligence based on the circumstances surrounding an accident.

The definition list above was put in order by line length. This optional strategy can make answers easier to read—providing one isn't working with a list that must be in sequential order instead.

Exceptions to the Rule

Not all vocabulary questions are weak or ineffective. Some test important concepts that *should* be on the exam.

Example 5: Some beginning law students are unsure what it means when an appellate court remands a case. They may erroneously believe that *remand* means *reverse*. It's important that students understand what they're reading when they look at the disposition of a case. So these are worthwhile vocabulary questions.

The answers to the first two questions are (d) and false, respectively. The answer to the third is that when an appellate court remands a case, it sends the case back to the trial court for further action based on a particular holding.

Good: When an appellate court remands a case, it:

- a. Reverses the trial court's ruling.
- b. Affirms the trial court's ruling.
- c. Modifies the trial court's ruling.
- d. Sends the case back to the trial court for further action.

Good: T/F When an appellate court remands a case, it reverses the trial court's ruling.

Good: Describe what it means when an appellate court remands a case.

Example 6: The prefix *in-* usually signals "not." Examples include *inaccurate*, *incomplete*, and *ineffective*. So it's logical to think that *inflammable* means "nonflammable." But believing that could be a deadly mistake, because *inflammable* means "flammable." This need-to-know information justifies any of the vocabulary questions below. The answers are (a) to the first two questions and true to the last two.

Good: *Inflammable* means:

- a. Flammable.
- b. Nonflammable.
- c. Explosive.

Good: An inflammable gas or liquid is:

- a. Flammable.
- b. Nonflammable.
- c. Explosive.

Good: T/F *Inflammable* means "flammable."

Good: T/F An inflammable gas or liquid is flammable.

**Not all
vocabulary
questions
are weak and
ineffective.
Some test
important
concepts that
should be on
an exam.**



**But they are the
exception rather
than the rule.
Most vocabulary
questions should
be avoided.**

Statistical questions are not inherently bad. But it's essential to focus on meaningful statistics rather than trivia.



Statistics may be meaningful if they remind test takers of information that will help them be more effective in the real world.

Avoid Trivial Statistics

Rationale

Statistical questions are not inherently bad. But many test writers focus on unimportant details when writing statistical questions. They ask about trivia instead of testing on meaningful information. Or they use statistical questions that are less valuable than ones they could (or should) ask.

Use statistical questions only if they remind test takers of information that will help them be more effective in the real world. For example, statistics that might be meaningful in a class on crime prevention might not be meaningful in a class on criminal investigation or police procedures. Students in the latter classes are more focused on their responsibilities once a crime has been committed than they are on how frequently such crimes occur.

Examples

Example 1: The answer to the following question is (d), but it's not an important statistic to police en route to a robbery call.

Trivial: Only about _____ of robberies committed are reported to the police.

- a. 35%
- b. 45%
- c. 55%
- d. 65%

It is useful, on the other hand, for officers to know the likelihood of encountering multiple offenders and chances that the robber(s) will be armed. The answers to the following questions are (b) and (c), respectively.

Better: Approximately _____ of robberies are committed by multiple offenders.

- a. 40%
- b. 50%
- c. 60%
- d. 70%

Better: Weapons are used in approximately _____ of robberies nationwide.

- a. 40%
- b. 50%
- c. 60%
- d. 70%

Example 2: The following statistic might be important to someone designing pool safety systems, but it's not as meaningful to emergency responders, who are going to do their best to save *any* drowning victim, regardless of age. The answer to the question is (a).

Trivial: Approximately _____ of fatal drowning victims are children 14 and younger.

- a. 20%
- b. 30%
- c. 40%
- d. 50%

The next question is better, because it reminds emergency responders that drowning victims should always be evaluated in a hospital, even if they appear to be recovering rapidly after being rescued from the water. You can't take chances when roughly 15% of all drowning deaths are due to secondary complications. The answer to the question is (a).

Better: Approximately _____ of all drowning deaths are due to secondary complications.

- a. 15%
- b. 25%
- c. 35%
- d. 45%

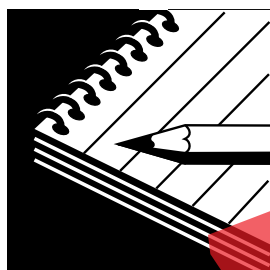
**The value
of statistics
depends on the
audience.**



**What is
meaningful to
one group of
test takers may
be trivial to
another.**

SAMPLE

Questions that test a person's knowledge of isolated facts are not as effective as questions that test the person's ability to use that information.



Write questions that draw test takers into pertinent problems or scenarios.

Write Task-Related Questions

Rationale

Questions that test a person's knowledge of isolated facts are not as effective as questions that test a person's ability to use that information. So write questions that draw test takers into pertinent problems or scenarios.

Task-related questions often flow from problem to solution versus the other way around. For example, they describe a patient's signs and symptoms, then ask what the cause may be. It's not wrong or bad to name an injury or illness first, then ask test takers to identify associated signs and symptoms. After all, real life presents both scenarios. Sometimes medical personnel must determine what's wrong based on their assessment of a patient. Sometimes they're given a diagnosis first (for example, via a 911 call), only to find that the signs and symptoms don't match. But questions that flow from problem to solution may be more effective.

Examples

Example 1: There's something to be said for writing short questions that are less time-consuming to read. But the first question below is a boring one compared with the second question, which forces test takers to imagine themselves faced with a terrorist attack. The answer to all three questions is (d).

Boring: Sarin is an example of a _____ agent.

- a. Blister
- b. Blood
- c. Choking
- d. Nerve

Better: You have just received word that a terrorist group is threatening to release sarin, a chemical warfare agent, at a nearby amusement park. What type of chemical warfare agent is sarin?

- a. A blister agent
- b. A blood agent
- c. A choking agent
- d. A nerve agent

The next question is best, because rather than asking test takers to categorize a named chemical warfare agent, it requires them to categorize an unnamed agent based on the minimal clues they might get from a 911 call. It's more challenging and more realistic than the questions above are.

Best: You have been dispatched to a possible terrorist attack involving an odorless liquid that caused rapid onset of convulsions for dozens of people nearby. What type of chemical warfare agent should you suspect was used?

- a. A blister agent
- b. A blood agent
- c. A choking agent
- d. A nerve agent

Example 2: Here, again, the first question is clear and concise, so it's not a bad question. But it's boring compared with the second one, which illustrates for test takers how this might apply in the real world. The correct answer to both questions is (d).

Boring: An ex post facto law is one that:

- a. Makes an act illegal after the act was taken.
- b. Increases the punishment or severity of a crime after it occurred.
- c. Changes the procedural rules so as to increase the chances of conviction after the crime occurs.
- d. Any of the above.

Better: Your law firm represents a 16-year-old boy accused of cyberbullying and prompting a classmate to take his own life. Your state recently passed legislation to curb cyberbullying and to punish offenders, but the law will not go into effect until next January. Nonetheless, the prosecutor wants to use that pending law against your client. You plan to object on the ground that it is an ex post facto law. An ex post facto law is one that:

- a. Makes an act illegal after the act was taken.
- b. Increases the punishment or severity of a crime after it occurred.
- c. Changes the procedural rules so as to increase the chances of conviction after the crime occurs.
- d. Any of the above.

Example 3: This example illustrates opposite ways to present the same information. Option 2 is perhaps a little better than Option 1, because it flows from problem to solution; a conclusion is drawn from the signs and symptoms described. But healthcare providers must also be able to take a tentative diagnosis and see if the signs and symptoms fit, so Option 1 is not bad or wrong. The answer to both questions is (a).

Option 1: Which signs and symptoms are most closely associated with heat exhaustion?

- a. Normal or slightly elevated body temperature. Clammy, pale skin. Rapid pulse. Dizziness. Weakness. Headaches.
- b. Red, hot, dry skin. Elevated body temperature. Strong, rapid pulse in the early stages. Possible seizures.

Option 2: You are fencing at the park on a hot summer evening when one of your fellow fencers appears to trip and fall. You quickly remove her mask, and ask what happened. She says she felt weak and dizzy. Next thing she knew, she was on the ground. She is pale and sweaty, but her skin is only slightly warm to the touch. Which of the following is the most likely cause?

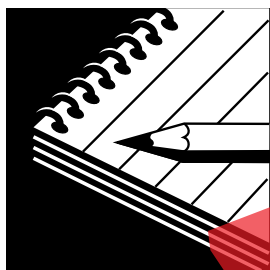
- a. Heat exhaustion
- b. Heat stroke

Task-related questions reflect real-life problems and questions.



They often flow from problem to solution versus the other way around.

Task-related questions may involve identifying items in a photograph or illustration, just as professionals might have to do in the real world.



Use good quality illustrations or photographs so that test takers aren't frustrated by lack of clarity.

Example 4: The first question below looks only at whether emergency responders can match names and specification numbers of cargo tanks. It doesn't show that they can recognize the cargo tanks at a hazardous materials incident. The answers are (a), (d), (b), (e), and (c), respectively.

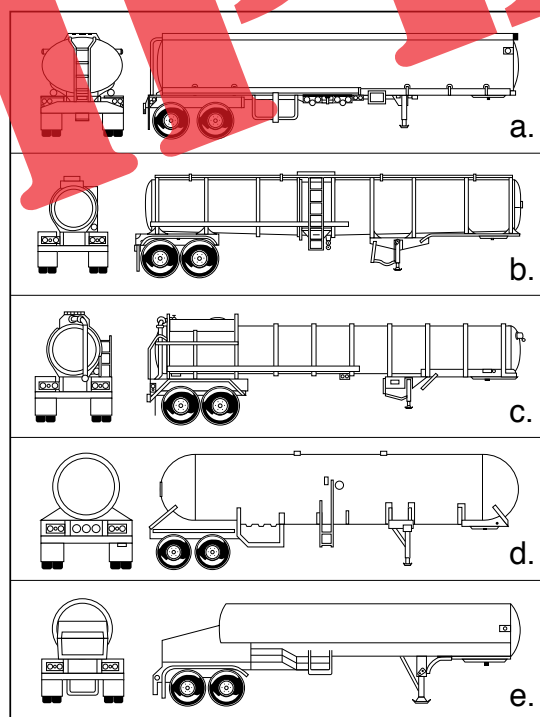
Fair: Match each of the cargo tank specifications below with the corresponding cargo tank type.

Specification		Cargo Tank Type
1. MC-306/DOT-406	_____	a. Atmospheric-pressure
2. MC-307/DOT-407	_____	b. Corrosive liquid
3. MC-312/DOT-412	_____	c. Cryogenic liquid
4. MC-331	_____	d. Low-pressure
5. MC-338	_____	e. Pressure

The revised question is task-related and need-to-know. If emergency responders can recognize the type of tank on sight at a hazmat incident, they can begin assessing the risks. The answers are (a), (c), (e), (b), and (d).

Good: Match each of the cargo tank names below with the corresponding illustration.

- _____ Atmospheric-pressure cargo tank (MC-306/DOT-406)
- _____ Corrosive liquid cargo tank (MC-312/DOT-412)
- _____ Cryogenic liquid cargo tank (MC-338)
- _____ Low-pressure cargo tank (MC-307/DOT-407)
- _____ Pressure cargo tank (MC-331)

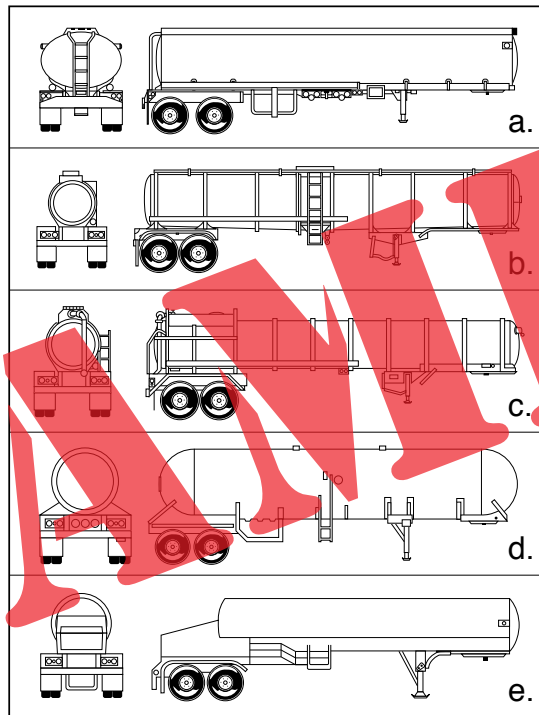


It's often a good idea with matching questions to have an unequal number of items in each list so that test takers can't rely on the process of elimination. But the strategy this time was to avoid leaving test takers with the name of a tanker they couldn't picture or an illustration of a tanker they couldn't name. The strategy is neither right nor wrong. It was merely a choice to reinforce key concepts versus make the question more challenging.

The following is also a good question, because emergency responders should have some idea what type of hazardous materials a cargo tank is likely to contain. The answers to this question are (d), (e), (c), (b), and (a).

Good: Match each of the cargo tank illustrations below with the description of hazardous materials they are most likely to contain.

1. _____ LPG, chlorine, anhydrous ammonia, and other gases that have been liquefied through compression.
2. _____ Liquid oxygen, nitrogen, argon, and other gases that have been liquefied through temperature reduction.
3. _____ Corrosive liquids and other heavy or high-density liquid products.
4. _____ Flammable and combustible liquids, mild corrosives, and some poisons.
5. _____ Flammable liquids, (e.g., gasoline, diesel or jet fuel, and kerosene), combustible liquids, and poison liquids.



Depending on the audience, it may be sufficient to ask test takers to name the items illustrated.



Other test takers may need to know more about the items they are asked to identify.

Again, this example has an equal number of items in each list. The question might be more challenging if the number of items were not equal, but it wasn't the intent to leave test takers with incomplete matches.

Which of these last two questions is better? It depends on the audience and the level of information they are responsible for knowing. For test takers whose responsibility is limited to recognizing a hazmat incident, isolating the scene, and calling for more highly trained personnel, it's enough that they can identify the type of tank when they make that call. Emergency responders who might have to take more definitive action should have an idea what types of products these tanks contain.

Pay attention to special concerns that may underscore the need to better emphasize specific concepts in training programs, standard operating procedures, and so forth.

Special concerns may be driven by location, industry, trends, current events, or problems in the real world.

Emphasize Special Concerns

Rationale

When writing test questions, consider whether there are special concerns that should be emphasized for the benefit of test takers and the people they will eventually serve.

Special concerns may be driven by location. For example, some areas of the country are prone to tornadoes and hurricanes, whereas others are more likely to experience earthquakes. So test questions regarding emergency preparedness and response should be tailored accordingly.

Special concerns may be driven by industry. For instance, all employees who work with chemicals must be given hazardous materials training. But hospital employees have different needs than do employees who work in the petroleum industry. Test questions should be tailored accordingly.

Pay attention to trends, current events, and problems encountered in the real world. They may underscore the need to better emphasize specific concepts in training programs, standard operating procedures, etc.

Examples

Example 1: Many professionals are required to attend annual continuing education programs, particularly in the area of ethics. One reason for that requirement—and one reason the following question is a good one—is that it's very easy for well-meaning people to cross the line in wanting to help people. This question serves as a reminder to paralegals that doing any of the things listed constitutes the unauthorized practice of law. The answer to this question is (d).

Good: A paralegal may provide legal advice if he or she:

- a. Has an advanced degree in the subject area.
- b. Is helping a family member or friend.
- c. Is providing pro bono legal service for someone who cannot afford an attorney.
- d. None of the above.

Example 2: The following is a reasonable question for any emergency responder, but the concept may warrant extra emphasis in communities near nuclear power plants or in communities perceived to be prime targets for terrorist attacks. The answer is (b).

Good: A good rule of thumb at a radiation incident is to establish the initial isolation zone where radiation levels are at or below ____ mR/hr.

- a. 1
- b. 2
- c. 3
- d. 4

Example 3: The following are worthwhile questions for attorneys and paralegals with cases in California ... as long as the test is updated when the law changes. (Similar questions may be appropriate in other states.) The answer to both questions is (c).

Good: Beginning September 16, 2009, the California Supreme Court, the Courts of Appeal, and all superior courts will be closed the _____ Wednesday of every month.

- a. First
- b. Second
- c. Third
- d. Fourth

Good: When must documents be filed if a 30-day filing deadline falls on a day the court is closed due to the fiscal crisis in California?

- a. The documents must be filed the day before the 30-day deadline.
- b. Documents can be filed electronically or by fax to meet the deadline, but the 30-day deadline doesn't change.
- c. The 30-day filing deadline is extended to the next day on which the court is open for judicial business.
- d. The parties must motion the court for a new filing deadline.

Example 4: This question was written in honor of a fire department captain killed in the line of duty in 2005. Any question that helps test takers avoid the mistakes that cost other people their lives is a good one. The answer is (c).

Good: If there is a downed power line at an emergency, until the power company's representatives on scene confirm that the line is dead, all personnel must remain:

- a. At least 100 feet from the downed power line.
- b. Behind the pole to which the downed power line is attached.
- c. A minimum distance equal to the span between two power poles.

When things go wrong in the real world, it can highlight gaps in the training people receive.



Consider writing test questions designed to help test takers avoid mistakes that have harmed other people.

The best questions often come from common errors and misconceptions.



It's not a matter of tricking test takers. It's about ensuring they have the correct information when they need it in the future.

Address Common Errors and Misconceptions

Rationale

The best questions often come from common errors and misconceptions. It's not a matter of trying to trick test takers. But it is important to ensure that they understand the material and don't harbor misconceptions that can prove harmful later.

Examples

Example 1: Emergency responders commonly think of organic peroxides as strong oxidizers that will fuel a fire. This is *one* of the dangers associated with organic peroxides, but it isn't the greatest risk.

All of the potential answers in the question below are **plausible**. Organic peroxides are oxidizers. Many have toxic properties. They are relatively predictable under *normal* conditions, but the variables present at a hazardous materials emergency can change one's ability to predict the outcome of the incident. However, the **greatest risk**, the **one most critical** for emergency responders to remember, is contained in answer (d).

Good: What is **generally** the **greatest risk** associated with organic peroxides?

- a. They are toxic.
- b. They are unpredictable.
- c. They are strong oxidizers that will fuel a fire.
- d. They are flammable and unstable, similar to explosives.

Example 2: In trademark law, many rights are based on the date of a trademark's first use in commerce. Thus test takers might choose answer (b) for the following question. However, the correct answer is (c).

Good: Constructive notice means that the owner of a federally registered trademark has nationwide priority to use the mark based on what date?

- a. The date of first use anywhere.
- b. The date of first use in commerce.
- c. The application filing date.
- d. The date of publication in the *Official Gazette*.
- e. The date of registration.

Example 3: The following are good questions to ensure that first aid students have learned correct information and don't succumb to common misconceptions held by the general public. The answers to the first two questions are (d) and false, respectively. Answers to the third question can be found in options (a), (b), and (c) of the multiple-choice question.

Good: You are at a company picnic when someone nearby starts having a seizure. Another person in the crowd suggests putting something between the victim's teeth to keep him from biting his tongue. Which of the following statements is **not** true about putting something in the mouth of a person having a seizure?

- A first aider may sustain serious finger injuries by trying to put something in the victim's mouth.
- It's possible to break teeth or cause other injury to the victim by trying to put something in his mouth.
- It may not be possible to open the victim's mouth due to the strength of the jaw muscles.
- Putting something in the victim's mouth is important to keep him from biting his tongue.

Good: T/F Because people having seizures might bite their tongues, it is important to put something between their teeth until the seizure passes.

Good: Identify at least two reasons why first aiders should not put something between the teeth of a person having a seizure.

Example 4: Students new to the legal field often get confused about which discovery methods can be used only with parties to a lawsuit and which can be used with witnesses and other nonparties. So the following questions, simple as they may be, are valuable for reinforcing an important concept. The answers are true and false, respectively.

Good: T/F Interrogatories can be used only between parties to a lawsuit.

Good: T/F Interrogatories can be used to obtain information from witnesses.

Example 5: Because nerve agents are often erroneously called *nerve gases*, a question that addresses that misconception is a good one. The answer to this question is (b).

Good: Nerve agents are _____ in their normal states.

- Solids
- Liquids
- Gases

Testing on common misconceptions helps reinforce important information covered in class.

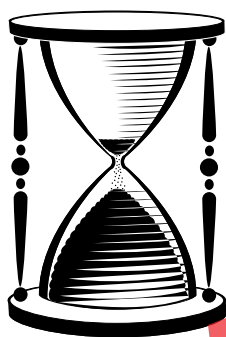


It may also help prevent test takers from making critical mistakes in the real world.

Keep Questions Current

Keep test questions current.

Outdated questions are a disservice to everyone.



If people walk away from the test remembering outdated information, it can have disastrous results.

Rationale

It's not uncommon to find tests and training materials lagging behind changes in the real world. But outdated questions are a disservice to everyone.

Imagine, for example, emergency responders being tested on outdated procedures that have since been replaced with safer, more effective ones. Imagine attorneys and paralegals being tested on laws that have since changed. It's not just the test takers who are cheated by outdated information. It's also the people downstream who depend on those professionals.

Beyond that, obsolete tests hurt your credibility as a test writer. And if you are an instructor, it can also make things difficult in the classroom as you try to explain that students need to remember one thing for the real world and another for the test. Always do your best to keep questions current.

Examples

Example 1: This example is good for making several points. One, CPR guidelines are changed every few years. For a long time, the correct ratio for one-rescuer CPR on a child was 5 to 1. Thus answer (a) would have been correct in both questions below. The ratio was changed to 30 to 2 in 2005. That option isn't included in the first question. It's answer (d) in the second. Who knows when the ratio will change again?

Outdated: The correct compression-ventilation ratio for one-rescuer CPR on a child is:

- a. 5 compressions and 1 breath.
- b. 5 compressions and 2 breaths.
- c. 15 compressions and 1 breath.
- d. 15 compressions and 2 breaths.

Current: The correct compression-ventilation ratio for one-rescuer CPR on a child is:

- a. 5 compressions and 1 breath.
- b. 10 compressions and 2 breaths.
- c. 15 compressions and 2 breaths.
- d. 30 compressions and 2 breaths.

Instructors who use current training materials from the American Heart Association, the American Red Cross, or other entities that sponsor CPR and first aid training won't have a problem. But instructors sometimes use older materials until they can afford to update, and some first aid instructors write their own tests and may not keep pace with recent changes. Delays in updating for either of these reasons is a disservice to students.

Fortunately, this isn't an egregious example, because even if someone used a ratio of 5 to 1, it wouldn't harm the child. But it's less effective, and it's more tiring for rescuers.

Example 2: This example was inspired by a California criminal case (*People v. Knoller*) in which the way the law was interpreted changed each time the case was heard by a higher court—not an uncommon occurrence. Based on current law, the answers to the questions below are false, true, (b), and *acted with a conscious disregard for human life*, respectively. But what makes the outdated question a bad one is that even if test takers correctly answer false, it doesn't show that they know the current standard.

Outdated: T/F Your office is prosecuting a fatal dog mauling case in California. To prevail on a charge of second-degree murder based on a theory of implied malice, you must show that the defendant knew his or her conduct involved a high probability that it would result in death.

Current: T/F Your office is prosecuting a fatal dog mauling case in California. To prevail on a charge of second-degree murder based on a theory of implied malice, you must show that the defendant acted with a conscious disregard for human life.

Current: Your office is prosecuting a fatal dog mauling case in California. To prevail on a charge of second-degree murder based on a theory of implied malice, you must show that the defendant:

- Knew his or her conduct involved a high probability that it would result in death.
- Acted with a conscious disregard for human life.
- Knew his or her conduct presented a risk of causing serious bodily injury to another.

Current: Your office is prosecuting a fatal dog mauling case in California. To prevail on a charge of second-degree murder based on a theory of implied malice, you must show that the defendant _____.

For readers who are interested in the evolution of the law, here is a little background: When Marjorie Knoller was first tried and convicted for the 2001 dog mauling death of Diane Whipple in San Francisco, the jury found her guilty of second-degree murder, involuntary manslaughter, and owning a mischievous animal that caused the death of a human being. But the judge overturned the jury's guilty verdict for second-degree murder, holding that while Knoller had probably known that one or both of her dogs would hurt someone someday, the prosecution failed to show that she had known they would eventually kill. So the standard reflected in the outdated question above was the "law of the land" for fatal dog mauling cases until the California Court of Appeal held otherwise.

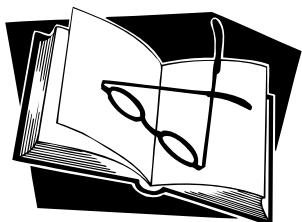
The Court of Appeal used a lower threshold, holding that a conviction for second-degree murder based on a theory of implied malice could be based simply on a defendant's awareness that his or her conduct presented a risk of causing serious bodily injury to another. That was then the law of the land until the California Supreme Court held that a conviction for second-degree murder based on a theory of implied malice required proof that the defendant acted with conscious disregard to human life. Although this interpretation was not new, it was the first time it had been applied in a California dog mauling case.

Obsolete tests can hurt your credibility.



Obsolete questions also make things difficult for instructors who must tell students to remember one thing for the real world and another for the test.

Citing sources reduces the potential that test takers will challenge your questions.



Citing a specific source is a good idea when other sources may contain conflicting information.

Cite Sources as Appropriate

Rationale

When the premise (the question) contains an opinion or guideline from a specific source, you might find it helpful to identify the source. This can eliminate controversy.

Examples

Example 1: The following question is one in which it's wise to cite the source for the correct answer. That prevents test takers from protesting that their department standard operating procedures (SOPs) call for something else or that they are familiar with other procedures for handling fires involving explosives. The correct answer to both questions is (c).

Weak: For fires involving explosive materials firefighters should:

- a. Withdraw to a distance of 500 feet, and fight the fire using master streams.
- b. Withdraw to a distance of 1000 feet, and fight the fire using master streams.
- c. Evacuate to a distance of 2000 feet, and allow the fire to burn.
- d. Wait for the initial explosion, then move in to extinguish any remaining fire.

Better: For fires involving explosive materials, the National Fire Protection Association recommends that firefighters:

- a. Withdraw to a distance of 500 feet, and fight the fire using master streams.
- b. Withdraw to a distance of 1000 feet, and fight the fire using master streams.
- c. Evacuate to a distance of 2000 feet, and allow the fire to burn.
- d. Wait for the initial explosion, then move in to extinguish any remaining fire.

Example 2: Sometimes in the legal arena, where a court takes several factors into consideration, the more focused your premise, the better. The intended answer to the following question is (a), but every one of the potential options can be part of the court's analysis. So this is a weak question.

Weak: What is the standard for determining whether a trademark is generic?

- a. What buyers understand by the word.
- b. Whether the word has been incorporated into standard dictionaries.
- c. Whether purchasers are motivated to buy the product because of the company that produced it.
- d. The efforts that a trademark owner has put into advertising the product to avoid the word being seen as generic.

The revised question cites the landmark trademark infringement case in which the U.S. Supreme Court established the standard for determining whether a trademark (e.g., *Aspirin*) is generic. Answers (b) through (d) can still be part of a court's analysis, but the answer to the question is unmistakably (a).

Better: In determining whether a trademark is generic, Judge Learned Hand in *Bayer Co. v. United Drug Co.* (1921) wrote that the standard should be:

- a. What buyers understand by the word.
- b. Whether the word has been incorporated into standard dictionaries.
- c. Whether purchasers are motivated to buy the product because of the company that produced it.
- d. The efforts that a trademark owner has put into advertising the product to avoid the word being seen as generic.

Example 3: This example illustrates a local policy question. The first question might be acceptable at the end of a class on the county's mutual aid plan, where there's no doubt about the source of the information. But it would create problems on a promotional exam, because it doesn't provide the necessary context to definitively answer the question. The answer to both questions is (a).

Weak: How many ALS ambulances will be automatically dispatched to a Level 1 mass-casualty incident?

- a. Three
- b. Four
- c. Five
- d. Six

Better: According to the Santa Clara County Mutual Aid Plan, in any mass-casualty incident involving a Level 1 activation of the "Multiple Patient Management Plan," _____ ALS ambulances and one EMS supervisor will be automatically dispatched to the event unless the incident commander specifically requests additional resources.

- a. Three
- b. Four
- c. Five
- d. Six

Note: Be careful about writing policy questions. The policy must be current, and it must reflect what is truly being done within the organization. If the organization has informally moved to something other than what is contained in the written policy, test takers may choose the wrong answer.

Be careful about writing policy questions.



The policy must be current, and it must reflect what is truly being done within the organization.

Include References if Appropriate

Rationale

It's appropriate to include reference sources as part of the test question if test takers would normally refer to that material in the real world.



This can be a viable alternative when it's not practical to have access to the Internet or enough copies of a book available at the testing site.

It's appropriate to include reference sources (such as charts or illustrations) in the test if people refer to that resource in real life. This allows you to identify whether test takers can properly use the tool. It also reinforces good habits in situations where professionals are *expected* to look something up rather than rely on memory.

Putting the material directly into the test is helpful when it might not be practical to have access to the Internet or enough copies of a book at the testing site. It's not ideal. After all, knowing where to find the information is often as important as knowing how to interpret it. But when faced with the prospect of not including an important question because it's not practical to have the resources at the testing site, this is a good alternative.

Note: Depending on the material and how you intend to use it, incorporating someone else's work into a test without express written permission can be copyright infringement. When in doubt, ask for permission to use it.

Examples

Example 1: This example contains a section of the United States Code so that test takers can analyze the problem based on actual law, not based on a best guess. The fair use doctrine as it applies to copies for classroom use has been the subject of much litigation. This question presents good arguments on both sides of the debate, but the potential lost profits for the author and publisher make the answer most likely false.

Good: T/F Based on the fair use doctrine (17 U.S.C. §107), most of which is included below, it is probably permissible for a college instructor to copy two of twenty chapters from a textbook to distribute to students so that students won't have to purchase the expensive book.

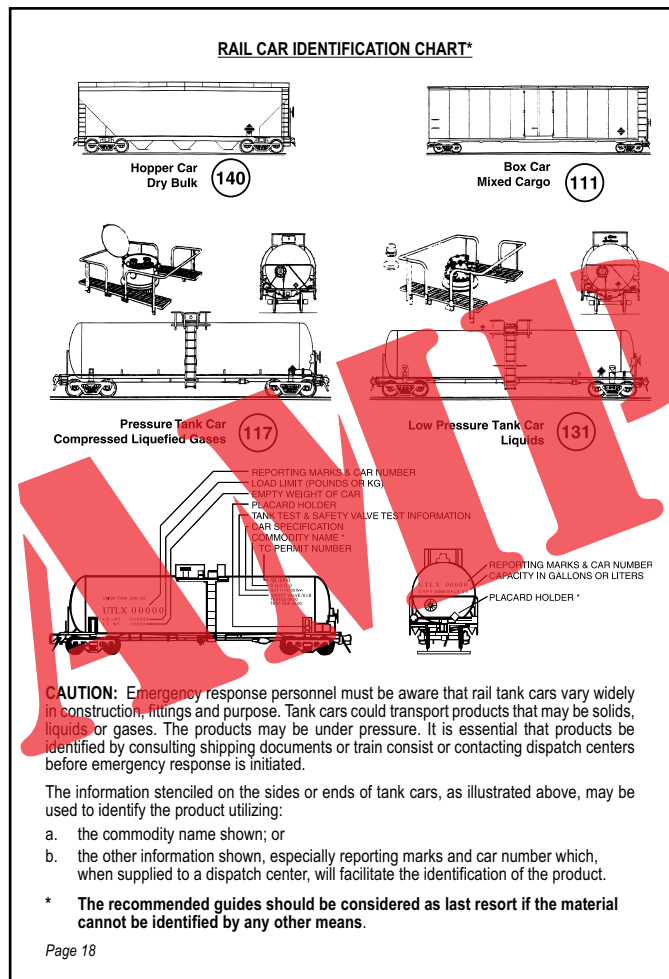
Notwithstanding the provisions of sections 106 and 106A, the fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any other means specified by that section, for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is not an infringement of copyright. In determining whether the use made of a work in any particular case is a fair use the factors to be considered shall include--

- (1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
- (2) the nature of the copyrighted work;
- (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
- (4) the effect of the use upon the potential market for or value of the copyrighted work.

Example 2: This question illustrates an effective way to determine if test takers know how to use the chart below. It's a simple question, but an important one. The correct answer is (b).

Good: According to the Rail Car Identification Chart (pictured below) in the *Emergency Response Guidebook*, what guide page should you use when faced with a hazardous materials incident involving a pressure tank car with no information about its contents?

- a. 111
- b. 117
- c. 131
- d. 140



Incorporating a reference source allows you to identify whether test takers can properly use that tool.



It also reinforces good habits in situations where professionals are expected to look something up rather than rely on memory.

Note: Make sure that any material you incorporate into the test is clear enough and large enough for test takers to read easily. Otherwise, test takers may have difficulty and become frustrated.

Avoid Controversial Questions

Rationale

If you write test questions about concepts even the experts don't agree on, it almost guarantees that test takers will struggle with the questions and challenge the results. You're better off either steering clear of these questions or drafting them in such a way that you can test people's understanding of the concept without generating controversy.

How do you know what questions will be problematic? If the experts don't agree on the concept, that's one good clue. If students were confused about the concept during a class, that's another. If the question calls for an opinion, that's a third.

Examples

Example 1: Determining whether a trademark is descriptive or suggestive is such a subjective decision that often the courts don't agree. So test takers are likely to struggle with the following question, and you may be forced to accept either answer (c) or (d).

Poor: Your client wants to trademark the name *Quilt-Aide* for a device that enables quilters to quickly, easily, and accurately sew straight grid lines without having to first mark the quilt. The name *Quilt-Aide* would be considered a _____ mark.

- a. Fanciful
- b. Arbitrary
- c. Suggestive
- d. Descriptive

The following question is a better ... and less troublesome ... way to gauge whether test takers understand the concept of trademark classification. The answers are (c), (d), (b), and (a), respectively.

Good: Match each of the trademark classifications below with the description that best fits it.

Classification

- 1. Fanciful _____
- 2. Arbitrary _____
- 3. Suggestive _____
- 4. Descriptive _____

Description

- a. A mark that describes a product or its characteristics.
- b. A mark that alludes to or hints at the nature or quality of the goods or services.
- c. A word (or combination of letters) that has no dictionary meaning, making it distinctive.
- d. A mark that has a dictionary meaning which does not pertain to the goods or services.

Avoid questions the experts can't agree on. Such questions almost guarantee that people will struggle with the questions and challenge the test results.



Instead, write questions that allow you to test people's understanding of the concept without generating controversy.

Example 2: The following question is controversial, because the experts don't all agree on (1) whether it's even acceptable to transport a patient who hasn't been fully decontaminated at a hazardous materials incident or (2) whether it's appropriate to cover them with plastic. Plus this is a policy decision usually made at the agency level. So unless you are testing on agency-specific policies, there's no clear answer.

Poor: T/F If you must transport to the hospital a patient who has not been fully decontaminated, you should cover the patient with a plastic sheet to protect yourself and the ambulance from contamination.

The following question is less likely to cause problems ... as long as it corresponds to the information in whatever textbook or reference source test takers were asked to study. The answer is true.

Good: T/F In general, the only circumstances under which you should transport patients who have not been thoroughly decontaminated are if they are in critical condition, deteriorating rapidly, or in danger of hypothermia.

Here's a related question that also works well. The answer is true.

Good: T/F Removing a patient's contaminated clothing, shoes, jewelry, and so forth at a hazardous materials incident can remove a vast majority of the contamination.

Example 3: Questions that call for an opinion are almost certain to cause problems. Most legal professionals wouldn't have the expertise to answer the first question below, and the doctors who do may have differing opinions. Additionally, the answer may depend on specific details about the patient's injury. So there's no clear answer.

Opinion: T/F You represent a client whose doctor did permanent damage to her knee when he performed a meniscal repair versus a partial medial meniscectomy—the procedure identified on her signed consent form. The two procedures are substantially different enough to support a claim that the doctor breached the standard of care.

The revised question works, because it's fact-based. The answer is true.

Fact: T/F You represent a client whose doctor did permanent damage to her knee when he performed a meniscal repair versus a partial medial meniscectomy—the procedure identified on her signed consent form. To support a claim that the doctor breached the standard of care, you must be able to prove that the two procedures are substantially different.

Note: It's acceptable to use essay questions that require test takers to form an opinion and explain the rationale behind it if the purpose of the question is to evaluate the test takers' reasoning skills.

Questions are likely to be problematic if the experts don't agree on the answer or if students were confused about the material during class.



Questions that call for an opinion are almost certain to cause problems.

Beware of State and National Conflicts

If you write tests that will be administered nationwide, make sure your questions will work nationwide.



Because state laws vary, a question that works in one state may not work in another.

Rationale

Laws, procedures, conditions, and terminology can differ dramatically from one state to another. Therefore, if you write tests that will be administered nationwide, you have the added challenge of writing questions that work nationwide.

Most often this comes into play when people plan on writing nationwide tests but may not be aware of state differences that can cause problems. But this can also be a concern when writing local or state tests that are later used elsewhere because the training expands into other states.

Examples

Example 1: The question below would cause problems on a nationwide test, because the answer might be *contributory negligence* (b) or *comparative negligence* (c), depending on state laws. Even on a state-specific test, the question could lead to challenges, because the two doctrines are similar enough that people often confuse them. Note, also, that the words *negligence contributed* in the premise might lead test takers to believe this is a hint. In states that follow the comparative negligence doctrine, that wording could hurt test takers.

Tricky:

You represent the defendant in a personal injury case. Your client insists that the plaintiff's own negligence contributed to his harm. When you file your answers to the complaint, you should include _____ as an affirmative defense.

- a. Unreasonable conduct
- b. Contributory negligence
- c. Comparative negligence
- d. Assumption of risk

This becomes even more misleading as a true/false question in states that follow the comparative negligence doctrine. You could be picky and say the answer is false because of the word *contributory* versus *comparative*. Or you could accept it as true, content that test takers understand the general concept of attacking the plaintiff's role in the injury. Chances are, you'll have to accept both answers.

Tricky:

T/F You represent the defendant in a personal injury case. Your client insists that the plaintiff's own negligence contributed to his harm. When you file your answer to the complaint, you should include contributory negligence as an affirmative defense.

A little editing solves the previous problems. First, the word *negligence* in the premise was replaced with *conduct*. Second, answer (b) was rewritten to include both *contributory* and *comparative* negligence. Test takers can now focus on the general concept behind the terms.

Revised: You represent the defendant in a personal injury case. Your client insists that the plaintiff's own conduct contributed to his harm. When you file your answer to the complaint, you should include _____ as an affirmative defense.

- a. Unreasonable conduct
- b. Contributory or comparative negligence
- c. Assumption of risk

Example 2: There's no clear answer to the first question below, because it can vary depending on whether the lawsuit has been filed in a state court or federal court. The answers to the revised question are (a) and (c), respectively.

Tricky: If a defendant in a civil suit wishes to assert a claim against the plaintiff, the defendant must file a:

- a. Counterclaim.
- b. Cross-claim.
- c. Cross-complaint.
- d. Third-party complaint.

Revised: In federal court, if a defendant in a civil suit wishes to assert a claim against the plaintiff, the defendant must file a:

- a. Counterclaim.
- b. Cross-claim.
- c. Cross-complaint.
- d. Third-party complaint.

Revised: In a California state court, if a defendant in a civil suit wishes to assert a claim against the plaintiff, the defendant must file a:

- a. Counterclaim.
- b. Cross-claim.
- c. Cross-complaint.
- d. Third-party complaint.

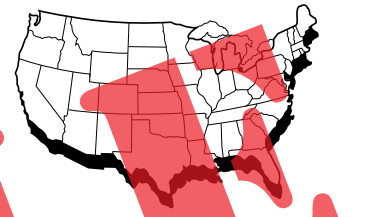
The same principles apply to true/false questions. There's no clear answer to the first one below. The revised questions are both true.

Tricky: T/F If a defendant in a civil suit wishes to assert a claim against the plaintiff, the defendant must file a counterclaim.

Revised: T/F In federal court, if a defendant in a civil suit wishes to assert a claim against the plaintiff, the defendant must file a counterclaim.

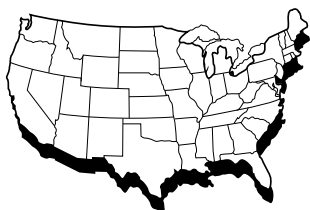
Revised: T/F In a California state court, if a defendant in a civil suit wishes to assert a claim against the plaintiff, the defendant must file a cross-complaint.

Laws, procedures, conditions, and terminology can vary nationwide.



These are all important considerations if you write tests used nationwide.

Some questions can be problematic on a local level, because procedures vary from one agency or jurisdiction to another.



Careful wording of the question may help you get around those problems.

Example 3: The first question below uses a local name (Santa Ana) for a wind pattern. Although the name itself is common enough to be recognized nationwide, test takers in other parts of the country may not know the behavior associated with the wind pattern. Thus it's better to use the generic name (foehn winds) on a nationwide test. The answer to all of the questions below is true.

Tricky: T/F One of the greatest dangers associated with Santa Ana winds is that they can abruptly reverse direction and drive a wildland fire back toward firefighters.

Revised: T/F One of the greatest dangers associated with foehn winds is that they can abruptly reverse direction and drive a wildland fire back toward firefighters.

Revised: T/F One of the greatest dangers associated with foehn winds (sometimes known by local names, such as Santa Ana winds, Chinook winds, or Mono winds) is that they can abruptly reverse direction and drive a wildland fire back toward firefighters.

Example 4: Questions can be problematic even on a local level, because procedures vary from one agency to another. Hypochlorite (bleach) is a common decontamination (decon) solution, but many medical experts recommend using plain water or soap and water for patient decon instead. The question can be salvaged by acknowledging that not everyone agrees with using hypochlorite solutions. The answer to both questions is (d).

Tricky: When using a hypochlorite solution for patient decontamination at a hazmat incident, you should:

- a. Use a concentration of no greater than 0.5%.
- b. Use it on skin and soft-tissue wounds only, and keep it out of the eyes.
- c. Flush afterwards with plain water.
- d. All of the above.

Revised: Although hypochlorite solutions are often used for patient decontamination at a hazmat incident, they can cause blindness and skin irritation. Therefore, if you use a hypochlorite solution, you should:

- a. Use a concentration of no greater than 0.5%.
- b. Use it on skin and soft-tissue wounds only, and keep it out of the eyes.
- c. Flush afterwards with plain water.
- d. All of the above.

(Note: Many test writing experts recommend against using *all of the above*, because it's often a giveaway. But it's not wrong to reinforce three key points as is done in this example.)

Avoid Trick Questions and Red Herrings

Rationale

The goal of every test writer should be to measure knowledge, not to trick the test takers. It's inappropriate to sneak in little gotchas to see who's paying attention and who isn't. It's unfair to force test takers to be mind readers because the answers depend on how one interprets the questions. It's dishonest to plant red herrings like mystery writers do. Don't treat test writing like it's a game of wits against the test takers.

Examples

Example 1: It's hard to tell if the first question below is a trick question or a poorly written one. Regardless, the answer could be (b) or (d), depending on how one interprets it. The right to counsel guaranteed by the Sixth Amendment (ratified in 1791) applied only to defendants charged with crimes in *federal* court. But the right to counsel in *state* court comes primarily from the Fourteenth Amendment (ratified in 1868).

Tricky: A criminal defendant's right to be represented by counsel comes from the:

- a. Fifth Amendment.
- b. Sixth Amendment.
- c. Eighth Amendment.
- d. Fourteenth Amendment.

The revised questions below are clear enough for test takers to know what is expected. The answers are (b) and (d), respectively.

Revised: Which Constitutional amendment was written to ensure the right to counsel for defendants charged with crimes in federal court?

- a. Fifth Amendment.
- b. Sixth Amendment.
- c. Eighth Amendment.
- d. Fourteenth Amendment.

Revised: A criminal defendant's right to counsel in state court comes primarily from the:

- a. Fifth Amendment.
- b. Sixth Amendment.
- c. Eighth Amendment.
- d. Fourteenth Amendment.

(In reality, it took nearly 100 years before the U.S. Supreme Court definitively determined that the vague language in the due process clause of the Fourteenth Amendment guaranteed criminal defendants the right to counsel in state court. See the next example.)

Avoid trick questions and red herrings. The goal for every test writer should be to measure knowledge, not to trick the test takers.



Don't treat test writing like it's a game of wits against the test takers.

It's unfair to sneak in little gotchas to see who's paying attention and who isn't.



It's unfair to plant red herrings like mystery writers do.

Example 2: The following question might simply contain a typo (1968 versus 1963). But if it was intended to trick test takers, it's grossly unfair. The correct answer for the revised question is true.

Tricky: T/F In *Gideon v. Wainwright*, 372 U.S. 335 (1968), the U.S. Supreme Court held that the Fourteenth Amendment guaranteed defendants charged in state court the right to assistance from counsel.

Revised: T/F In *Gideon v. Wainwright*, 372 U.S. 335 (1963), the U.S. Supreme Court held that the Fourteenth Amendment guaranteed defendants charged in state court the right to assistance from counsel.

Example 3: This example contains a red herring. The question is designed to see if test takers know the best way to immobilize a possible hip fracture. The answer is (d). But the first question distracts test takers with information about unexplained abdominal pain that has no bearing on the cause of the fall, the extent of the injuries, or the care required. Nor is this the type of question that requires test takers to sort through several facts (some important, some not) to arrive at a conclusion. You're not writing a mystery. Don't try to divert test takers with false clues.

Herring: You have been called to the home of a 75-year-old female who fell in her garage. She is complaining of severe pain in her left hip. Although circulation, sensation, and motor function are present distal to the injury, the patient cries out at the slightest movement. As you check the woman for other injuries, she tells you that her stomach hurts too. She says that it has been bothering her for weeks, but her doctors have been unable to determine the reason for her stomach pain. The best way to immobilize this patient's injuries are probably with a/an:

- a. Air splint.
- b. Traction splint.
- c. Pneumatic antishock garment.
- d. Long board or scoop stretcher and pillows.

Revised: You have been called to the home of a 75-year-old female who fell in her garage. She is complaining of severe pain in her left hip and cries out at the slightest movement. The best way to immobilize this patient's injury is probably with a/an:

- a. Air splint.
- b. Traction splint.
- c. Pneumatic antishock garment.
- d. Long board or scoop stretcher and pillows.

Although this example was used to illustrate a red herring, it's also symbolic of the problems that can happen when test writers try to be too realistic. This is based on a real event. But fidelity to the truth just mucks up the question. Take a tip from good fiction writers, and omit trivia that adds nothing to the story.

Avoid Ridiculous Questions

Rationale

You have an obligation to *avoid* writing ridiculous questions. They don't measure anything, so they are of no value to test takers. If anything, they are harmful, because they steal from the opportunity to include meaningful questions. Additionally, some test takers get annoyed or angry with ridiculous questions, feeling that the test writers are insulting their intelligence or that the test writers aren't too intelligent themselves. In short, there is no merit in or justification for writing ridiculous questions.

Test writers and test takers alike have conflicting opinions about humorous questions. A little humor can take some of the stress out of a test. But people of different genders, ages, or cultures may react differently to the same questions. If you don't want to risk offending anyone, avoid humor on the test. If you do use humor, use it sensitively and in moderation.

When in doubt, "kill your darlings." Take a lesson from professional authors who know that being too cute or too clever seldom benefits the document or the audience.

(Note: Some of the bad examples in this section were taken from real tests. Not all of them are works of fiction by this author.)

Examples

Example 1: Sometimes it's difficult to write multiple-choice questions that ask test takers to identify the one false answer. But that's no excuse to write an answer so ridiculous that no one can challenge it. The answer to this question is (d).

Ridiculous: In evaluating the strengths and weaknesses of a case, an attorney should consider all of the following **except**:

- a. Applicable codes and regulations.
- b. Prior court opinions from analogous cases.
- c. Information found in legal encyclopedias and other secondary sources.
- d. Answers found in a Magic 8 Ball.

Option (d) still stands out as the obvious answer below, but it's no longer an inane answer. Notice, also, that the premise was reworded to avoid potential challenges. Attorneys *should* consider applicable codes and regulations and prior court opinions from analogous cases. But that may be enough; it may not be necessary to consider additional information in secondary sources.

Revised: Reliable sources of information for evaluating the strengths and weaknesses of a case include all of the following **except**:

- a. Applicable codes and regulations.
- b. Prior court opinions from analogous cases.
- c. Information found in legal encyclopedias and other secondary sources.
- d. Media coverage of the case.

Avoid ridiculous questions. They have no value. Rather, they often annoy test takers.



There is no merit in or justification for writing ridiculous questions.

Don't make a mockery of the test questions. Legitimate issues deserve to be taken seriously.



When in doubt, take a lesson from professional authors: "Kill your darlings." Being too cute or too clever doesn't add value.

Example 2: Below are two questions that ask the same thing. But the first one makes a mockery of the question. This is a legitimate issue that deserves to be taken seriously. The answer to these questions is false. In fact, a party and the party's attorney can be sanctioned for failing to disclose information during discovery.

Ridiculous: T/F The best trial strategy is to hide information during discovery and spring it on your surprised opponent in court. Judges and juries often enjoy the spectacle.

Revised: T/F When you know you have a smoking gun, it is more effective to spring it on your opponent during trial than it is to disclose it during discovery.

Example 3: Here the first question makes a mockery of an important safety concern. However, the best answer to both questions is (a).

Ridiculous: While on a routine inspection of the chemistry lab at the junior college, you find an unlabeled dark glass bottle with crystals on the outside. What should you do?

- a. Get out of Dodge as fast as you and your pony can go. This stuff is bad news.
- b. Thank your lucky stars you are not taking chemistry classes when the college obviously cannot afford to replace outdated chemicals.
- c. Ding the college for sloppy housekeeping.
- d. Ignore it, and do not be a worrywart. You have bigger fish to fry.

Revised: While on a routine inspection of the chemistry lab at the junior college, you find an unlabeled dark glass bottle with crystals on the outside. What should you suspect, and how should you handle this situation?

- a. The crystals are potentially unstable and shock-sensitive. Evacuate the building and request assistance from a hazmat team or bomb squad.
- b. The crystals probably indicate that the contents are old and no longer fit for the intended purpose. Advise the department chairperson so he or she can dispose of the material.
- c. The crystals are not significant. Someone probably spilled some of the contents earlier and did not clean the bottle. Advise the department chairperson so he or she can clean the bottle.
- d. The crystals are not significant. Continue your inspection, and do not worry about it.

Example 4: The following questions address another legitimate issue—the need to recognize that there can be no valid lawsuit if there's no recognizable cause of action. The answer to the first question is true, despite the fact that the question is poorly written.

Ridiculous: T/F Experienced attorneys know that it is advisable to take every case that comes into the law office, even when there is no recognizable cause of action, because everyone is entitled to legal representation in the United States.

This is a good question. The answer is true.

Revised: T/F In evaluating whether a potential client has a legitimate case for litigation, the attorney must determine if a recognizable cause of action exists.

Example 5: The first question below is not as bad as the previous examples. The nursery rhyme is silly, but the bulk of the question is appropriate. Some test takers may appreciate the humor. Others may find it an unnecessary distraction, preferring instead to read a question that treats the topic seriously. Bottom line, you can't go wrong playing it straight. Either way, the answer to both questions is (d); the systolic and diastolic numbers will grow further apart as the intracranial pressure increases.

Silly: Jack and Jill went up the hill to fetch a pail of water. Jack fell down and broke his crown, and Jill came tumbling after. If Jack now has intracranial bleeding, what would you expect to find when you check his blood pressure?

- a. Low blood pressure
- b. High blood pressure
- c. Narrowing pulse pressure
- d. Widening pulse pressure

Revised: Your patient sustained a head injury after tumbling down a steep hill. If the patient has intracranial bleeding, what would you expect to find when you check his blood pressure?

- a. Low blood pressure
- b. High blood pressure
- c. Narrowing pulse pressure
- d. Widening pulse pressure

Example 6: If you can't think of enough legitimate distractors to fill a multiple-choice question, try writing a true/false question instead. It might work out better. The answers to the following questions are (a) and true, respectively.

Ridiculous: Some common grounds for "fault" divorces are:

- a. Adultery, desertion, mental cruelty, physical abuse.
- b. Adultery, penury, incompatibility, and rowdiness.
- c. Wasteful with money, failure to get along with in-laws, cruelty to animals, etc.
- d. TV football addiction, pot belly, and refusal to lower toilet seat.

Better: T/F Adultery, desertion, mental cruelty, and physical abuse are legitimate grounds for *fault* divorces.

Example 7: There is no way to salvage a ridiculous question like the one below, no matter the course or the topic. Toss it.

Ridiculous: T/F Once you complete this course, you will know everything there is to know about [topic].

Have fun when writing your tests. But when it comes time to edit them, replace the silly stuff with meaningful material.



If there is no way to salvage a ridiculous question, toss it.

Tests should not be either too easy or too difficult. They should accurately reflect what is expected of test takers in the real world.



Questions should evaluate knowledge versus experience. They should not be so specific that only an expert would know the correct answer.

Test to the Appropriate Level

Rationale

Throughout the previous pages, you've seen examples of testing to the appropriate level. But now it's time to examine the topic more closely. Let's start with four basic assumptions:

- Tests should not be disproportionately easy or hard when viewed in the context of the class taught, the material studied, the position or promotion sought, etc. Neither extreme is fair.
- Tests should reflect what is expected of test takers upon completion of the course or before moving on to the next level. For example, if test takers are expected to demonstrate competency or proficiency in the real world, questions should not be written at the awareness level.
- Tests should be designed to evaluate knowledge versus experience. Although test takers with experience in the field may find it easier to complete the test, experience shouldn't be a prerequisite to success.
- Questions should not be so specific that only an expert would know the correct answer.

Educators commonly refer to the cognitive levels of learning identified in Bloom's *Taxonomy* (*The Taxonomy of Educational Objectives, The Classification of Educational Goals, Handbook I: Cognitive Domain* by Benjamin Bloom [editor], M. D. Englehart, E. J. Furst, W. H. Hill, and David Krathwohl). Those six levels, in order from lowest to highest, are as follows:

- **Knowledge:** This level requires remembering facts, terms, concepts, definitions, principles, etc. Test takers are asked to define, list, identify, label, name, state, and so forth.
- **Comprehension:** This level involves explaining or interpreting the meaning of material. Test takers are asked to explain, predict, interpret, infer, summarize, convert, translate, give examples, or paraphrase.
- **Application:** This level requires using a concept or principle to solve a problem. Test takers must apply, solve, show, make use of, modify, demonstrate, or compute.
- **Analysis:** This level involves breaking down material into its component parts to identify the parts, analyze the relation between parts, and identify the organizational principles. Test takers are asked to differentiate, compare and contrast, distinguish, etc.
- **Synthesis:** This level involves putting parts together to form something new. Test takers must design, construct, develop, formulate, imagine, create, change, or write.
- **Evaluation:** This level requires the ability to judge the value of material for a given purpose. Test takers are asked to appraise, evaluate, justify, judge, critique, or recommend.

As you write test questions, you can refer to the list above for ideas. Pay particular attention to the verbs and how closely they match your questions. That may help you judge how easy or challenging your questions are.

For some, the cognitive levels of learning in Bloom's Taxonomy are tough to apply, in part, because these descriptions are not as clear-cut as they may appear. For instance, test takers may be asked to identify which of four options best fits with the premise, but doing so requires an analysis or evaluation of several factors. So what looks like a knowledge-level question is really more challenging.

In the seventh edition of *Fire Service Instructor*, the International Fire Service Training Association (IFSTA) presented a simpler way to define the levels of learning. IFSTA identified only three levels:

- **Level 1 - Basic Knowledge (Basic):** The first level is one of basic knowledge and awareness. It requires test takers to recall, recognize, and identify.
- **Level 2 - Competent (Intermediate):** The second level is one of competency. It requires test takers to apply their knowledge to prescribed problems.
- **Level 3 - Highly Proficient (Advanced):** The third level is one of high proficiency. Test takers must apply their knowledge to a new set of circumstances. They must think outside the box.

Because this categorization is more user-friendly than Bloom's Taxonomy, these are the levels that will be illustrated in the examples that follow.

It's probably fair to say that if you shoot for writing Level 2 questions, you'll be on-target most of the time. Level 2 questions strike a comfortable balance. They show test takers that you treat the topic seriously and expect them to do the same. But the questions are not so challenging that they leave test takers with a sense of failure. When in doubt, let Level 2 be your starting point.

You can scale down to Level 1 if you are writing questions for an introductory course, a pre-employment test, or other exam where test takers need exhibit only basic knowledge or awareness. Conversely, you can increase to Level 3 if you're writing tests for use in upper-division classes, in classes where students must master life-or-death concepts, and on tests designed to weed out weak performers.

Again, tests should reflect the level of competency or proficiency expected of test takers in the real world. For example, someone who is hired by an ambulance company upon completing Emergency Medical Technician (EMT) training essentially has the power of life and death over patients. Although he or she will work with a senior partner who provides more on-the-job training, there's little room for error. That new EMT must be competent enough to do the right thing when the senior partner is not directly supervising (such as when both are caring for different patients at an automobile accident). So tests required for EMT certification should be sufficiently challenging.

Other test takers may be competing with more experienced job seekers. Potential employers may not expect a recent graduate to hit the ground running, but neither can they afford to disrupt their businesses to the point that they're teaching basics the new employee *should* have learned in school. Nor can they afford to have new employees make mistakes that will negatively affect their businesses and their customers.

Questions can be categorized based on the level of competency or proficiency expected of test takers.



**Level 1:
Basic Knowledge
(Basic)**

**Level 2:
Competent
(Intermediate)**

**Level 3:
Highly Proficient
(Advanced)**

Shoot for writing Level 2 questions as your starting point. Then increase or decrease the level of difficulty as appropriate.



This strategy can help you avoid writing questions that are disproportionately easy or hard.

Examples

Example 1: This series of questions demonstrates an increasing level of difficulty for personnel who respond to hazardous materials incidents. The answer to the first question is (c).

- Level 1: A normal atmosphere contains approximately ____ oxygen?
- a. 19%
 - b. 20%
 - c. 21%
 - d. 22%

The answer to the next question is also (c). Here, test takers must show that they can use the information above. This knowledge can be important if emergency responders have only an oxygen meter versus one capable of detecting specific contaminants.

- Level 2: You get a reading of 20% oxygen (almost a 1% drop from normal). How much of a displacing gas (contaminant) is likely to be present?
- a. 1%
 - b. 3%
 - c. 5%
 - d. 7%

Since oxygen comprises just over one-fifth (20.9%) of the gases found in a normal atmosphere, a 1% drop in oxygen means that close to 5% of the normal atmosphere has been displaced. Hence there may be as much as 5% of a contaminating gas in the atmosphere.

Here's a more challenging problem based on a hypothetical scenario. Answer (a) is the best choice.

- Level 3: You get a reading of 20.5% oxygen in an atmosphere suspected to contain acetone vapors. Acetone has a lower explosive limit (LEL) of 2.5% and an upper explosive limit (UEL) of 12.8%. What do these initial oxygen readings suggest?
- a. The acetone concentration may be below the LEL.
 - b. The acetone concentration may be within the flammable range.
 - c. The acetone concentration may be above the UEL.
 - d. The initial readings do not provide any information that can be used to predict flammability.

A 0.4% drop in oxygen means that roughly 2.0% of the normal atmosphere has been displaced. (Remember, oxygen comprises just over one-fifth of the atmosphere. Multiply 0.4 times 5.) If the atmosphere contains 2.0% acetone, the acetone concentration is likely to be below the LEL of 2.5%. Other monitoring equipment should be used to confirm actual concentration, but initial readings do provide some information to help predict flammability.

Example 2: The problems in this example show escalating challenges for students in a legal research class. First, students are asked to cite factors that courts consider in determining if a resident of one state can be sued in another. Students need only demonstrate a basic understanding of personal jurisdiction. (Answers are not provided for these essay questions.)

Level 1: List at least four factors that courts must consider in determining whether they can exercise personal jurisdiction over nonresident defendants.

The next problem requires not only that students understand the basic principles but also that they can find and properly cite primary authority.

Level 2: Summarize in five pages or less the basic principles that allow a court to exercise personal jurisdiction over a nonresident defendant. Cite your sources using proper *Bluebook* citation format.

Finally, students are given a research assignment based on a scenario that they might encounter in a law office. Notice that the expectations to use the IRAC method and proper *Bluebook* citation format are made clear right away. (IRAC stands for issue, rule, analysis, and conclusion).

Level 3: Using the IRAC method, write a legal memorandum to your supervising attorney based on the following problem. Cite your sources using proper *Bluebook* citation format.

While living in California, Robert borrowed \$500,000 from his friend Glenn to purchase property in Nevada and start an auto restoration business. Robert faithfully paid Glenn \$3000 per month for the first two years, but then his once-thriving business was hit hard by the recent recession. Nine months ago, he stopped paying Glenn according to their written agreement. And three months ago, Robert transferred the property to his parents by quit claim deed. Glenn fears that Robert fraudulently transferred the property to escape his obligation to repay the loan.

Glenn has reluctantly come to your law firm to discuss the possibility of filing a lawsuit against Robert and his parents. Even though Robert is now living in Nevada, Glenn can sue him in California, because the contract was formed in California at a time when Robert was living there. But what about Robert's parents, who reside in Nevada and had nothing to do with the contract? If Glenn names them in a cause of action for conspiracy to commit a fraudulent transfer, can a California court exercise personal jurisdiction over these nonresident defendants?

Additionally, what must Glenn prove to show that the property was fraudulently transferred? And what remedies are available under the Uniform Fraudulent Transfer Act?

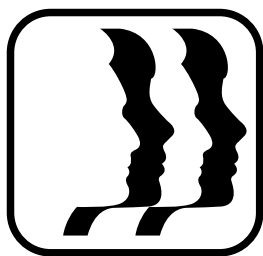
This is a good example of requiring students to apply their knowledge to a new set of circumstances.

Tests should reflect the level of competency or proficiency expected of test takers in the real world.



Questions that are too easy are a disservice to test takers and everyone "downstream."

Avoid questions so narrow in scope that they apply to only a small percentage of the test takers.



If you have a broad audience, write broad questions.

Write for the Common Denominator

Rationale

Sometimes you'll have a mix of test takers, each with different backgrounds and different needs. When that's the case, write your questions for the common denominator. This *doesn't* mean the *lowest* common denominator. Your goal isn't to dummy-down the test so that everyone is guaranteed to pass. Rather, as much as practicable, your questions should be applicable to all test takers. It's unfair to expect people to memorize information that is so narrow in scope that the questions apply to only a small percentage of the test takers.

Examples

Example 1: The first question below may be appropriate on a test geared for paramedics and emergency room personnel, but other emergency responders are unlikely to know the specific antidotes for nerve agents. The answer to the question is (d).

Narrow: Emergency treatment for nerve agent exposure may include all of the following drugs **except**:

- a. Atropine.
- b. Pralidoxime chloride.
- c. Diazepam.
- d. Amyl nitrate.

The revised question also includes information about antidotes, but test takers don't have to know what drugs are in a MARK 1 Nerve Autoinjector. They only have to know that using it may be part of the treatment protocol. The correct answer to the question is (d).

Broad: Emergency treatment for nerve agent exposure may include all of the following **except**:

- a. Removing contaminated clothing, and flushing contaminated skin with copious amounts of water.
- b. Administering oxygen.
- c. Administering a MARK 1 Nerve Autoinjector (if available and permitted by local protocols).
- d. Encouraging patients to drink water to replace lost fluids.

Example 2: All four questions in this example are good questions, but the first one is so narrow in scope that many legal professionals may not know the answer. The answer is true.

Narrow: T/F The ownership of a copyright may be bequeathed by will or may pass as personal property by the applicable laws of intestate succession.

The following questions are broader in scope, so they work for a larger audience. Both true/false questions below are true. The answer to the multiple-choice question is (c).

Broad: T/F In the case of a work made for hire, the employer or other person for whom the work was prepared is considered the author unless the parties have expressly agreed otherwise in writing.

Broad: T/F Copyright in a work created on or after January 1, 1978, lasts for the life of the author plus 70 years after his or her death.

Broad: Copyright in a work created on or after January 1, 1978, lasts for the life of the author plus _____ years after his or her death.

- a. 25
- b. 50
- c. 70
- d. 95

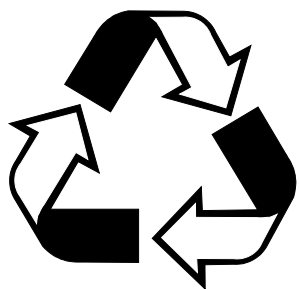
If a question is so narrow in scope that few professionals in the field would know the answer, it's not appropriate to include it in your test.



Concentrate on questions that work for a large audience.

SAMPLE

Using templates can help you generate multiple test questions in far less time than you might need otherwise.



Reusable templates can help you avoid many of the problems identified in this book.

Consider Developing Reusable Templates

Rationale

Test writers sometimes use templates to generate multiple questions. Using templates can significantly reduce the time it takes to write a test and can help avoid many of the problems identified in this book.

Often without thinking about it, we write questions with common themes. For example, we describe a patient's signs and symptoms, then ask test takers to identify the most likely cause or the most appropriate treatment. Or we lay out a client's fact pattern and ask test takers to analyze whether the client has a cause of action against another party. The template approach merely formalizes what we often do subconsciously.

The template for a multiple-choice question looks something like this:

Premise: Tell the story.
Lead-In: Ask the question.
Options: Provide the possible answers.

For multiple-choice questions written in clusters—several questions relating to the same premise—the template looks something like this:

Premise: Tell the story.
Lead-In: Ask the question.
Options: Provide the possible answers.
Lead-In: Ask another question.
Options: Provide the possible answers.

For short-answer questions, the template is very simple:

Premise: Tell the story.
Lead-In: Ask the question.

For matching questions, the template looks slightly different:

Theme: Identify the subject matter.
Lead-In: Give the directions.
Premise: Present the questions.
Options: Provide the options.

Examples

Example 1: This template is typical of a multiple-choice question that might be asked of law students. They're given information about a client's case, then asked whether the case can be heard in federal court, state court, or both.

Template: Your client [fact pattern]. What court(s) can hear this case?

- a. Federal court
- b. State court
- c. Either federal or state court

Here's a sample question using the template. The answer to this question is (c). Personal injury cases are normally heard in state court. But because the parties are citizens of different states and the amount in controversy exceeds \$75,000, this case can be heard in either state court or federal court.

Example: Your client was badly injured when her car was struck by an out-of-state motorist who was here on vacation. Your client's medical bills to date exceed \$80,000. Her car was totalled. She has been unable to return to her job as an interior designer. What court(s) can hear this case?

- a. Federal court
- b. State court
- c. Both federal and state court

Example 2: Here are the beginnings of a template for a cluster of questions for healthcare providers. The template could contain several more questions, but this example is enough to illustrate the concept.

Template: — *Questions # to # refer to the following scenario* —

Your patient has [signs and symptoms].

1. The most likely cause is:
 - a. Condition 1
 - b. Condition 2
 - c. Condition 3
 - d. Condition 4
2. What is the best way to position this patient?
 - a. Position 1
 - b. Position 2
 - c. Position 3
 - d. Position 4

Here's an example using the template. The answer to both questions is (e). The sudden onset of dyspnea and stabbing chest pain, as well as the recent history of surgery, points to pulmonary embolism as the likely cause. And the patient should be placed in a position of comfort.

Example: — *Questions 1 to 2 refer to the following scenario* —

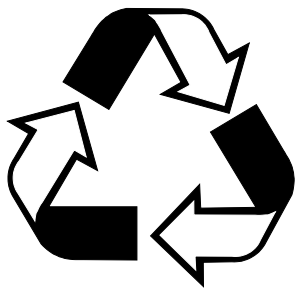
Your patient is an 81-year-old female complaining of sudden onset of dyspnea and stabbing chest pain above her right breast. Her blood pressure is 130/76. Her pulse is 110 and regular. Her breath sounds are normal at a rate of 32 breaths per minute. Her skin is cool and moist. She denies any history of chest pain, but says she recently had surgery to remove a cyst in her arm.

1. The most likely cause is:
 - a. Angina.
 - b. Emphysema.
 - c. Myocardial Infarction.
 - d. Pulmonary Edema.
 - e. Pulmonary Embolism.

The generic template for the multiple-choice format tells a story, asks the question, then provides the possible answers.

For a cluster format, the same story is used to generate several questions, each with its own set of possible answers.

The template for short-answer questions is simple. It tells a story, then asks a question (or a series of questions).



Some templates can be used to generate dozens of questions just by changing the details of the premise.

2. What is the best way to position this patient?
 - a. Supine position
 - b. Lateral recumbent position
 - c. Fowler's position
 - d. Trendelenburg position
 - e. Position of comfort

Example 3: Here's an example of a template for a short-answer question. This one requires emergency responders to use the *Emergency Response Guidebook* to answer questions about a hazardous materials incident.

Template: You are responding to [type of incident] involving [product identified by UN/NA number].

- a. What is this product?
- b. What guide in the *Emergency Response Guidebook* should you use for this incident?
- c. What is the primary hazard associated with this product?
- d. What is the recommended minimum initial isolation distance?

Here's a scenario built on the template above.

Example: You are responding to an accident on the freeway involving a tanker that reportedly struck the center divider. According to the information provided by the 911 caller, the tanker has a black-and-white placard with the number 1830 on it.

- a. What is this product?
- b. What guide in the *Emergency Response Guidebook* should you use for this incident?
- c. What is the primary hazard associated with this product?
- d. What is the recommended minimum initial isolation distance?

The answers to the questions above are as follows:

- a. Sulfuric acid
- b. Guide number 137
- c. Health hazards (versus fire or explosion hazards)
- d. The minimum initial isolation distances for *any* product covered by guide number 137 are 150 feet (50 meters) for liquids and 75 feet (25 meters) for solids.

Example 4: Finally, here's a sample template for the matching format. It asks test takers to identify the sources of case law.

Template: Subject: [Type] Law

Match each of the [court] holdings below with the landmark case it came from.

Court Holdings

1. _____ Holding
2. _____ Holding
3. _____ Holding

Court Cases

- a. *Case name*
- b. *Case name*
- c. *Case name*

Here's an example using the template above. The example was kept short due to space constraints, but it could obviously be much longer. The answers are (d), (a), (h), and (b).

Example: Subject: Constitutional Law

Match each of the U.S. Supreme Court holdings below with the landmark case it came from.

U.S. Supreme Court Holdings

1. _____ A suspect must be informed of the right to counsel and the right against self-incrimination before police can conduct a custodial interrogation.
2. _____ The due process clause of the Fourteenth Amendment guarantees criminal defendants in state court the right to counsel.
3. _____ Police officers are permitted to perform a reasonable search for weapons when they have cause to believe that a person whose suspicious behavior they are investigating is armed and presently dangerous to the officers and others.
4. _____ The Fourth Amendment privacy protections apply to people, not places. The prevailing standard in Fourth Amendment cases is based on whether a person had a reasonable expectation of privacy.

U.S. Supreme Court Cases

- a. *Gideon v. Wainwright*
- b. *Katz v. United States*
- c. *Mapp v. Ohio*
- d. *Miranda v. Arizona*
- e. *Minnesota v. Dickerson*
- f. *Palko v. Connecticut*
- g. *Roper v. Simmons*
- h. *Terry v. Ohio*
- i. *United States v. Leon*

The template for the matching format must have a theme, clear directions, a premise (the questions), and options to choose from.

Consider putting an unequal number of items in each list to make the question more challenging.

SAMPLE

Chapter 2

Write the Questions Well

Focusing on the key concepts, as addressed in Chapter 1, is only half the battle. You can't accurately assess what test takers know if the questions aren't well-written.

Some questions are unnecessarily difficult because they are poorly written. They may contain more than one correct answer. They may be neither true nor false as written. They may contain so much detail that they make it hard for test takers to focus on key points. This section is designed to help you spot these problems and correct them.

Additional information on grammar, punctuation, and related rules of writing can be found in Chapter 4.

Write your questions well.



Questions shouldn't be unnecessarily difficult due to poor writing.

SAMPLE

Choose words that won't be easily misunderstood.



Pay particular attention to terms that have unique meanings within specific industries. Terms that you take for granted after years of experience in the field may not yet be ingrained in newcomers.

Choose Words Wisely

Rationale

It's not uncommon for people to interpret questions differently based on their understanding of a single word. It may not be easy to anticipate all the ways in which people can misinterpret a question, but if you know that particular words cause problems, reword your questions. It's unfair to penalize test takers who know the correct information but are led astray by words that are easily misinterpreted.

Pay particular attention to terms that have unique meanings within specific industries. If those unique meanings differ greatly from the definitions used by the rest of the population, test takers may struggle. Terms that you take for granted after years of experience in the field may not yet be ingrained in newcomers.

Examples

Example 1: If you are writing a test for medical personnel, it's acceptable to refer to bilateral paralysis, a CVA, or a cerebrovascular accident. But if you are writing for students in a basic first aid class, keep it simple. It's enough for them to know that someone experiencing a stroke will have paralysis on only one side of the body. The answer to these questions is true.

Tough: T/F It is rare to see bilateral paralysis in someone experiencing a CVA.

Tough: T/F It is rare to see bilateral paralysis in someone experiencing a cerebrovascular accident.

Better: T/F It is rare to see paralysis on both sides of the body in someone experiencing a stroke.

Example 2: Someone new to law enforcement or criminal investigation may not know what it means to "clear an offense exceptionally," unless the concept is adequately reinforced in training. The average person will think the expression has something to do with exceptional performance. Unfortunately, it wasn't possible to substitute another expression in the example below. So the statement was reworded to provide more clarity. The answer to both questions is true.

Tough: T/F Law enforcement can clear an offense exceptionally if elements beyond the agency's control prevent the agency from arresting and formally charging the offender.

Better: T/F When elements beyond law enforcement's control (e.g., refusal of a victim to cooperate with police) prevent an agency from arresting and formally charging the offender, the agency can close the case by declaring it "exceptionally cleared."

Example 3: In the legal field, the word *appear* is often used to mean “represent clients” or “to appear on behalf of.” But a paralegal student still learning the lingo may interpret the first question below as asking whether paralegals can accompany the supervising attorney to a case management conference. So the first question is confusing. The answer to both questions is false.

Tough: T/F Paralegals can appear at a case management conference.

Better: T/F Paralegals can represent clients at case management conferences.

Example 4: The first question below is not bad, but it contains control zone names that are not used nationwide and that are harder to remember than the intuitive labels of *hot*, *warm*, and *cold*. You can’t go wrong with names that everyone will recognize.

The premise in any of these questions is acceptable. Test takers familiar with the topic should also be familiar with the abbreviation *PPE* and the shortened expression *hazmat*. But if you have doubts, spell them out.

Fair: Proper PPE is required in the _____ zone(s) at all times during a hazmat incident.

- a. Exclusion
- b. Contamination Reduction
- c. Support
- d. All of the above
- e. Both (a) and (b)

Better: Proper personal protective equipment is required in the _____ zone(s) at all times during a hazardous materials incident.

- a. Hot
- b. Warm
- c. Cold
- d. All of the above
- e. Both (a) and (b)

Better: Proper personal protective equipment (PPE) is required in the _____ zone(s) at all times during a hazardous materials incident.

- a. Hot (Exclusion)
- b. Warm (Contamination Reduction)
- c. Cold (Support)
- d. All of the above
- e. Both (a) and (b)

The answer to all three questions is (a). The hot zone is the only zone in which special protective clothing is needed *at all times*. Protective clothing isn’t needed to *set up* a decontamination station in the warm zone, but it is needed once contaminated equipment or people are brought into the zone.

If you have doubts about whether test takers are familiar enough with acronyms, abbreviations, and shortened expressions, spell them out.



If test takers are new to the subject matter, chose simpler, more familiar terms rather than ones that they may struggle with.

Use Negative Premises Judiciously

Rationale

Many professional test writers avoid using negative premises—those with expressions, such as *not*, *least*, *false*, and *all of the following except*—because they can be confusing and misleading. The biggest problem is that test takers may miss negative words, even when they're emphasized somehow.

Additionally, negative premises can cause test takers to focus on wrong information versus right information. If your intent is to draw attention to something people should *not* do, a negative premise may be fine. But if the other information is more important, consider rewriting the question with a positive premise.

If you use negative premises, make the negative words stand out. Italicizing the negative words is common, but it's not always enough. Other options include underlining, **boldface**, FULL CAPS, or a combination of two or more. Test takers are more likely to see not, **not**, NOT, NOT, **NOT**, or **NOT**, than *not*. Also, pay attention to test results. Are people missing these questions? If so, it may be that the negative-premise questions are too confusing.

Avoid questions with double negatives. If you have negative qualifiers in both the premise and one or more of the answers, it is even more confusing.

Examples

Example 1: This question is simple enough that test takers won't struggle with it. But the word *not* is easy to miss. If test takers don't see it, they may get part way through the potential answers before recognizing that two or more are correct. That forces them to reread the sentence, consuming more of the limited test time. Don't make people reread questions for something so simple. The answer to these questions is (e).

Weak: Which of the following is not part of the definition of first aid?

- a. Immediate care for a person who has been injured or suddenly taken ill.
- b. Self-help and home care if medical assistance is delayed.
- c. Well-selected words of encouragement.
- d. Promotion of confidence by demonstration of confidence.
- e. Medical advice and opinions.

Better: Which of the following is **not** part of the definition of first aid?

- a. Immediate care for a person who has been injured or suddenly taken ill.
- b. Self-help and home care if medical assistance is delayed.
- c. Well-selected words of encouragement.
- d. Promotion of confidence by demonstration of confidence.
- e. Medical advice and opinions.

Negative premises can be confusing and misleading. Test takers may miss the negative words.

NOT

If you use a negative premise, make the negative words stand out so that test takers don't miss them.

Example 2: Here is another example of how much easier it is for test takers to see the negative word when it is emphasized. The answer to these questions is (e).

Weak: Primary authority includes all of the following except:

- a. Constitutions.
- b. Statutes.
- c. Regulations.
- d. Case law.
- e. Legal periodicals and law reviews.

Better: Primary authority includes all of the following **except**:

- a. Constitutions.
- b. Statutes.
- c. Regulations.
- d. Case law.
- e. Legal periodicals and law reviews.

Example 3: The first question below runs counter to people's expectations. Students in a hazardous materials class will expect to identify what level of protective clothing provides the *most* protection, not the *least* protection. So they may not even finish reading the question before selecting answer (a). But the correct answer is (c). If you highlight the word *least*, it can keep test takers from making an innocent mistake.

Weak: Which of the following levels of chemical protective clothing provides the least protection?

- a. Level A
- b. Level B
- c. Level C

Better: Which of the following levels of chemical protective clothing provides the **least** protection?

- a. Level A
- b. Level B
- c. Level C

It's generally unnecessary to emphasize words when the question fits with people's expectations. So highlighting the word *most* is unnecessary with the alternative below. The answer to this question is (a).

Good: What level of chemical protective clothing provides the most protection?

- a. Level A
- b. Level B
- c. Level C

It is generally unnecessary to emphasize words when the question fits with people's expectations.

NOT

Negative premises, however, often run counter to people's expectations.

Double negatives are particularly confusing. Test takers are forced to spend extra time reading and analyzing the question to make sure they don't misread it.

NOT

Reword the question rather than use double negatives.

Example 4: The first question below is confusing because of the double negative. Test takers are forced to spend extra time reading and analyzing the question to make sure they don't misread it. The revised questions make it easier for test takers to show they know that warrantless searches are acceptable under exigent circumstances. The answers to these questions are true, true, false, and true, respectively.

Confusing: T/F It is not a violation of the Fourth Amendment protection against unreasonable searches and seizures if police officers do not first obtain a search warrant when there are exigent circumstances.

Revised: T/F It is **not** a violation of the Fourth Amendment protection against unreasonable searches and seizures if police officers perform a warrantless search under exigent circumstances.

Revised: T/F Police officers violate the Fourth Amendment protection against unreasonable searches and seizures if they do not first obtain a search warrant, even under exigent circumstances.

Better: T/F Police officers can generally perform a warrantless search under exigent circumstances without violating the Fourth Amendment protection against unreasonable searches and seizures.

Example 5: The first question below is potentially confusing with the words *not unethical*, particularly when the correct answer also contains the word *not*. Again, test takers must work harder to make sure they don't misread or misinterpret the question. The answer to these questions is (b).

Confusing: It is **not** unethical for an attorney or paralegal to:

- a. Solicit business from recent accident victims and their families.
- b. Communicate directly with an opposing party who is not represented by counsel.
- c. Use pretext to obtain information about the other party when doing background investigation.
- d. Use stall tactics to frustrate the other side and drive up the cost of litigation.

Clear: It is unethical for an attorney or paralegal to do all of the following **except**:

- a. Solicit business from recent accident victims and their families.
- b. Communicate directly with an opposing party who is not represented by counsel.
- c. Use pretext to obtain information about the other party when doing background investigation.
- d. Use stall tactics to frustrate the other side and drive up the cost of litigation.

Write Complete Questions

Rationale

A complete question is one that contains enough information for test takers to anticipate the appropriate answer. An incomplete question, on the other hand, either doesn't provide enough direction or doesn't provide direction early enough.

- An incomplete fill-in question provides so little guidance that test takers may not know what is expected of them. Consequently, their answers might not be anywhere close to what the test writer anticipated.
- An incomplete multiple-choice question, by comparison, may have all the necessary details, but the details are withheld from the premise, where they belong, and relegated to the potential answers instead. Ideally, the premise should be clear enough that test takers who know the material can anticipate the correct answer before reading the options.
- An incomplete matching question is one without enough direction for test takers to determine what is expected of them. The directions must be clear enough that test takers can anticipate the correct answers without looking at the options.

The illustration below is a helpful guide for writing multiple-choice questions. Not all questions will look like the illustration, but this drives home the point that the preferred way to write your questions is by putting most of the details in the premise rather than in the answers, especially if it allows you to eliminate unnecessary repetition.

Well-Shaped Multiple-Choice Question

Longer Premise
Shorter Option
Shorter Option
Shorter Option
Shorter Option

Poorly Shaped Multiple-Choice Question

Shorter Premise
Longer Option
Longer Option
Longer Option
Longer Option

A complete question is one that contains enough information for test takers to anticipate the appropriate answer.

An incomplete question either doesn't provide enough direction or doesn't provide direction early enough.

An incomplete fill-in question provides so little guidance that test takers may not know what is expected of them.



Consequently, their answers might not be anywhere close to what the test writer intended.

Examples

Example 1: Each question below asks test takers to identify what “ice” is. But the first one provides no guidance. Test takers may write a *stimulant*, *addictive*, or even *frozen water*, for that matter. The second question is clearly written to solicit an answer of *crystal methamphetamine*.

Poor: Ice is _____ .

Good: “Ice” is the street name for the drug _____ .

The first two questions below require test takers to read the premise and the possible answers to know what is expected, whereas the third question can be answered without looking at the options. The second question is also difficult to read because of the unnecessary repetition.

Poor: Ice is:

- a. PCP.
- b. Cocaine.
- c. Amphetamine.
- d. Crystal methamphetamine.

Poor: Ice is:

- a. The street name for PCP.
- b. The street name for cocaine.
- c. The street name for amphetamine.
- d. The street name for crystal methamphetamine.

Good: “Ice” is the street name for which drug?

- a. PCP
- b. Cocaine
- c. Amphetamine
- d. Crystal methamphetamine

Example 2: Here, again, test takers have no guidance. So they might come back with answers such as *gun* and *knife* instead of the desired answer of *any instrument likely to cause serious bodily harm under the circumstances of its actual use*. Some guidance is needed.

Poor: A deadly weapon is _____ .

Revised: A deadly weapon is any instrument _____ .

Revised: Under the deadly weapon doctrine, a deadly weapon is any instrument _____ .

These short essay questions are even clearer.

Good: Explain the deadly weapon doctrine.

Good: Describe the circumstances under which an ordinary object might be considered a deadly weapon.

Example 3: The first question below is vague enough that test takers might identify what causes flashover without identifying what it looks like. A flashover is caused by a fire that heats all surfaces and objects within the space to their ignition temperatures. It results in almost instantaneous ignition of all combustibles in the space.

Poor: Flashover is _____.

Revised: Flashover is characterized by _____.

The essay question below elicits more information from test takers. Flashover is often confused with rollover (or flameover), in which superheated gases accumulate at the ceiling level. If the gases ignite, it will cause a flame front that rolls across the ceiling. A rollover will generally precede a flashover, so both may occur within a short time period. And both can be deadly for firefighters.

Revised: Describe what flashover is and how it differs from roll-over (or flameover).

Example 4: As much as possible, multiple-choice questions should have enough information in the premise that test takers can anticipate the correct answer before reading the options. That is not possible with the first question below, but it is with the second. The correct answer to both questions is (a).

Poor: A motion for summary judgment:

- a. Can be used when the evidence is legally insufficient to support a verdict in the other party's favor.
- b. Should be used if the plaintiff failed to state a claim upon which relief can be granted.
- c. Is the way to refute immaterial, impertinent, or scandalous statements in another party's pleadings.
- d. Is the correct motion for asking the court to set aside an adverse judgment rendered against the party due to mistakes of inadvertence, surprise, or excusable neglect.

Good: Under what circumstances would a party most likely file a motion for summary judgment?

- a. The evidence is legally insufficient to support a verdict in the other party's favor.
- b. The plaintiff failed to state a claim upon which relief can be granted.
- c. The other party's pleadings contain immaterial, impertinent, or scandalous statements.
- d. An adverse judgment was rendered against the party due to mistakes of inadvertence, surprise, or excusable neglect.

Multiple-choice questions should have enough information in the premise that test takers can anticipate the correct answer before reading the options.

Ideally, the premise should be clear enough and complete enough that test takers can answer the question without looking at the options.



Put most of the details in the premise rather than in the potential answers.



This will help you write potential answers that are homogeneous and concise.

Example 5: The first question below is what professional test writers refer to as an *unfocused* question. First, it's impossible for test takers to anticipate the correct answer before reading the options. Second, the possible answers are not homogenous. Three of them have to do with *medical records* (one of which is specific to first aid treatment only). Answer (c) is about documentation of an employee's *exposure to hazardous materials*. So it's difficult for test takers to sort through the information. The correct answer is (d).

Poor: Which of the following statements is most accurate?

- a. OSHA requires employers to preserve and maintain all employee medical records for at least 30 years.
- b. Records of any first aid treatment for workplace injuries must be kept for at least a year.
- c. Per 29 CFR 1910.120, records of an employee's exposure to hazardous materials must be preserved for at least the duration of employment plus 30 years.
- d. OSHA requires employers to preserve and maintain most employee medical records for at least the duration of employment plus 30 years.

With the revised questions, all of the needed information is included in the premise, so test takers who know the material don't have to look at the options. The answers are (c) and (a), respectively.

Good: Per 29 CFR § 1910.120, how long must employers preserve and maintain most employee medical records?

- a. At least 30 years
- b. At least the duration of employment
- c. At least the duration of employment plus 30 years

Good: How long does OSHA require employers to preserve and maintain employee exposure records?

- a. At least 30 years
- b. At least the duration of employment
- c. At least the duration of employment plus 30 years

Example 6: The only thing obvious from the matching question below is that test takers must match something from the first list with something in the second list. This is poor form. (The hazard list was kept short because of space limitations.) The correct answers are (i), (h), and (p).

Poor: Match each item with the best option.

- | | |
|---------|---|
| 1. ____ | Explosive. Unstable. Very sensitive to heat and friction. Prone to runaway polymerization if heated. |
| 2. ____ | Volatile. Flammable. May have wide flammable ranges. May be subject to polymerization. Limited shelf lives; may form explosive compounds if exposed to air. |
| 3. ____ | Generally toxic. May be flammable, but most do not burn. May break down at relatively low temperatures, giving off toxic decomposition products. |
| 4. ____ | and so forth. |
-
- | | |
|----------------------|----------------------|
| a. ketones | j. nitros |
| b. aldehydes | k. amines |
| c. organic acids | l. nitriles |
| d. esters | m. carbamates |
| e. alcohols | n. amides |
| f. glycols | o. thiols |
| g. glycerols | p. alkyl halides |
| h. ethers | q. organophosphates |
| i. organic peroxides | r. hi-tech compounds |

The revised question gives clear directions and identifies what test takers are looking at in each list. And the hydrocarbon derivative types were put in alphabetical order for ease of reading. (Above, they were in the order presented in class.) The correct answers are (p), (h), and (c).

Good: Identify the most likely hydrocarbon derivative type for each list of common hazards and characteristics.

- | | |
|---------|---|
| 1. ____ | Explosive. Unstable. Very sensitive to heat and friction. Prone to runaway polymerization if heated. |
| 2. ____ | Volatile. Flammable. May have wide flammable ranges. May be subject to polymerization. Limited shelf lives; may form explosive compounds if exposed to air. |
| 3. ____ | Generally toxic. May be flammable, but most do not burn. May break down at relatively low temperatures, giving off toxic decomposition products. |
| 4. ____ | and so forth. |
-
- | | |
|------------------|----------------------|
| a. alcohols | j. glycols |
| b. aldehydes | k. hi-tech compounds |
| c. alkyl halides | l. ketones |
| d. amides | m. nitriles |
| e. amines | n. nitros |
| f. carbamates | o. organic acids |
| g. esters | p. organic peroxides |
| h. ethers | q. organophosphates |
| i. glycerols | r. thiols |

An incomplete matching question is one without enough direction for test takers to determine what is expected of them.



The directions must be clear enough that test takers can anticipate the correct answers without looking at the options.

Distractors should be plausible enough that people who don't know the correct answer may select a distractor instead.



Don't give away the answers by writing distractors that couldn't possibly be right.

Use Plausible Distractors

Rationale

Use plausible distractors (wrong answers) when writing multiple-choice questions. The distractors should be plausible enough and attractive enough that people who don't know the correct answer may select a distractor instead. It's acceptable to have one or two distractors that are weaker than the others, but don't give away the answer by writing distractors that couldn't possibly be right.

Don't feel that you must write four options for every multiple-choice question. If the content lends itself to only three good options, stop at three. Don't add a nonsense option just to have four.

Examples

Example 1: The primary purpose of the exclusionary rule—the rule that makes evidence seized in violation of the Fourth Amendment inadmissible in a criminal case—is to deter police misconduct. So the correct answer to both questions below is (a).

Weak: The primary purpose of the exclusionary rule is to:

- a. Deter police misconduct.
- b. Make it easier for defense attorneys to get their clients acquitted on a technicality.
- c. Make sure that prosecutors have a solid case before charging someone with a crime.
- d. Give judges more discretion in determining what evidence to admit or exclude at trial.

Good: The primary purpose of the exclusionary rule is to:

- a. Deter police misconduct.
- b. Protect the integrity of the judicial system.
- c. Avoid sending innocent people to jail.
- d. Encourage police to obtain search warrants, except when exigent circumstances make it impossible.

Part of what makes answer (b) in the revised question a strong distractor is that it's often cited in court opinions. But it is usually cited as being secondary to deterring police misconduct. Answers (c) and (d) in the revised question are strong, believable answers also. Conversely, the distractors in the first question are more likely to be said in jest or sarcasm.

Example 2: In the plastics industry, inhibitors are sometimes used to prevent dangerous polymerization reactions. Thus the answer to both questions below is (a). At best, you might get a chuckle from using *narcotics* and *sedatives* as distractors, but no one would consider them plausible answers.

Poor: _____ are sometimes added to other substances to slow or stop a chemical reaction.

- a. Catalysts
- b. Inhibitors
- c. Narcotics
- d. Sedatives

The revised question is better, but how valuable it is will depend on the audience. It may be too easy in a college chemistry course, where students are expected to master the terminology early. It might be just right in a class for emergency responders whose lives may depend on understanding the terminology in a material safety data sheet or other reference source.

Better: _____ are sometimes added to other substances to slow or stop a chemical reaction.

- a. Catalysts
- b. Inhibitors
- c. Monomers
- d. Polymers

Example 3: Someone who knows little about radioactive materials might struggle with the first question below, but anyone who has had some training will quickly rule out the distractors. This question is also an example of an incomplete premise, which was addressed in the previous guideline. The correct answer to both questions below is (b).

Poor: Half-life is:

- a. A measure of how long it takes for a person exposed to radioactive materials to become radioactive.
- b. A measure of how long it takes for one half of a given amount of radioactive material to decay to something else.
- c. The potential for a radioactive material to cut an exposed person's life expectancy in half.
- d. The best indication of how life-threatening a radioactive material is.

Answers (c) and (d) in the revised question won't fool people who know the material, but answer (a) is plausible enough and close enough to the correct answer that test takers will have to consider both (a) and (b) carefully.

Good: Half-life measures how long it takes for:

- a. Radioactive materials to decay to something non-hazardous.
- b. One half of a given amount of radioactive material to decay to something else.
- c. Stable atoms to become radioactive once exposed to a source of radiation.
- d. Half of an exposed population to exhibit effects of radiation sickness.

Don't feel that you must write four options for every multiple-choice question.



If the content lends itself to only three good options, stop at three.

Make the Correct Answer the Clear Choice

Rationale

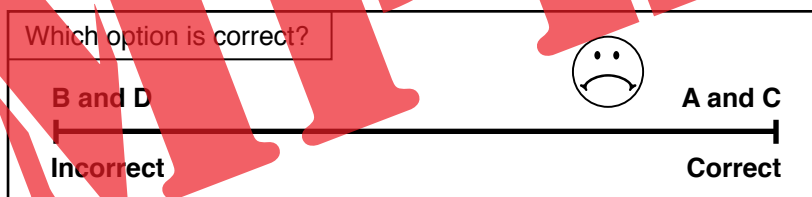
The correct answer should be the clear choice either because it is the only correct answer or because it is the best of the options presented.

The correct answer for each question should be the clear choice either because it is the only correct answer or because it is unmistakably the best of the options presented. This doesn't mean that you should write weak distractors that couldn't possibly be right. However, you shouldn't put yourself in a position of having to defend your answers, accept multiple answers, or throw out a controversial question.

Some of the examples in this section don't have a clear answer because the premise is faulty, not because the potential answers are bad. So the problem can lie in the premise, the potential answers, or both. You must evaluate each question as a whole.

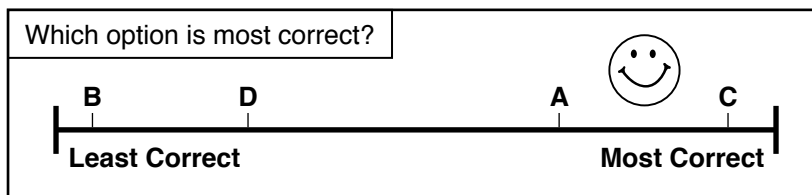
Sometimes the solution is as simple as asking test takers to identify the *best* answer versus the *right* answer. It's helpful to look at this concept pictorially, imagining correct and incorrect as two points on a continuum.

In the first illustration below, answers (b) and (d) are clearly incorrect. When it comes to answers (a) and (c), one may be better than the other, but test takers aren't asked to evaluate that. The answers are *both* more correct than they are incorrect.



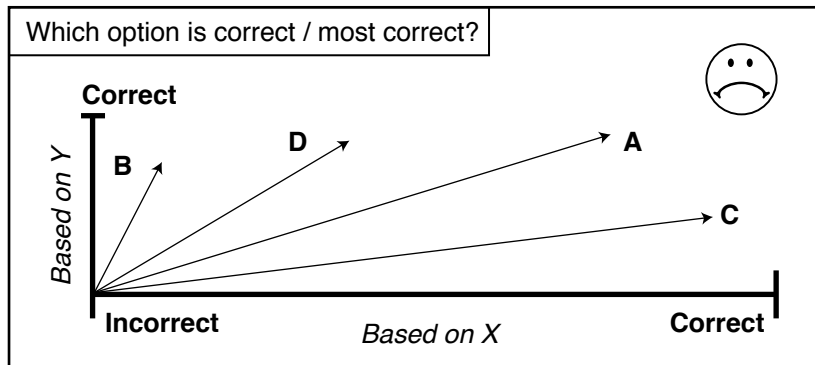
When faced with a question like the one illustrated above, test takers often struggle. And if they choose the “wrong” correct answer, they are more likely to challenge the test results. The test writer may then be forced to accept both answers or throw the question out.

When questions are written to solicit the most correct (or most likely) answer, test takers should be able to arrange answers on a scale from least correct to most correct, as illustrated below. This is easier for test takers. It's also easier for test writers, because the distractors don't have to be totally wrong.



Multiple-choice questions tend to cause fewer problems when they ask test takers to select the best answer versus the right answer.

Regardless of whether the question is written to solicit the *right* answer or the *best* answer, it must be clear enough to avoid the situation depicted below. In this case, test takers are faced with answers that are not homogenous; they appear to belong in different dimensions. So it's impossible to choose among them.



When test takers are asked to choose the *best* answer versus the *right* answer, the distractors don't have to be totally wrong.

Be cautious when using imprecise terms of frequency (e.g., *frequently* or *often*), because people have different ideas of what they mean. You can use them as qualifiers, such as to identify that something happens *often* versus *always*. But don't ask test takers to determine if something happens *often* versus *frequently*. Also avoid multiple-choice and true/false questions that call for an opinion, because there are no clear answers to these.

Examples

Example 1: The best answer to both questions below is (d). But the first question is problematic, because dilated pupils may be present with any of the conditions listed if the brain is deprived of adequate oxygen.

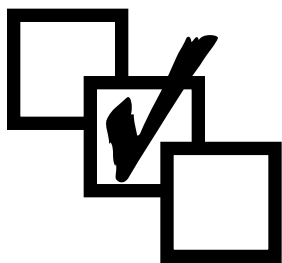
- Poor:** Dilated pupils in an ill or injured person may mean that the person:
- a. Is developing shock.
 - b. May be having a heart attack.
 - c. May be on drugs.
 - d. Is not getting enough oxygen to the brain.

The revised question is written to solicit the *best* answer, because instead of asking what dilated pupils *may* mean, it asks what this sign *usually* indicates. And if the potential answers were lined up on a continuum, answers (a) through (c) would clearly be weaker than answer (d). Head injuries are more likely to produce unequal pupils. Meanwhile, poisoning, drugs, and severe injuries may produce either dilated or constricted pupils, depending on the substance or the injury.

- Good:** Dilated pupils in an ill or injured person usually indicates that the person:
- a. Has sustained a head injury.
 - b. Has been poisoned or drugged.
 - c. Is badly injured.
 - d. Is not getting enough oxygen to the brain.

Potential answers should be homogenous—similar enough that test takers are comparing “like” items.

Examine both the premise and the potential answers.



Problems can come from a faulty premise, faulty answers, or both.

Example 2: The first question below lacks sufficient information for test takers to choose an answer. The revised question provides enough context to ensure there is one clear answer—answer (b). There is no requirement that pipe labels be a specific color. But if a facility follows the optional standards established by the American National Standards institute (ANSI), there is a color scheme associated with pipe contents.

Poor: Facility pipes containing flammable fluids will have _____ labels.

- a. Red
- b. Yellow
- c. Green
- d. Blue

Good: If a facility has followed the 2007 version of ANSI Standard A13.1-1996 for pipe identification, pipes containing flammable fluids will have _____ labels.

- a. Red
- b. Yellow
- c. Green
- d. Blue

Example 3: In the first question below, answers (a) and (b) are both true. Even if answer (a) came directly from the textbook, test takers who chose (b) will push back until you are forced to accept either answer.

Poor: You have found a court case that you want to cite as authority, but it has been criticized in later cases, meaning the citing courts disagreed with the reasoning or the result. Can you still cite to that case?

- a. You can still use it as authority, but it is better to cite analogous cases that have not been criticized.
- b. You can still use it as authority for any legal issues that were not criticized.
- c. You can use it as authority without hesitation, because criticism does not overrule a case.
- d. You cannot cite to it as legal authority, because it is no longer good law.

Here, answer (b) has been rewritten to make it unquestionably wrong. Now answer (a) is the clear winner.

Good: You have found a court case that you want to cite as authority, but it has been criticized in later cases, meaning the citing courts disagreed with the reasoning or the result. Can you still cite to that case?

- a. You can still use it as authority, but it is better to cite analogous cases that have not been criticized.
- b. You can still use it as authority if you also present valid arguments as to why the criticism in later cases was wrong or unfounded.
- c. You can use it as authority without hesitation, because criticism does not overrule a case.
- d. You cannot cite to it as legal authority, because it is no longer good law.

Example 4: The answer to both questions below—the statement that has *no* truth to it—is (d). But options (a) through (c) in the first question lack sufficient context, so they are not quite true as written.

Weak: Firefighters have extinguished a suspected arson fire. Which of the following statements about the need for a search warrant to investigate the fire is **not** true?

- a. Firefighters may remain on scene to investigate the fire without obtaining a search warrant.
- b. Firefighters do not need a warrant to seize evidence of arson.
- c. If fire department personnel leave the scene, they do not need a search warrant to continue their investigation a few hours later.
- d. If an occupant sets fire to his building, he has abandoned the premises within the meaning of the Fourth Amendment, so no search warrant is needed.

Good: Firefighters have extinguished a suspected arson fire. Which of the following statements about the need for a search warrant to investigate the fire is **not** true?

- a. Firefighters may remain on scene for a reasonable time to investigate the fire without obtaining a search warrant.
- b. Firefighters do not need a warrant to seize evidence of arson that is in plain view.
- c. If fire department personnel leave the scene because visibility is severely hindered by darkness, steam, or smoke, they do not need a search warrant to continue their investigation a few hours later.
- d. If an occupant sets fire to his building, he has abandoned the premises within the meaning of the Fourth Amendment, so no search warrant is needed.

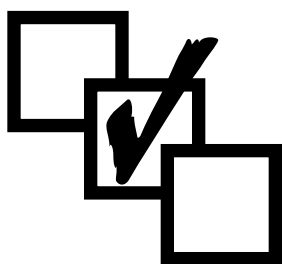
The following explanations clarify why options (a) through (c) are problematic in the first question and better in the second one.

- a. Firefighters *can't* stay on scene *indefinitely* without obtaining a search warrant, but they can stay for *a reasonable time*.
- b. Firefighters don't need a search warrant to seize evidence *in plain view*, including evidence uncovered as they perform normal fire operations. But they don't have carte blanche to search areas that are not damaged or threatened by fire, smoke, or water.
- c. A search warrant is normally required if fire officials leave the scene, then return later to investigate the fire. But the U.S. Supreme Court has carved out an exception, acknowledging that it may not be safe to investigate a fire when darkness, steam, and smoke hinder visibility. So, for example, if a fire occurs in the middle of the night, fire officials can depart in the wee hours of the morning, then return at daylight without needing a search warrant.

If questions are well-written, you shouldn't find yourself having to defend your answers, accept multiple answers, or throw out a controversial question.

Distractors should be plausible, but clearly wrong or inferior to the correct answer.

Watch out for the gotchas that can invalidate an otherwise good question.



Check details. Little details mistakenly omitted can cause big problems.

Example 5: The first question below has a faulty premise, so there is no clear answer. OSHA regulations prohibit working in *confined space atmospheres* containing flammable gases or vapors in concentrations greater than 10% of the lower explosive limit (LEL). However, the regulations don't address environments that don't meet the definition of a confined space. The answer to the revised question is (a).

Poor: OSHA regulations prohibit working in atmospheres containing flammable gases or vapors in concentrations greater than ____ of the lower explosive limit (LEL).

- a. 10%
- b. 15%
- c. 20%
- d. 25%

Good: OSHA regulations prohibit working in confined space atmospheres containing flammable gases or vapors in concentrations greater than ____ of the lower explosive limit (LEL).

- a. 10%
- b. 15%
- c. 20%
- d. 25%

Here's an alternate question based on EPA guidelines. The answer is (d).

Good: When a setting does not meet the definition of a confined space, EPA guidelines suggest that emergency responders can work in atmospheres containing flammable gases or vapors in concentrations up to ____ of the lower explosive limit (LEL) if they are cautious and use continuous monitoring.

- a. 10%
- b. 15%
- c. 20%
- d. 25%

Example 6: This example might be used in a class on the chemistry of hazardous materials. The answers are (c) and (b), respectively. But as explained on the next page, the first question requires test takers to refer to reference sources; the second one does not.

Poor: Which of the following hydrocarbons has the highest vapor pressure?

- a. Benzene
- b. Octane
- c. Hexane
- d. Toluene

Good: Which of the following hydrocarbons has the highest vapor pressure?

- a. Hexane
- b. Methane
- c. Octane
- d. Propane

All things being equal, the smaller the compound, the higher the vapor pressure. So if test takers compare “like” compounds and understand the naming scheme—in this case, how prefixes reflect molecular size—they can easily pick the smallest compound.

Unfortunately, the first question doesn’t have “like” compounds. It has two alkanes (*-ane* ending) and two aromatic hydrocarbons (*-ene* ending). So test takers can’t readily compare the four options. They may be able to guess the correct answer after narrowing it down to the two smallest compounds in each category. But they can’t be certain the way they can be with the revised question.

To avoid making the revised question too easy, the potential answers were put in alphabetical order rather than in order by molecular size. So test takers have to recognize the prefixes in addition to knowing whether to pick the largest compound or the smallest compound.

Example 7: Test takers are more likely to challenge test questions that contain overlapping answers than questions that don’t. Thus if any of the distractors are partially correct, you may be forced to accept them, even though another answer is clearly better. Remember, the goal is not to trick people; it is to ensure that they understand important concepts.

Brain damage usually begins after a person has been without oxygen for four to six minutes, so answer (c) is correct. But answers (b) and (d) contain partially correct information. If test takers choose either of those answers and you don’t accept it as correct, it communicates that you are more concerned with test takers regurgitating facts from a textbook than you are with them understanding the importance of beginning rescue breathing in a timely manner. The revised question is less subject to controversy.

Poor:

Brain damage usually begins after a person has been without oxygen for _____ minutes.

- a. 2 to 3
- b. 3 to 5
- c. 4 to 6
- d. 5 to 7

Good:

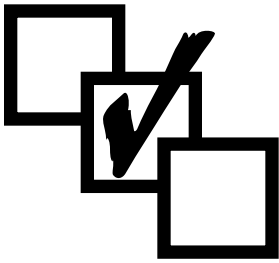
Brain damage usually begins after a person has been without oxygen for _____ minutes.

- a. 1 to 2
- b. 2 to 4
- c. 4 to 6
- d. 7 to 10

Test takers are more likely to challenge test questions that contain overlapping answers than questions that don’t.

The goal is not to trick people; it is to ensure that they understand important concepts.

Potential answers must be homogeneous, or test takers won't be able to fairly compare them.



There may be no right answer when test takers must compare potential answers with imprecise terms of frequency.

Example 8: There's no clear answer to the first question below, because the options are not homogenous. The intended answer is (c), but if the plaintiff doesn't file the suit within the statute of limitations, he or she will never have the opportunity to prove each element in the cause of action.

Poor: To prevail in a negligence lawsuit, a plaintiff must:

- a. File the suit within the statute of limitations.
- b. Present testimony from an expert witness.
- c. Prove each element in the cause of action.
- d. Prove his or her case beyond a reasonable doubt.

The potential answers below homogenous, so test takers can compare "like" options. While the question is narrower in scope and thus doesn't touch on as many concepts as the one above, it has a clear answer—answer (a).

Good: To prevail in a negligence lawsuit, a plaintiff must prove each element in the cause of action:

- a. By a preponderance of the evidence.
- b. By clear and convincing evidence.
- c. Beyond a reasonable doubt.

Example 9: The first question below has no right answer. Test takers can't anticipate what the test writer intended with such imprecise terms as *often*, *usually*, *frequently*, and *commonly*. Where any one statement by itself might be considered true, test takers can't reasonably compare all four and pick one that is more accurate than the others. The answer to the revised question is (a).

Poor: You have been unable to reach a settlement agreement with the other side in a personal injury case. It appears a trial is necessary. You must determine what is in the best interests of your client: a jury trial or a bench trial. Which of the following statements *best* reflects the relative advantages and disadvantages of each?

- a. It is often preferable to try a case before a judge rather than a jury if the case involves complex legal issues that might be difficult for a layperson to grasp.
- b. It is usually easier for attorneys to predict the outcome of cases that will be tried before a judge versus a jury.
- c. It is frequently advantageous for plaintiffs with severe injuries to have their cases tried before a jury.
- d. Defendants commonly fare better when cases are tried before a judge rather than a jury that could be sympathetic to the plaintiffs.

Good: You represent a once-vibrant young man who was severely injured in an auto-pedestrian accident. You have been unable to reach a settlement agreement with the other side, and it appears the case is headed for trial. What type of trial is likely to be in the best interests of your client?

- a. A jury trial
- b. A bench trial

Avoid Questions That Are Neither True Nor False as Written

Rationale

When true/false questions are neither true nor false as written, test takers may struggle unnecessarily, choose the wrong answers because they focus on the wrong information, or challenge the questions because they're poorly written. If a question is neither true nor false as written, it should be rewritten or omitted.

A well-written question doesn't leave room for uncertainty. The answer should be clearly true or false. If people are uncertain of the answer, it should be because they don't know the material, not because they can't crack the code of a poorly written question.

Don't try to trick test takers by sneaking in minor details that make an otherwise true question false. People shouldn't have to "watch what the other hand is doing," as if they are watching a magician. Keep the focus on key points you want people to remember long after they've completed the test.

Examples

Example 1: The basic concept is true in each of the questions below, but the wrong rule is cited in the first one. It should be 34(b), not 34(a). This is unfair to test takers, most of whom are rightly more focused on the content of the law than they are on specific code sections. Don't try to trick test takers. And if you make a mistake when writing your question, be prepared to accept either true or false as a correct answer.

Poor: T/F Under Rule 34(a) of the Federal Rules of Civil Procedure, a party need not produce the same electronically stored information in more than one form.

Good: T/F Under Rule 34(b) of the Federal Rules of Civil Procedure, a party need not produce the same electronically stored information in more than one form.

Example 2: The answer to each of the questions below should be true. But the first question lacks the context necessary for a definitive answer. The military uses blue hand grenades as training grenades, but a terrorist could modify and refill a blue training grenade, making it just as dangerous as a grenade of any other color.

Poor: T/F A blue hand grenade is a training grenade.

Better: T/F The military uses blue hand grenades for training.

Best: T/F The military uses blue hand grenades for training, but emergency responders should consider blue grenades real and dangerous until proven otherwise.

Avoid true/false questions that are neither true nor false as written.



Don't make people struggle unnecessarily. Don't try to trick test takers.

Avoid questions that lack the context necessary to make them clearly true or false. Provide enough context for test takers to answer the question.



Sometimes the omission of a single word can be significant. Without it, test takers may not have enough information to answer either true or false.

Example 3: Here again, the first question below lacks the context necessary to make it clearly true or false, because elevating the legs of a patient in shock may help or hurt, depending on the injuries. The second and third questions are better than the first, but they may be too easy. (Each of them are true.) The last question is best, because it requires test takers to recognize that elevating the legs is not appropriate with head injuries. The answer to the last question is false.

Poor: T/F If a patient is in shock, you should elevate the legs to increase blood flow to the brain.

Better: T/F Treatment for shock may include elevating the patient's legs to increase blood flow to the brain.

Better: T/F Depending on the injuries, treatment for shock may include elevating the patient's legs to increase blood flow to the brain.

Best: T/F If a patient with a head injury is in shock, you should elevate the patient's legs to increase blood flow to the brain.

Example 4: The basic premise is true in the first question below, but there are a number of exceptions to the hearsay rule. So this question would be unfair to test takers.

Poor: T/F Hearsay evidence is not admissible at trial.

The first alternative is better, but anyone with a little common sense would know it's true. The last two questions are still relatively easy, but they aren't no-brainers. Most test takers will give them due consideration rather than blindly answer true.

Fair: T/F Hearsay evidence is not admissible at trial, unless it falls under one of the recognized exceptions.

Good: T/F A dying declaration may be admissible at trial as an exception to the hearsay rule.

Good: T/F A witness to a vehicle accident overheard one of the drivers say, "I just looked away for a second." The witness's testimony would be admissible in court as an exception to the hearsay rule.

Example 5: Sometimes the omission of a single word can be significant. The difference between the two questions below is the use of the word *weak* in the second one. If emergency responders attempt to neutralize a strong acid, for example, with a strong alkali, the result will be a violent chemical reaction. Neutralization must be done only with *weak* corrosives of the opposite pH. So the first question is *mostly* true, but the omission is a critical one. The answer to the second question is true.

Poor: T/F Occasionally the best option when dealing with an acid or alkali spill is to neutralize the corrosive with a product of the opposite pH.

Revised: T/F Occasionally the best option when dealing with an acid or alkali spill is to neutralize the corrosive with a weak product of the opposite pH.

Example 6: The first question below doesn't contain enough information to render a definitive answer. Attorneys can reveal confidential client information only to prevent a client from committing a *serious* criminal act. But even if the word *serious* is added, it still leaves room for uncertainty. A criminal act can be serious, but not serious enough to warrant an attorney revealing confidential client information.

Poor: T/F Attorneys may reveal confidential client information to prevent a client from committing a criminal act.

Weak: T/F Attorneys may reveal confidential client information to prevent a client from committing a serious criminal act.

The next question is clear. Certainly, state laws can vary. This language was taken from the California Business and Professions Code section 6068(e)(2). But even on a nationwide exam, test takers should have enough information to select true as the correct answer.

Good: T/F In general, attorneys may reveal confidential client information to prevent a client from committing a criminal act that they reasonably believe is likely to result in the death of, or substantial bodily harm to, an individual.

Example 7: The first question below feels like a trick question. The litigation discovery process has several objectives, many of which might be considered "primary." Thus test takers may struggle with this question, trying to decide if the objective cited is the most important one. The revised question may seem like a giveaway by comparison, but it's a test-worthy concept nonetheless. The answer is true.

Unclear: T/F The primary objective of discovery is to prevent a party from winning the lawsuit by surprise or trickery.

Clear: T/F One of the primary objectives of discovery is to prevent a party from winning the lawsuit by surprise or trickery.

A well-written question doesn't leave room for uncertainty. The answer should be clearly true or false.



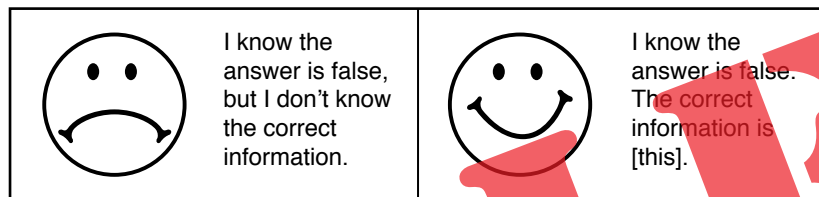
If test takers are uncertain of the answer, it should be because they don't know the material, not because they can't crack the code of a poorly written question.

Emphasize Correct Information in True/False Questions

Rationale

True/false questions that emphasize incorrect information are a disservice to test takers. Yet it's necessary to have some questions for which the answer is false. The key to success is writing questions that trigger the correct memory for test takers, regardless of the answer.

Consider the two responses below. It's not enough for test takers to select false without knowing the correct information. They must have the experience depicted below right, not below left.



Examples

Example 1: The word *privacy* never appears in the Bill of Rights, so the answer to the first question below is false. But shouldn't test takers have some idea where our right to privacy came from?

Poor: T/F The right to privacy was incorporated into the Bill of Rights by our Founding Fathers.

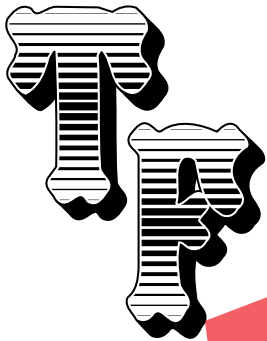
The following is a good question, because it stresses the fact that the right to privacy came from a judicial interpretation of the Bill of Rights. The answer is true.

Good: T/F In *Griswold v. Connecticut* (1965), the U.S. Supreme Court determined that several provisions of the Bill of Rights (including the First, Third, Fourth, Fifth, and Ninth Amendments) had penumbras, or zones, around them that created a general right to privacy.

If you need a question for which the correct answer is false, you might change the name of the case. But notice that the following example is worded carefully to avoid making it a trick question. The judicial interpretation is summarized correctly, ensuring that test takers remember the concept. They need only recognize that the wrong case is named.

Good: T/F It was in the landmark case *Roe v. Wade* (1973) that the U.S. Supreme Court established that several provisions of the Bill of Rights (including the First, Third, Fourth, Fifth, and Ninth Amendment) had penumbras, or zones, around them that created a general right to privacy.

Use true/false questions that serve as a learning tool and that ensure test takers retain the correct information.



Avoid questions that emphasize incorrect information.

Write questions that trigger the correct memory for test takers.

Example 2: Again, the answer to the first question below is false. But what is the significance of the Table of Initial Isolation and Protective Action Distances in the *Emergency Response Guidebook*? This question doesn't show that test takers know the answer.

Poor: T/F The Table of Initial Isolation and Protective Action Distances (green-bordered pages) of the *Emergency Response Guidebook* identifies hazardous materials that are subject to polymerization.

The revised questions identify what information test takers can find in the Table of Initial Isolation and Protective Action Distances. The answers are true and false, respectively. Although the answer to the last question is false, test takers will realize it's false only because the wrong pages are cited, not because the critical content is wrong.

Good: T/F The Table of Initial Isolation and Protective Action Distances (green-bordered pages) of the *Emergency Response Guidebook* identifies hazardous materials that are considered toxic by inhalation or that produce toxic gases upon contact with water.

Good: T/F The orange-bordered pages of the *Emergency Response Guidebook* identify hazardous materials that are considered toxic by inhalation or that produce toxic gases upon contact with water.

Example 3: Once again, we have a false statement that fails to show that test takers know the right information. When does the duty of confidentiality end?

Poor: T/F An attorney's duty of confidentiality to a client ends when the case or client matter has ended.

The duty of confidentiality lasts forever. It doesn't end even when the client dies. So here are two good questions (one true, one false) that reflect the information attorneys need to know.

Good: T/F An attorney's duty of confidentiality to a client lasts forever.

Good: T/F An attorney's duty of confidentiality to a client ends once the client dies.

Example 4: Both statements below are true, but the first one is misleading. Sarin is the most volatile of the nerve agents, meaning it has the highest vapor pressure among them. But sarin has a lower vapor pressure than water does, meaning it's less volatile than water is. To call sarin "volatile" creates a false impression of how quickly its vapors will spread.

Weak: T/F Sarin is considered a volatile nerve agent.

Better: T/F Although sarin is described as a volatile nerve agent, it is less volatile than water is.

Test takers should not think, "I know the answer is false, but I don't know the correct information."



Test takers should think, "The answer is false. The correct information is [this]."

Arrange Potential Answers in a Logical Sequence

Rationale

For the most part, test writers can put potential answers in any order. However, numbers should be in numerical order, and dates should be in date order. Sometimes, particularly with one-word answers, alphabetical order is helpful.

This guideline is less about any particular sequence than it is about how the sequence affects the test-taking experience. What is easiest for the test taker to read? Does the sequence make sense, or does it create confusion? Does the sequence give away the answer, or does it bury the answer where it's harder to find?

Think of it like a shopping experience. Whether you know what you're looking for or you hope you'll recognize the right thing when you see it, it's important that the display be pleasing and well-organized. A disorganized display is frustrating, because it interferes with your ability to see and evaluate the options clearly.

The same is true with test questions. When potential answers are arranged in an illogical sequence, it's a distraction that interferes with the test takers' ability to see what they are looking at.

Examples

Example 1: The first question below violates the guideline that numbers should be put in numerical order. There's no reason to put numbers in random order. It only makes the question harder to read; it doesn't make it more challenging. Either test takers know the answer or they don't. Don't play hide-and-seek with them. The answers to the questions are (c) and (a), respectively.

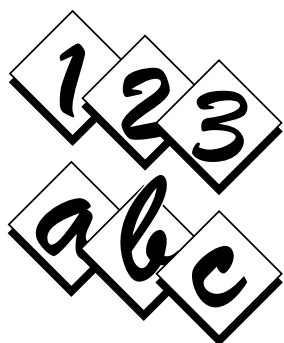
Poor: Per Rule 33 of the Federal Rules of Civil Procedure, unless otherwise stipulated or ordered by the court, a party may serve on any other party no more than ____ written interrogatories, including all discrete subparts.

- a. 30
- b. 50
- c. 25
- d. 35

Good: Per Rule 33 of the Federal Rules of Civil Procedure, unless otherwise stipulated or ordered by the court, a party may serve on any other party no more than ____ written interrogatories, including all discrete subparts.

- a. 25
- b. 30
- c. 35
- d. 50

With some questions, there's a logical sequence for the potential answers.



Numbers should be in numerical order, and dates should be in date order. Some options should be in alphabetical order.

Example 2: Here is an example where the potential answers can be expressed with either chemical formulas or names. And each option comes with its own set of concerns.

If you compare “like” compounds, you can identify their relative vapor pressures by looking at molecular size. The smaller the compound, the higher the vapor pressure. The smallest hydrocarbon below is the one with the fewest carbon and hydrogen atoms—propane (C_3H_8)—answers (b), (a), (a), and (d), respectively.

It’s understandable that a test writer might want to mix the order of potential answers to avoid making this too easy. After all, if the options are in numerical order, as they are in the revised question, test takers will know the answer is either (a) or (d). They just have to remember whether the compound with the highest vapor pressure is the smallest one or the largest one. But mixing the order merely makes the question harder to read. It adds no value. Again, don’t play hide-and-seek with test takers.

Poor: Which of the following hydrocarbons has the highest vapor pressure?

- a. C_5H_{12}
- b. C_3H_8
- c. C_6H_{14}
- d. C_4H_{10}

Good: Which of the following hydrocarbons has the highest vapor pressure?

- a. C_3H_8
- b. C_4H_{10}
- c. C_5H_{12}
- d. C_6H_{14}

Here is the same question with names instead of formulas, requiring test takers to remember how the prefixes relate to molecular size. The first question gives test takers a clue, because the options are put in size order. The second question has the names in alphabetical order instead. Another option would have been to put the potential answers in random order. Either choice would remove the clue, without playing hide-and-seek with test takers.

Clue: Which of the following hydrocarbons has the highest vapor pressure?

- a. Propane
- b. Butane
- c. Pentane
- d. Hexane

No Clue: Which of the following hydrocarbons has the highest vapor pressure?

- a. Butane
- b. Hexane
- c. Pentane
- d. Propane

The particular sequence is less important than the way the sequence affects the test-taking experience.



Is the sequence easy to read? Does it make sense? Does it either give away the answer or make the answer harder to find?

Although it's not mandatory to put potential answers in order by length, doing so can sometimes make the question easier to read.



As test takers move from shorter answers to longer ones, they're better able to retain what they've just read.

Example 3: There's no "right" way to order the potential answers in this example. Both options are acceptable. But there's an aesthetic appeal to potential answers organized by length. It's similar to the aesthetic appeal that exists when landscaping with shorter plants toward the front and taller plants toward the back. The organization makes everything easier to see. Additionally, as test takers move from shorter answers to longer ones, they are better able to retain what they've just read. It's easier to retain the shorter quotes below than it is to retain the longer ones. The answers to these questions are (b) and (a), respectively.

Random: U.S. Supreme Court Justice Oliver Wendell Holmes created the "clear and present danger" test in *Schenck v. United States* (1919). Which of the following quotes was part of his analogy in that case?

- a. "Yet free speech is the rule, not the exception. The restraint to be constitutional must be based on more than fear, on more than passionate opposition against the speech, on more than a revolted dislike for its contents. There must by some immediate injury to society that is likely if speech is allowed."
- b. "The most stringent protection of free speech would not protect a man in falsely shouting fire in a theatre and causing a panic."
- c. "Every idea is an incitement. . . . The only difference between the expression of an opinion and an incitement in the narrower sense is the speaker's enthusiasm for the result. Eloquence may set fire to reason."
- d. "In each case courts must ask whether the gravity of the evil, discounted by its improbability, justifies such invasion of free speech as is necessary to avoid the danger."

By Length: U.S. Supreme Court Justice Oliver Wendell Holmes created the "clear and present danger" test in *Schenck v. United States* (1919). Which of the following quotes was part of his analogy in that case?

- a. "The most stringent protection of free speech would not protect a man in falsely shouting fire in a theatre and causing a panic."
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- d. "Yet free speech is the rule, not the exception. The restraint to be constitutional must be based on more than fear, on more than passionate opposition against the speech, on more than a revolted dislike for its contents. There must by some immediate injury to society that is likely if speech is allowed."

Write Clustered Questions Carefully

Rationale

Several questions tied to the same scenario are considered a “cluster.” Clusters work very well for some material. But there’s an art to writing clusters well.

Clearly identify your clusters. One mistake test writers sometimes make is to have each question build on the one before it, without warning test takers to expect that. So as soon as test takers complete the question, they clear it from short-term memory to concentrate on the next one. They’ve mentally moved on, only to find that they did so prematurely. Now they may have to reread the previous question to recapture the information.

Set expectations by telling test takers that you are introducing a scenario that relates to some number of questions to follow. That way, instead of immediately clearing the scenario from short-term memory, test takers will keep it in mind as they move on to the next question. Clearly identifying your clusters can also help you write clearer and more concise questions.

Be careful about “hinging”—making the answer of each question dependent on the one(s) before it. If questions hinge on one another, a person who gets the first question wrong may get all of them wrong. Test takers can lose a lot of points that way. Hinging can be appropriate in small doses, for example, if the last question in a cluster ties everything together based on the answers chosen earlier. But hinging should be the exception rather than the rule.

Examples

Example 1: The first cluster in this example is poorly written. It contains four questions, but test takers are given no warning that these four questions build on the same scenario. The answers to the questions from both this version and the revised one are (d), (a), (c), and (b), respectively.

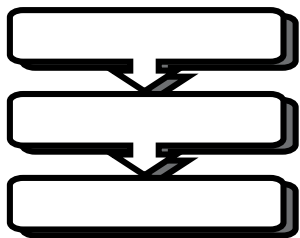
- Poor:*
1. You are hiking with a friend when another hiker ahead of you strays too close to the edge of the trail and loses her balance. She tumbles down the steep hillside, landing in a heap twenty feet below. While your friend calls 911 on his cell phone, you carefully make your way down to the injured hiker. She is crying and guarding her right arm, which is bleeding beneath her long-sleeve shirt. The first thing you should do is:
 - a. Expose the arm injury and control the bleeding.
 - b. Straighten her crumpled body.
 - c. Move her to a safer location.
 - d. Conduct a primary survey to identify potentially life-threatening injuries.

Several questions tied to the same scenario are considered a “cluster.”



Clusters should be clearly identified so that test takers can recognize them easily.

Test takers will quickly clear a scenario from short-term memory if they don't expect to need the information for future questions.



But if you clearly identify your clusters, test takers will know they must retain the information for the specified number of questions.

2. The injured hiker from the previous question has an open wound just below her right elbow. You suspect that her arm is also fractured. You should attempt to control the bleeding by applying:
 - a. Direct pressure.
 - b. Direct pressure and elevation.
 - c. Direct pressure, elevation, and pressure to the brachial pressure point.
 - d. Pressure to the brachial pressure point rather than putting any pressure over the suspected fracture site.
3. Your friend from Question 1 joins you after calling 911 on his cell phone. He reports that the paramedics are on their way, but due to how far out you are on the hiking trail, their ETA is probably twenty minutes. You believe that splinting the injured hiker's arm will help relieve her pain. And you can readily create a splint from available materials. You should splint her arm:
 - a. With the arm straight.
 - b. With the arm bent and supported in a sling.
 - c. In the position found, either bent or straight.
4. You have splinted the arm of the injured hiker from the previous three questions. Afterwards, the radial pulse in her right arm becomes weak, and she complains of loss of sensation in her fingers. This most likely means:
 - a. Her injury has worsened and is in need of prompt advanced care. Carry her up the hillside and meet the paramedics on the trail to minimize any delay.
 - b. You may have tied the splint too tightly. Recheck the splint and adjust as needed.
 - c. You failed to properly position her arm before splinting. Remove the splint, reposition her arm, and resplint.
 - d. Splinting was a bad idea. Remove the splint, and leave the hiker's arm alone until paramedics arrive.

The cluster is clearly identified in the revision below, making it easier for test takers to absorb the information. Even the visual cues (the lines and the bold, italic type) are helpful. Notice, too, that some of the details were moved from the questions to the scenario so that the questions could be more concise.

Better: — **Questions 1 to 4 refer to the following scenario** —

You are hiking with a friend when another hiker ahead of you strays too close to the edge of the trail and loses her balance. She tumbles down the steep hillside, landing in a heap twenty feet below. Your friend calls 911 on his cell phone. But due to how far out you are on the hiking trail, you know that paramedics will have an ETA of twenty minutes. You carefully make your way down to the injured hiker. She is crying and guarding her right arm, which is bleeding beneath her long-sleeve shirt.

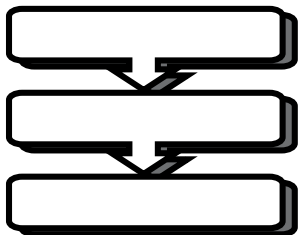
1. The first thing you should do for the injured hiker is:
 - a. Expose the arm injury and control the bleeding.
 - b. Straighten her crumpled body.
 - c. Move her to a safer location.
 - d. Conduct a primary survey to identify potentially life-threatening injuries.
2. The injured hiker has an open wound just below her right elbow. You suspect that her arm is also fractured. You should attempt to control the bleeding by applying:
 - a. Direct pressure.
 - b. Direct pressure and elevation.
 - c. Direct pressure, elevation, and pressure to the brachial pressure point.
 - d. Pressure to the brachial pressure point rather than putting any pressure over the suspected fracture site.
3. You believe that splinting the injured hiker's arm will help relieve her pain while waiting for the paramedics. And you can readily create a splint from available materials. You should splint her arm:
 - a. With the arm straight.
 - b. With the arm bent and supported in a sling.
 - c. In the position found, either bent or straight.
4. After you splint the hiker's injured arm, the radial pulse becomes weak, and she complains of loss of sensation in her fingers. What does this most likely mean, and what should you do about it?
 - a. Her injury has worsened and is in need of prompt advanced care. Carry her up the hillside and meet the paramedics on the trail to minimize any delay.
 - b. You may have tied the splint too tightly. Recheck the splint and adjust as needed.
 - c. You failed to properly position her arm before splinting. Remove the splint, reposition her arm, and resplint.
 - d. Splinting was a bad idea. Remove the splint, and leave the hiker's arm alone until paramedics arrive.

Using clusters can sometimes help you write questions that are clearer and more concise than they would be otherwise.



Visual cues often help test takers recognize clusters.

If questions hinge on one another, test takers who get the first question wrong may get all of them wrong.



Test takers can lose a lot of points that way.

Example 2: This example illustrates “hinging”—making the answer of each question dependent on the one(s) before it. Test takers must know the answer to the first question to correctly answer the second one. Thus they will either get both right or both wrong. The answers to the questions are (a) and (b), respectively.

Hinging: — Questions 1 to 2 refer to the following scenario —

There is a small military installation in the county. It is not in your jurisdiction, but your fire department could be dispatched to the military installation on a mutual aid call. So all line personnel need to be informed about what hazardous materials are used or stored on site and the dangers associated with them.

1. The military has its own marking system to identify fire and detonation hazards. The markings consist of four orange shapes with numbers 1 through 4 printed in black. Which one represents the most severe hazard (mass detonation)?



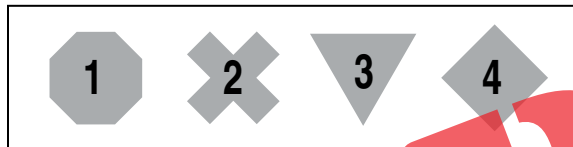
- a. 1 - the octagon
 - b. 2 - the “X”
 - c. 3 - the triangle
 - d. 4 - the diamond
2. How does the military’s numbering system compare with the NFPA 704 marking system?
 - a. The numbers 1 through 4 mean the same thing in both marking systems.
 - b. The numbering scheme in the military system is the reverse of the numbering scheme in NFPA’s 704 marking system.

The scenario and Question 1 below are unchanged. But Question 2 has been rewritten so that test takers don't have to know the answer to the first question to get the second one right. The answers are (a) and (d), respectively.

Revised: — Questions 1 to 2 refer to the following scenario —

There is a small military installation in the county. It is not in your jurisdiction, but your fire department could be dispatched to the military installation on a mutual aid call. So all line personnel need to be informed about what hazardous materials are used or stored on site and the dangers associated with them.

1. The military has its own marking system to identify fire and detonation hazards. The markings consist of four orange shapes with numbers 1 through 4 printed in black. Which one represents the most severe hazard (mass detonation)?



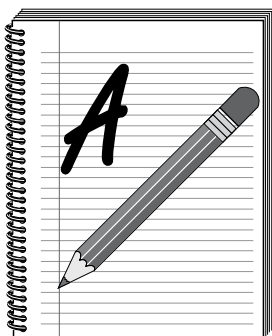
- a. 1 - the octagon
 - b. 2 - the "X"
 - c. 3 - the triangle
 - d. 4 - the diamond
-
2. The military installation has also posted signage that civilian firefighters are more accustomed to seeing, including the NFPA 704 marking system. Under the NFPA 704 marking system, which of the following numbers represent the greatest hazard?
- a. 1
 - b. 2
 - c. 3
 - d. 4

When questions are independent of one another, test takers aren't put at a disadvantage.



Questions that hinge on one another should be the exception, not the rule.

When writing essay questions, narrow the context enough to avoid confusion.



Questions should be clear enough that test takers understand what is expected of them.

Write Clear Essay Questions

Rationale

When writing essay questions, narrow the context enough to avoid confusion. Questions should be clear enough that test takers understand what is expected of them.

Analyze your essay questions carefully to determine if they might be misinterpreted. If questions aren't well-written, test takers may not realize the level of detail you expect in their answers. In some cases, it may even be appropriate to provide test takers with a sample of what you consider acceptable or unacceptable answers.

Examples

Note: This section does not contain answers for the questions.

Example 1: In this first aid example, the intent is to measure whether test takers know how to determine if a broken bone has caused additional impairment to the limb. But the first question below is so broad that test takers may describe assessing the patient as a whole, failing to describe with specificity how to check circulation, sensation, and motor function. The revised question narrows their focus.

Weak: Describe how you would assess a person with a possible broken arm.

Good: Describe how you would assess circulation, sensation, and motor function on a person with a possible broken arm.

Example 2: Here the goal is to have test takers identify the four states of mind (purposeful, knowing, reckless, and negligent) for judging a criminal defendant's level of culpability. But it may not be clear in the first question.

Weak: Identify the levels of culpability.

Better: Identify the four states of mind (*mens rea*) recognized in the Model Penal Code.

If the goal is to have test takers merely list the four states of mind recognized in the Model Penal Code, the previous question is adequate. But the final question below leaves no doubt that test takers are expected to display what they know about these four states of mind.

Best: List and describe the four states of mind (*mens rea*) recognized in the Model Penal Code. Give an example of each.

Example 3: The first question below may be adequate if the intent is merely to have law students identify that the canons of construction are guidelines or rules of thumb for interpreting the meaning of statutes. However, if you want test takers to name several canons of construction, make it clear. Better yet, ask test takers to give an example of each to show a greater level of understanding.

- Weak:* What are the canons of construction?
- Better:* Name at least five canons of construction. (5 points)
- Best:* Name at least five canons of construction and give an example of each. (5 points)

The examples on this page also provide point values, which gives test takers a sense for how much credit they stand to gain or lose with incomplete answers.

Example 4: Here, again, the first question doesn't clearly identify what is expected of test takers. Is it merely to describe the Ten Standard Wildland Firefighting Orders as safety rules that firefighters are expected to follow to at wildland fires? Or are test takers expected to name them, as identified in the revised questions?

- Weak:* What are the Ten Standard Wildland Firefighting Orders?
- Better:* Name at least five of the Ten Standard Wildland Firefighting Orders. (5 points)
- Best:* Name all ten of the Ten Standard Wildland Firefighting Orders. (10 points)

Don't be afraid to challenge people when it comes to life-or-death situations. Asking firefighters to name only five of the ten firefighting orders may put less pressure on them, because even the smartest firefighters may not have the entire list memorized. But on the fireline, remembering only half of one's training is dangerous. In almost every fatal wildland fire, one or more of the ten firefighting orders were violated.

Analyze your essay questions carefully to determine if they might be misinterpreted.



If questions aren't well-written, test takers may not realize the level of detail you expect in their answers.

Streamline Questions to Focus on the Key Points

Rationale

Some details are good. But too many details can detract from the key points you want test takers to focus on. Streamline your questions to focus on the key points. Don't let complexity interfere with clarity.

Sometimes the problem is not one of including too many details, but one of failing to write concisely. See Chapter 4 for more information on writing concisely and using proper grammar.

Examples

Example 1: This example contains four questions that require test takers to identify what per stirpes distribution means. The answer to all four questions is (b). These are realistic scenarios in probate law, which make the questions better than a simple vocabulary question. But the level of detail in the first one makes it confusing.

Confusing: Dan and Elaine are married and have three children: Kyle, Rebecca, and Angela. Elaine and Angela are tragically killed in an accident. Angela leaves behind two children: Hannah and Matthew (grandchildren to Dan and Elaine). Two years later, Dan dies without a will. His estate includes \$120,000 in cash. Under the intestacy laws of the state, the cash will be distributed per stirpes. The money is therefore divided as follows:

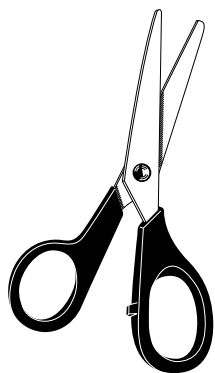
- a. \$30,000 to Kyle, \$30,000 to Rebecca, \$30,000 to Hannah, and \$30,000 to Matthew.
- b. \$40,000 to Kyle, \$40,000 to Rebecca, \$20,000 to Hannah, and \$20,000 to Matthew.

The details were changed slightly in the second question to streamline it. The question is no less challenging. It's simply to easier to read.

Revised: Dan and Elaine are married. They have three children (Kyle, Rebecca, and Angela) and two grandchildren (Angela's children Hannah and Matthew). Dan, Elaine, and Angela are tragically killed in an accident. Under the laws of their state, because Dan and Elaine died intestate, the \$120,000 of cash in their estate will be distributed per stirpes. That means:

- a. Kyle, Rebecca, Hannah, and Matthew each receive \$30,000.
- b. Kyle and Rebecca each receive \$40,000. Hannah and Matthew each receive \$20,000.

Streamline your questions to focus on the key points. Cut details that are not necessary.



Don't let complexity interfere with clarity. Don't get mired in unimportant details.

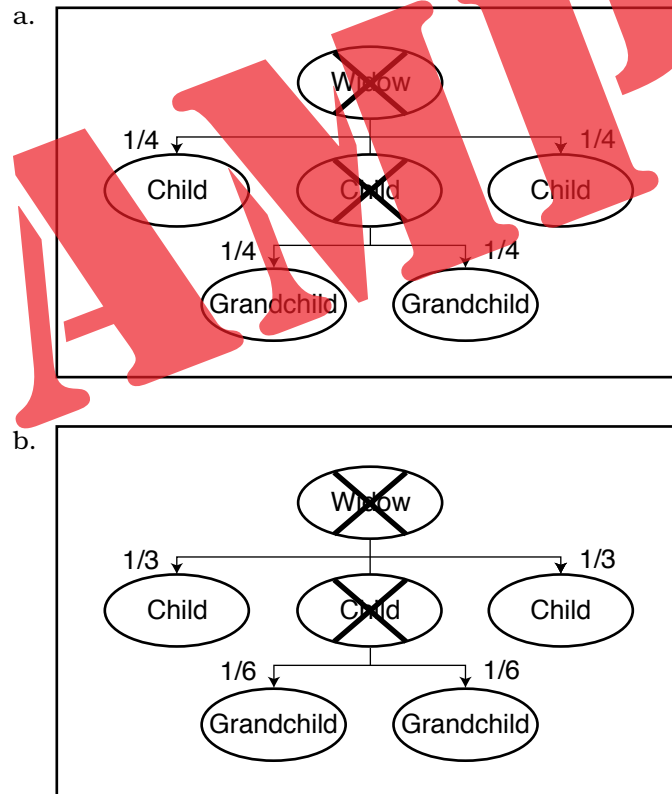
As an alternative, the third question was made generic so test takers won't get mired in names and dollar amounts.

Revised: A widow dies intestate. The widow had three children. One of them, who predeceased her mother, had two children of her own. Under the intestacy laws of the state, the widow's estate will be divided per stirpes. That means:

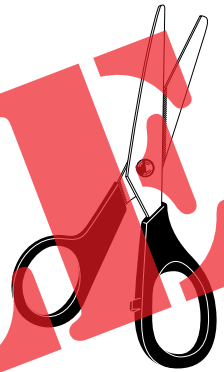
- The surviving children and grandchildren each receive one fourth.
- The surviving children each receive one third. The third that would have gone to the predeceased child will be divided equally between her children (the widow's grandchildren).

If it's difficult to express a concept clearly in words, consider using an illustration instead.

Revised: A widow dies intestate. The widow had three children. One of them, who predeceased her mother, had two children of her own. Under the intestacy laws of the state, the widow's estate will be divided per stirpes. Which illustration below represents what fraction of the estate each child or grandchild will receive?

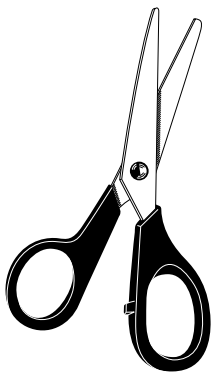


Generic scenarios can be clearer than more detailed ones.



If it's difficult to express a concept clearly in words, consider using an illustration instead.

Even if excess detail isn't confusing, it may be distracting.



Provide enough information to make the question meaningful and interesting, but don't get mired in unnecessary details.

Example 2: The amount of detail in the first question below is not confusing, but it is distracting. The revised question provides enough information to be meaningful and interesting, without getting mired in unnecessary details. The answer to both questions is (c).

Wordy: A drunk driver racing down the street lost control of his car, jumped the curb, knocked down a picket fence, and hit two young children playing in your neighbor's front yard. The children are critically injured. One has a bad head injury. The other has severe internal injuries. There is a chance that one or both will not survive. The best thing to tell their frantic parents is:

- a. "They're going to make it. Don't worry."
- b. "I want you to be prepared. I don't think they're going to make it."
- c. "I'll do everything I can for them. Help is on the way."
- d. "It's in God's hands. Only He knows what will happen."

Better: A drunk driver lost control of his car and hit two children playing in your neighbor's front yard. The children are critically injured, and there is a chance that one or both will not survive. The best thing to tell their parents is:

- a. "They're going to make it. Don't worry."
- b. "I want you to be prepared. I don't think they're going to make it."
- c. "I'll do everything I can for them. Help is on the way."
- d. "It's in God's hands. Only He knows what will happen."

Don't Overload Your Questions

Rationale

Like the previous guideline to streamline your questions, this one emphasizes the need to keep things simple for test takers. But here, questions are overloaded with so much information that it becomes too much for test takers to absorb. They may get confused or frustrated and thus won't be able to focus on the content, and they may become anxious about how time-consuming the question is to read and answer. So don't make one question do the work of two or three.

Examples

Example 1: A format like this makes it difficult for test takers, because they are forced to keep looking back and forth from the numbered list to the five potential choices. It's less cumbersome if they are allowed to write on the test, circling appropriate measures and crossing out wrong ones. But otherwise, it's torture. The correct answer below is (c), but it may be tough for test takers to ferret it out. Additionally, questions like this are so convoluted that test takers don't *want* to read them, so their resistance interferes with comprehension.

Difficult: Which of the following are appropriate measures to take upon discovery of an explosive?

1. Remain calm.
 2. Isolate the area, and deny entry to unauthorized personnel.
 3. Immediately radio for assistance.
 4. Open doors and windows in the area if you can do so safely.
 5. Turn off lights in the area.
 6. Turn off electrical equipment in the area.
 7. Observe for evidence of chemical, biological, or radioactive materials that may have been planted with the explosive.
 8. Treat all devices as dangerous until proven otherwise.
 9. Examine the device for clues about who planted it.
 10. Recognize that the device may activate in some manner other than the obvious.
 11. Be alert for secondary devices.
 12. Immerse the device in water, if possible, to prevent detonation.
 13. Attempt to disarm the device.
 14. Put the device in a confined space, such as a desk drawer or filing cabinet, to minimize the potential damage if it does detonate.
 15. Evacuate the area.
- a. 1, 2, 3, 6, 7, 8, 9, 13, 15
 - b. 1, 3, 5, 6, 7, 10, 11, 14, 15
 - c. 1, 2, 4, 7, 8, 10, 11, 15
 - d. 1, 2, 4, 5, 6, 7, 8, 10, 12, 14, 15
 - e. All of the measures are appropriate.

Don't overload a question with so much information that it becomes too much for test takers to absorb.



Don't make one question do the work of two or three.

If a question is overloaded, either split the material over multiple questions or try a different format.



If appropriate, weed out information that is obvious. Streamline the question to focus on the truly test-worthy material.

The revised question has advantages and disadvantages. It's easier to read, but more time-consuming to grade. It's difficult to decide how to award points if test takers' answers are only partially correct. From a test taker's perspective, it's probably better than the previous question. But it may not be the most effective format. (Answers are provided in gray.)

Fair: Put a check mark next to the appropriate measures to take upon discovery of an explosive?

- ☒ Remain calm.
- ☒ Isolate the area, and deny entry to unauthorized personnel.
- ☐ Immediately radio for assistance.
- ☒ Open doors and windows in the area if you can do so safely.
- ☐ Turn off lights in the area.
- ☐ Turn off electrical equipment in the area.
- ☒ Observe for evidence of chemical, biological, or radioactive materials that may have been planted with the explosive.
- ☒ Treat all devices as dangerous until proven otherwise.
- ☐ Examine the device for clues about who planted it.
- ☒ Recognize that the device may activate in some manner other than the obvious.
- ☒ Be alert for secondary devices.
- ☐ Immerse the device in water, if possible, to prevent detonation.
- ☐ Attempt to disarm the device.
- ☐ Put the device in a confined space, such as a desk drawer or filing cabinet, to minimize the potential damage if it does detonate.
- ☒ Evacuate the area.

Splitting the material over multiple questions is a good alternative. You don't need to question test takers about the obvious answers. Instead, focus on the key points. Or use an essay question. The answers to the first two questions below are (e) and true.

Good: Which of the following is an appropriate measure to either prevent an explosive device from detonating or to minimize the damage if it does detonate? (Note: More than one answer may be correct.)

- a. Immerse the device in water.
- b. Put the device in a confined space, such as a desk drawer or filing cabinet.
- c. Turn off lights and electrical equipment in the area.
- d. Close doors and windows in the area.
- e. None of the above.

Good: T/F You should normally avoid operating radios within 330 feet (100 meters) of an explosive device.

Good: Describe the appropriate measures to take upon discovery of an explosive device. Be thorough. Clearly distinguish between your dos and don'ts.

Example 2: Questions like the first one below are relatively common. They're not bad, per se. But lengthy lists are sometimes difficult for readers to absorb, especially in paragraph format. The correct answer is (d).

Difficult: The material elements of robbery are:

- a. (1) the trespassory taking (2) and carrying away (asportation) (3) of personal property (4) of another (5) with an intent to permanently deprive the owner of possession.
- b. (1) trespassory taking (2) of personal property (3) from another's person or presence (4) with an intent to steal the property.
- c. (1) trespassory taking (2) and carrying away (asportation) (3) of personal property (4) from another person (5) using either force or threat (6) with an intent to steal the property.
- d. (1) trespassory taking (2) and carrying away (asportation) (3) of personal property (4) from another's person or presence (5) using either force or threat (6) with an intent to steal the property.
- e. (1) the trespassory taking (2) and carrying away (asportation) (3) of personal property (4) of another (5) using either force or threat (6) with an intent to permanently deprive the owner of possession.

The revised question cuts to the heart of the matter. It doesn't waste time and energy with the obvious elements. It clearly and concisely presents the key elements test takers should focus on. The correct answer is (d).

Good: What best describes the difference in material elements between robbery and larceny?

- a. The crime of robbery requires use of force or threat of force.
- b. The crime of robbery encompasses property taken from the person or from the person's presence.
- c. The crime of robbery applies only to property taken from the person, not to property taken from the person's presence.
- d. Both (a) and (b).
- e. Both (a) and (c).

Test takers will resist overloaded questions that look uninviting and difficult to read.



That resistance alone will interfere with comprehension.

SAMPLE

Chapter 3

Don't Give Away the Answers

Test writers sometimes give away the answers in the way they word their questions. Consequently, test takers are able to answer questions correctly, not necessarily because they know the material, but because they are sharp enough to spot the giveaways. (They outsmart the test writer.)

This section is designed to help you avoid the giveaways that weaken your test and make it a less effective tool for measuring what people know.

**Don't give away
the answers with
poorly worded
questions.**



**This section will
help you avoid
the giveaways
that can make
your test a less
effective tool for
measuring what
people know.**

SAMPLE

Avoid Grammatical Cues

Rationale

Test writers sometimes give away the answers with grammatical cues that help test takers narrow down the choices. Examples include:

- Ending the premise in *a* or *an*.
- Using suggestive verb forms (e.g., *is* or *are*).
- Writing distractors that don't flow grammatically from the premise.

Chapter 4 addresses grammar in more detail, but here we'll look briefly at some obvious giveaways.

Examples

Example 1: The use of the word *an* in the first question below points to (d) as the only possible answer. There are two ways to correct this. One is to use *a/an* in the premise. The other is to put the appropriate indefinite article in each answer instead.

Giveaway: Heroin is an example of an:

- a. CNS depressant.
- b. CNS stimulant.
- c. Hallucinogen.
- d. Opium compound.

Revised: Heroin is an example of a/an:

- a. CNS depressant.
- b. CNS stimulant.
- c. Hallucinogen.
- d. Opium compound.

Revised: Heroin is an example of:

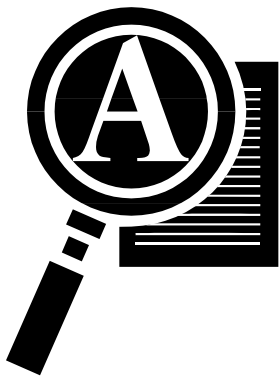
- a. A CNS depressant.
- b. A CNS stimulant.
- c. A hallucinogen.
- d. An opium compound.

Here is the same problem as a fill-in question. It's not quite as easy as the multiple-choice question, but it still gives test takers more of a hint than is necessary. The answer is *opium compound*.

Giveaway: Heroin is an example of an _____.

Revised: Heroin is an example of a/an _____.

When the premise ends in *a* or *an*, it often gives away the answer.



Either use *a/an* or remove the indefinite article from the premise.

Example 2: The word *are* in the first question below points to answer (c)—the only one with two types of documents. One way to fix that is to use *is/are* instead.

Giveaway: Which of the following shipping papers are used with rail transportation of hazardous materials?

- a. Airbill
- b. Bill of lading
- c. Consist and waybill
- d. Dangerous cargo manifest

Revised: Which of the following shipping papers is/are used with rail transportation of hazardous materials?

- a. Airbill
- b. Bill of lading
- c. Consist and waybill
- d. Dangerous cargo manifest

Example 3: The first question below has two distractors that don't follow grammatically from the premise. One motions *for* (not *to*) summary judgment and judgment on the pleadings. The revised question eliminates this giveaway. The answer to both questions is (c).

Giveaway: You have received answers to the interrogatories you sent the defendant, but he has objected to a number of your questions as being overbroad or unduly burdensome. If you are unable to come to an agreement with the other party about answering those questions, your next course of action according to the Federal Rules of Civil Procedure would most likely be to file a motion to:

- a. Dismiss.
- b. Summary judgment.
- c. Compel an answer.
- d. Judgment on the pleadings.

Revised: You have received answers to the interrogatories you sent the defendant, but he has objected to a number of your questions as being overbroad or unduly burdensome. If you are unable to come to an agreement with the other party about answering those questions, your next course of action according to the Federal Rules of Civil Procedure would most likely be to file a motion:

- a. To dismiss.
- b. For summary judgment.
- c. To compel an answer.
- d. For judgment on the pleadings.

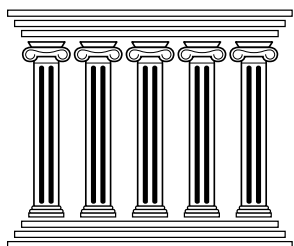
The use of suggestive verb forms, such as *is* or *are*, can give away the answer.



Other giveaways can be created when one or more distractors don't follow grammatically from the premise.

Don't Give Away the Answers with Nonparallel Structure

Nonparallel structure is often a giveaway, particularly when the correct answer is worded differently from the distractors.



Use parallel structure for all answers.

Rationale

To use parallel structure means to use like form or structure in your writing. In other words, when two or more items or ideas are presented in the same sentence or list, the wording should be similar. Nonparallel structure is often a giveaway, particularly when the correct answer is worded differently from the distractors.

Examples

Example 1: The three distractors below are worded as dependent clauses, whereas the correct answer contains two independent clauses. The different wording points to (d) as the answer.

Giveaway: When should you treat for shock in caring for a patient with serious injuries?

- a. If you notice the signs and symptoms of shock.
- b. If the patient's condition begins to decline.
- c. After you treat all other injuries.
- d. Treat for shock routinely. Do not wait for the signs and symptoms to develop.

Revised: When should you treat for shock in caring for a patient with serious injuries?

- a. If you notice the signs and symptoms of shock.
- b. If the patient's condition begins to decline.
- c. After you treat all other injuries.
- d. Routinely, without waiting for the signs and symptoms to develop.

Example 2: The three distractors below are sentence fragments, whereas the correct answer is a complete sentence. Again, the different wording points to answer (d).

Giveaway: To prove the *corpus delicti* in a murder trial, prosecutors:

- a. May rely on the defendant's confession.
- b. Must show proof of a dead body.
- c. Must be more convincing than the defense attorney.
- d. They must show direct proof or circumstantial evidence establishing that the victim was murdered.

Revised: To prove the *corpus delicti* in a murder trial, prosecutors:

- a. May rely on the defendant's confession.
- b. Must show proof of a dead body.
- c. Must be more convincing than the defense attorney.
- d. Must show direct proof or circumstantial evidence establishing that the victim was murdered.

Make Answers Roughly the Same Length

Rationale

When one option is significantly longer or shorter than the others, it can be a giveaway. If the correct answer is significantly longer than the distractors, it suggests that you put more effort into writing this answer to ensure that it was the most correct of all the options. Conversely, if the correct answer is significantly shorter than the distractors, it suggests that you put more effort into ensuring that the distractors were clearly wrong.

This doesn't mean you can't have answers of different lengths, but don't let the length of an answer be a giveaway. Make your answers roughly the same length if you can do so without straining. But don't force it to the point that you create other problems.

Examples

Example 1: In the first question below, the level of detail in answer (d) makes it a giveaway.

Giveaway: You have responded to an accident with an overturned tanker. You survey the scene from a safe distance, but cannot clearly see the placards. Which statement below best reflects how useful the shape of the tank might be for determining the tank's contents?

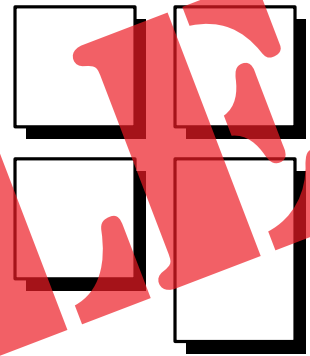
- Container shape provides no clues about contents.
- The container shape is a reliable clue for determining contents.
- Each container shape can be matched with a specific class of hazardous material.
- Container shape should be used only for initial assessment. Always confirm container contents through other sources, such as labels, placards, shipping papers, and Material Safety Data Sheets.

Answer (d) is still longer than the others in the revised question, but it no longer stands out as being markedly different from the others.

Revised: You have responded to an accident with an overturned tanker. You survey the scene from a safe distance, but cannot clearly see the placards. Which statement below best reflects how useful the shape of the tank might be for determining the tank's contents?

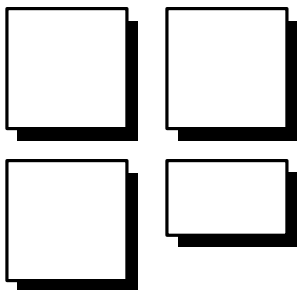
- Container shape provides no clues about contents.
- The container shape is a reliable clue for determining contents.
- Each container shape can be matched with a specific class of hazardous material.
- Container shape may provide some clues until the contents can be confirmed through more reliable sources.

When the correct answer is significantly longer than the others, it can be a giveaway.



It suggests that you put more effort into writing this answer to ensure it was the most correct option.

Conversely, when the correct answer is significantly shorter than the others, it can be a giveaway too.



It suggests that you put more effort into ensuring that the distractors were clearly wrong.

Example 2: Here, the correct answer is (a)—the one that is significantly shorter than the distractors, each of which were carefully worded to ensure they were clearly incorrect.

Giveaway: If a party proves something by a preponderance of the evidence, it means that the judge or jurors believe:

- a. The facts asserted are more likely true than not.
- b. One party was able to present clear and convincing evidence of the facts asserted, whereas the other party's evidence was less convincing.
- c. Neither side was completely convincing, but one party had more evidence than the other did.
- d. Although neither side was able to prove its case beyond a reasonable doubt, one party came closer to this standard than the other did.

The distractors below are similar to the ones above, but they are concisely written to provide four potential answers that are close in length. Again, the correct answer is (a).

Revised: If a party proves something by a preponderance of the evidence, it means that the judge or jurors believe:

- a. The facts asserted are more likely true than not.
- b. There is clear and convincing evidence that the facts asserted are true.
- c. One party had more evidence than the other did.
- d. The facts prove the case beyond a reasonable doubt.

Avoid Putting Extraneous Clues in the Premise or the Answer

Rationale

If similar or identical words are used in both the premise and the answer, it can create a giveaway. Often the problem can be fixed with a little editing. Sometimes, however, it sends a signal that you've written a weak question and that you should ask a more challenging one.

Examples

Example 1: In the first question below, test takers are led to answer (a) by the words *vapor* and *pressure* in the premise.

Giveaway: What term is used to describe the pressure exerted by the vapors of a liquid against the atmosphere or the sides of a container?

- a. Vapor pressure
- b. Vapor density
- c. Vapor expansion ratio
- d. Specific gravity

Replacing the word *pressure* in the premise with the word *force* is enough to improve the question. It's still an easy question, but it would feel contrived if the definition were changed too much.

Revised: What term is used to describe the force exerted by the vapors of a liquid against the atmosphere or the sides of a container?

- a. Vapor pressure
- b. Vapor density
- c. Vapor expansion ratio
- d. Specific gravity

Example 2: In the first question below, the word *circumstances* in answer (c) is a giveaway. Even someone who does not know the material would be led to the correct answer.

Giveaway: Which of the following definitions best describes circumstantial evidence?

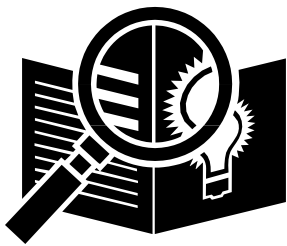
- a. The preponderance of credible evidence.
- b. Evidence that has a direct bearing on the decision of the case.
- c. Evidence that is inferred by establishing a condition of surrounding and limited circumstances.
- d. Testimony of a witness who states what others have said rather than what the witness knows directly.

Avoid giving away the answers with extraneous clues in the premise.



Questions should evaluate what test takers know, not how well they can outsmart the test writer.

Often the extraneous clues can be eliminated with a little editing.



Sometimes, however, the extraneous clues are a signal that you've written a weak question and that you should ask a more challenging one.

We can't take the word *circumstantial* out of the premise, but we can replace the answer with a different definition. Again, the correct answer is (c).

Revised: Which of the following definitions best describes circumstantial evidence?

- a. The preponderance of credible evidence.
- b. Evidence that has a direct bearing on the decision of the case.
- c. Evidence from which a fact can be easily inferred, although not directly proven.
- d. Testimony of a witness who states what others have said rather than what the witness knows directly.

Example 3: The first question below points to answer (d), whereas the revised question provides no clues. The revised question also reflects a question that attorneys or paralegals might have to answer in the real world. The answer to the second question is (c).

Giveaway: Strict rules of evidence dictate what facts, documents and other evidence will be allowed at trial. In federal courts, these rules of evidence are found in a publication known as:

- a. Black's Rules of Evidence.
- b. Civil Rules of Evidence.
- c. Criminal Rules of Evidence.
- d. Federal Rules of Evidence.

Better: Where would you look to determine whether a plea of *nolo contendere* (no contest) is admissible in federal court?

- a. Code of Federal Regulations.
- b. Federal Register.
- c. Federal Rules of Evidence.
- d. United States Code.

Example 4: The next question is a poor one for two reasons. One, the words *directly above the fire* imply vertical and may lead test takers to option (a). Two, test takers could argue that despite the clue, there is no clear answer. Opening windows on upper floors is less destructive than cutting holes in the roof, so in a small fire, it might be the best choice. And when cutting a hole is necessary, it should be done near the peak of the roof—even if it's not directly above the fire—because the peak is where the greatest accumulation of hot air and gases will be.

Giveaway: Vertical ventilation is best accomplished by:

- a. Cutting a hole in the roof directly above the fire.
- b. Opening windows in the fire room.
- c. Opening windows on upper floors.
- d. Positioning a smoke blower in the doorway for positive pressure.

The previous question covers important information, but it's difficult to salvage it in a way that challenges test takers. A better option would be to replace it with a question that focuses on one aspect of ventilation. The correct answer below is (d).

Better: You have been directed to ventilate the roof at a house fire. The fire is toward the front of the house, at least 20 feet from the peak of the roof. What size opening(s) should you make and where should you make it/them?

- a. Several small openings directly above the fire.
- b. Several small openings near the peak of the roof.
- c. A large opening directly above the fire, leaving the rafters intact.
- d. A large opening near the peak of the roof, leaving the rafters intact.

Example 5: A sharp test taker can look at the first question below and see that answer (a) has the most in common with all of the other options. Arsine, chlorine, and phosgene are used in three of the possible answers; methyl bromide is used twice. It's a good bet, then, that answer (a) is the right one.

Giveaway: Which list of hazardous materials below contains only Class 2.3 materials (gases poisonous by inhalation)?

- a. Arsine, chlorine, phosgene, methyl bromide
- b. Phosgene, chlorine, methyl chloride, ammonia
- c. Arsine, anhydrous ammonia, butadiene, chlorine
- d. Methyl bromide, phosgene, arsine, aniline

This problem is what's known as *convergence*. It's most likely to occur when test writers start with the correct answer, then write permutations of it to create the distractors. One way to avoid this problem is to keep track of how many times each word or phrase appears in the potential answers. If you see that one word or phrase appears more than the others, consider rewriting some of the distractors.

None of the materials is listed more than twice in the revised question, so there are no giveaways. The materials are also listed in alphabetical order so that test takers can compare the four lists more easily. Again, the answer is (a).

Revised: Which list of hazardous materials below contains only Class 2.3 materials (gases poisonous by inhalation)?

- a. Arsine, chlorine, methyl bromide, phosgene
- b. Ammonia, butadiene, chlorine, methyl chloride
- c. Aniline, arsine, methyl chloride, phosgene
- d. Ammonia, aniline, butadiene, methyl bromide

With clues of convergence, sharp test takers can determine the correct answer by looking for the option that has the most in common with all of the others.



Watch for words or phrases that appear more often than others in the potential answers.

Use *All of the Above* and *None of the Above* in Moderation



Rationale

Many professional test writers recommend against using *all of the above* and *none of the above*. It isn't that these are bad options, per se. Rather, test writers often use them in ways that make them giveaways or that fail to measure what test takers know.



First, some test writers use *all of the above* or *none of the above* only when it's the right answer. Thus test takers know they are safe choosing that option if they don't know the material. So if you use *all of the above* and *none of the above*, use them as distractors sometimes too.

If test takers see at least two correct answers, they can safely choose *all of the above* without reading further. You can overcome that by sometimes using answers such as *both (a) and (b)* in addition to *all of the above*.

It's acceptable to use *all of the above* in small doses to reinforce key points, for example, to reinforce concepts learned in class. Although the test is an evaluation tool, it is also a learning tool. Therefore, *all of the above* can be an effective way for an instructor to communicate to students, "I want you to remember all of these key points when you leave class." That is sometimes preferable than a question that reinforces only one important point. Of course, the caveat is that if you don't use *all of the above* in moderation, you'll end up giving away the entire test. That doesn't benefit anyone.

<p>Question reinforces:</p> <ul style="list-style-type: none"> a. Key point b. Key point c. Key point d. All of the above 	
<p>Question reinforces:</p> <ul style="list-style-type: none"> a. — b. — c. — d. Key point 	

Avoid using *none of the above* if it fails to show that test takers know the correct information. In other words, test takers should never have the experience of thinking, "I know it's none of these, but I don't know what it is." A question that produces that result has no value.

	<p>I know the answer is <i>none of the above</i>. But I don't know the correct information.</p>
	<p>I know the answer is <i>none of the above</i>. The correct information is [this].</p>

Many professional test writers recommend against using *all of the above* and *none of the above*.



But these options can be used in moderation if used wisely.

Examples

Example 1: The two questions below illustrate how you might effectively use *all of the above*. The correct answer to the first question is (a), but *all of the above* is a reasonable distractor.

- Good: What should first aiders remember about cyanosis?
- a. It indicates the brain is not getting enough oxygen.
 - b. It is not a reliable sign in people with dark skin.
 - c. It is characterized by a grayish color of the skin.
 - d. All of the above.

The correct answer to the next question is (d). Is *all of the above* a giveaway? Perhaps. But this is such an important concept that there's no harm in reinforcing these three key points.

- Good: What should first aiders remember about cyanosis?
- a. It indicates the brain is not getting enough oxygen.
 - b. It is best seen in the nail beds or mucus membranes of people with dark skin.
 - c. It is characterized by a bluish color of the skin.
 - d. All of the above.

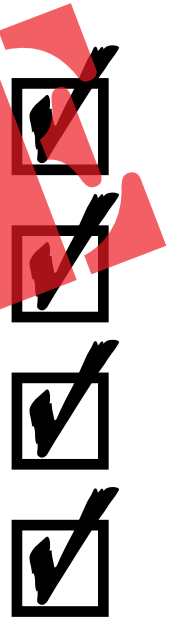
Example 2: The correct answer in this example is *all of the above*—(d). But answer (c) contains a signal that beginning paralegal or law students may not understand. So answer (e) is a good distractor that keeps *all of the above* from being a giveaway.

- Good: Which of the following introductory signals is used to show that the cited authority supports the legal argument or legal theory being discussed.
- a. See
 - b. e.g.
 - c. Cf.
 - d. All of the above
 - e. Both (a) and (b)

Example 3: The question below also uses *both (a) and (b)* as a distractor, but it's not believable. So it's a wasted distractor. The correct answer is (d).

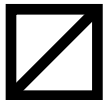
- Poor: Paralegals can improve their level of competence by:
- a. Obtaining additional legal training and education.
 - b. Reading legal and professional publications to stay abreast of current developments in the field.
 - c. Participating in legal and professional associations dedicated to the advancement of the paralegal profession.
 - d. All of the above.
 - e. Both (a) and (b), but not (c).

Used wisely,
all of the above
can be an
effective way to
reinforce several
important points
at one time.



Sometimes this
is preferable
than a question
that reinforces
only one key
point.

None of the above is a bad choice when it fails to show that test takers know the correct information.



None of the above should be used only when it reinforces key concepts.

The revised question gets only a fair rating, not a good one. It's not wrong to reinforce this common sense information. But there are far more test-worthy questions one can use. Again, the answer is (d).

Fair: Paralegals can improve their level of competence by:

- a. Obtaining additional legal training and education.
- b. Reading legal and professional publications to stay abreast of current developments in the field.
- c. Participating in legal and professional associations dedicated to the advancement of the paralegal profession.
- d. All of the above.

Example 4: Here is another example of using *none of the above* to reinforce several key points. The correct answer is (e).

Good: In general, which of the following may paralegals do in most states?

- a. Conduct a deposition.
- b. Negotiate a settlement agreement.
- c. Give limited legal advice if they have expertise in the specific area of the law.
- d. Represent indigent clients in court on a pro bono basis.
- e. None of the above.

Example 5: The first question below is weak for two reasons. One, even if test takers select answer (d) as the right answer, it doesn't show that they know what kind of agent mustard is. (It's a blister agent.) Two, categorizing a chemical warfare agent isn't enough. How does it harm a person? What are the signs and symptoms of exposure? What is the appropriate response if these materials are used by a terrorist? These are more important questions.

Weak: What kind of chemical warfare agent is mustard?

- a. A nerve agent
- b. A choking agent
- c. A riot control agent
- d. None of the above

The answer to the next question is (b). Someone who knows the material will choose it easily. But it's tough to remember the specific details of each chemical warfare agent, so *none of the above* is a plausible distractor for someone who doesn't know the material.

Good: What chemical warfare agent is characterized by delayed onset of signs and symptoms?

- a. Lewisite
- b. Mustard
- c. Phosgene oxime
- d. None of the above

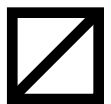
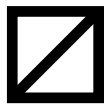
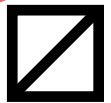
Next we have the opposite situation. The correct answer is *none of the above*—(e). But the others are plausible distractors to test takers who don't know the material. All four are nerve agents, but test takers may not recognize all four names or remember the distinctions between them.

Good: Which of the following chemical warfare agents is characterized by delayed onset of signs and symptoms?

- a. Tabun
- b. Sarin
- c. Soman
- d. VX
- e. None of the above

It's important to note the difference between the way the last two questions are worded. The first one is worded to make test takers recall what chemical warfare agent is characterized by delayed onset of signs and symptoms—something they should know without even looking at the list. The second one is worded to have test takers identify if any agent in the list fits the description. It's not about recalling mustard. It's about recognizing that all of the nerve agents are characterized by rapid onset of signs and symptoms.

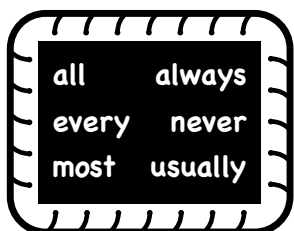
Questions for which *none of the above* is the right answer must be worded carefully to ensure that test takers know the correct information.



***None of the above* shouldn't be used as a distractor if it's not a plausible distractor.**

Use Absolute and Partial Determiners with Care

Absolute and partial determiners are often giveaways.



Watch out for words such as *all, always, every, never, and most*. They may help students identify the answer or rule out distractors.

Rationale

Absolute determiners (such as *all, none, always, never, only, and every*) and partial determiners (such as *most, usually, generally, and sometimes*) are often giveaways. They are not inherently bad, however. One has to look closely at the content of the question to see if absolute or partial determiners are appropriate.

Examples

Example 1: Test takers can easily rule out the distractors below because of the words *always* and *never*. Meanwhile, the word *most* in answer (a) points to this as the likely answer.

Giveaway: What is the correct way to care for patients with impaled objects?

- a. Most impaled objects should be stabilized in place with bulky dressings.
- b. Impaled objects should always be left in place, because removal will cause the patient more pain.
- c. Impaled objects should always be removed so that they do not do more damage to surrounding nerves, blood vessels, or muscles.
- d. Impaled objects should never be removed.

Even stripped of the rationale, this question is a giveaway. Again, the correct answer is (a).

Giveaway: Impaled objects should:

- a. Normally be left in place.
- b. Always be left in place.
- c. Always be removed.
- d. Never be removed.

The original question can be improved by removing the telltale *always* from answers (b) and (c). The word *never* was kept in answer (d) to distinguish it from answer (c), and the word *most* was kept in answer (a), because removing it would make the statement inaccurate. Again, the correct answer is (a).

Better: What is the correct way to care for patients with impaled objects?

- a. Most impaled objects should be stabilized in place with bulky dressings.
- b. Impaled objects should be left in place, because removal will cause the patient more pain.
- c. Impaled objects should be removed so that they do not do more damage to surrounding nerves, blood vessels, or muscles.
- d. Impaled objects should never be removed.

A better approach is to put the qualifier *most of the time* in the premise rather than in the desired answer. The correct answer is still (a).

Best: *Most of the time* when caring for patients with impaled objects, you should:

- Stabilize the impaled object in place with bulky dressings to avoid causing increased bleeding and more damage to the surrounding tissues.
- Leave the impaled object in place, because removal will cause the patient more pain.
- Remove the impaled object so it does not continue to damage surrounding nerves, blood vessels, or muscles.
- Remove the impaled object so you can more easily control any bleeding.

Don't make the mistake of creating other problems by omitting qualifiers that are needed. The word *most* is essential in these examples, because although *most* impaled objects should be stabilized in place, an object impaled in the cheek that is causing bleeding into the mouth and compromising the airway has to be removed. If the word *most* were omitted, test takers would be justified in protesting the question.

Example 2: In the first question below, the signals *must* and *always* are giveaways. Thus test takers can safely choose answer (c).

Giveaway: During your paralegal internship, your supervising attorney asks if you know how to write a memorandum of points and authorities. This is not one of the documents you drafted in school, but you remember learning about it. A memorandum of points and authorities:

- Must present an objective and thorough treatment of the law.
- Always includes a table of contents and a table of authorities.
- Is often used to support or oppose a motion in court.
- All of the above.

Removing the word *must* from answer (a) forces test takers to focus on the content versus the giveaway. (They need to recall that a memorandum of points and authorities is meant to be persuasive, not objective.) Fixing answer (b) requires more than removing the word *always*, because a memorandum of points and authorities *may* require the tables listed. But the requirement is based on page count, not on the number of legal issues. The answer to the revised question is also (c).

Better: During your paralegal internship, your supervising attorney asks if you know how to write a memorandum of points and authorities. This is not one of the documents you drafted in school, but you remember learning about it. A memorandum of points and authorities:

- Presents an objective and thorough treatment of the law.
- Requires a table of contents and a table of authorities if it addresses more than one legal issue.
- Is often used to support or oppose a motion in court.
- All of the above.

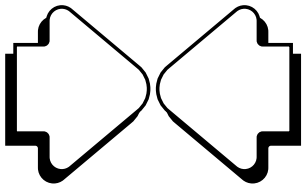
Absolute and partial determiners are not inherently bad.



Look at the content of the question to see if they are appropriate or if they merely give away the answer.

Minimize the Use of Opposing Answers

Opposing answers in a multiple-choice question are often a clue that test takers can focus on those two choices and rule out the others.



This is particularly true when the remaining choices stand out as clearly being wrong.

Rationale

Opposing answers in a multiple-choice question are often a clue that test takers can focus on those two choices and rule out the others. Opposing answers are not inherently wrong or bad. It's the way these questions are sometimes written that weakens them. First the test writer drafts the premise and the correct answer. Then he or she writes a distractor that says the opposite. Finally, the test writer throws in two more distractors that are clearly wrong. And voilà, the multiple-choice question is complete. But it's not well-written.

Be more creative. Avoid using opposing answers if you can. If not, make the other distractors plausible enough that test takers won't automatically rule them out. Or consider writing a true/false question instead.

Examples

Example 1: Answers (a) and (b) oppose each other in the first question below. Clearly, they can't both be right, so test takers can narrow it down to those two without even reading answers (c) and (d). Some minor editing to answers (a) and (b) will fix the problem, leaving four options worth consideration. The correct answer to both questions is (b).

Weak:

Which statement below best describes the rights of criminal defendants to act as their own counsel?

- a. Defendants who have no legal training or experience will not be permitted to act as their own counsel, even if they want to do so.
- b. Defendants may choose to act as their own counsel, even if they have no legal training or experience.
- c. If defendants choose to act as their own counsel, trial judges will have no authority to appoint standby counsel.
- d. Defendants who choose to act as their own counsel waive the right to be advised of the dangers and disadvantages of self-representation.

Better:

Which statement below best describes the rights of criminal defendants to act as their own counsel?

- a. Defendants who have no legal training or experience will not be permitted to act as their own counsel.
- b. Defendants may choose to act as their own counsel, even if doing so increases the risk of conviction.
- c. If defendants choose to act as their own counsel, trial judges will have no authority to appoint standby counsel.
- d. Defendants who choose to act as their own counsel waive the right to be advised of the dangers and disadvantages of self-representation.

Example 2: In the first question below, answers (a) and (b) oppose each other. And answers (c) and (d) are no-brainers. So test takers really have only two choices. The answer to all three multiple-choice questions below is (a).

- Weak:* Which of the following statements is **not** true about air bags and the danger they may pose to rescue personnel during auto extrication?
- a. Once the battery has been disconnected, there is no danger that air bags will accidentally deploy.
 - b. The reserve energy supply can maintain sufficient voltage to deploy an air bag for up to 30 minutes after the battery has been disconnected.
 - c. Air bags can deploy with enough speed and force to injure emergency personnel during extrication.
 - d. Emergency personnel should wear proper personal protective equipment to guard against injury from accidental air bag deployment.

This revision is a little better, because answers (c) and (d) are no longer no-brainers. But test takers will still see the opposing answers as a clue that the correct answer is probably one of the two.

- Fair:* Which of the following statements is **not** true about air bags and the danger they may pose to rescue personnel during auto extrication?
- a. Once the battery has been disconnected, there is no danger that air bags will accidentally deploy.
 - b. The reserve energy supply can maintain sufficient voltage to deploy an air bag for up to 30 minutes after the battery has been disconnected.
 - c. Some side-impact protection systems are mechanically operated and can be accidentally deployed just by putting pressure on the control unit.
 - d. Air bags can deploy at speeds of 200 mph.

Answer (b) has been replaced in the revision below, so the question now has four plausible answers, none of which rules out another.

- Good:* Which of the following statements is **not** true about air bags and the danger they may pose to rescue personnel during auto extrication?
- a. Once the battery has been disconnected, there is no danger that air bags will accidentally deploy.
 - b. Vehicles may be equipped with a key-operated switch to disable the passenger-side air bags.
 - c. Some side-impact protection systems are mechanically operated and can be accidentally deployed just by putting pressure on the control unit.
 - d. Air bags can deploy at speeds of 200 mph.

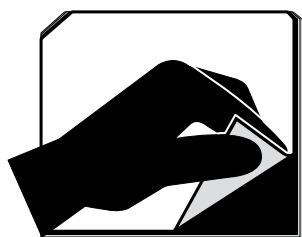
The true/false question is a good alternative, because it focuses solely on the key point. The answer is true.

- Good:* T/F An auto's reserve energy supply can maintain sufficient voltage to deploy an air bag for up to 30 minutes after the battery has been disconnected.

If you use opposing answers in a multiple-choice question, make the remaining distractors plausible enough that test takers don't automatically dismiss them.

Or consider writing a true/false question instead.

Sometimes test writers inadvertently reveal the answer to one question in the body of another.



Good test takers may skip a question they're not sure about, knowing they might find the answer elsewhere in the test.

Avoid Putting Clues Elsewhere in the Test

Rationale

Sometimes test writers inadvertently reveal the answer to one question in the body of another. So sharp test takers know that if they skip questions they aren't sure about, they might find the answer elsewhere in the exam.

Review your test as a whole. Look not just at the individual questions but also at how the questions work with one another. If you find that you're giving away answers, consider replacing some of your questions.

Examples

Example 1: A test taker who doesn't know the answer to the first question below will find the answer in premise of the second question. Even if these questions are several pages apart in the test, it is a giveaway. The answer to both questions is (b).

First: A presumption of trademark abandonment arises after _____ consecutive years of nonuse.

- a. 2
- b. 3
- c. 4
- d. 5

Second: You represent a client who stands to lose one of his trademarks because a competitor filed a petition to cancel the registration on the basis of nonuse. Under the Lanham Act, a trademark shall be deemed abandoned when its use has been discontinued with intent not to resume such use. Nonuse for three consecutive years is prima facie evidence of abandonment. Which of the following statements most accurately reflects the options for protecting your client's trademark rights after three consecutive years of nonuse?

- a. The client must submit a new application to the U.S. Patent and Trademark Office and pay the required fees, but he has priority rights for this mark.
- b. The client can rebut the presumption of abandonment if he can show evidence from the period of nonuse of intent to resume use.
- c. The client can rescue his trademark by using it in interstate commerce within 30 days.
- d. The client can rescue his trademark by initiating any activity that does not constitute actual use but that shows intent to resume use.

Example 2: Here again, if test takers don't know the answer to the first question, they will find it in the second one. The answers to the questions are (d) and (c), respectively.

First: Healthcare practitioners who suspect that a juvenile patient has been the victim of child abuse should:

- a. Not do anything until they have proof.
- b. Question the child to determine if their suspicions are true.
- c. Confront the parents or legal guardians.
- d. Report their suspicions to a child protective agency as soon as possible.

Second: The California Penal Code requires certain professionals to report known or suspected cases of child abuse to a child protection agency immediately or as soon as practically possible by telephone and to send a written report thereof within _____ hours of receiving information concerning the incident.

- a. 12
- b. 24
- c. 36
- d. 48

Review your test as a whole. Make sure you aren't giving away the answers to one question in the body of another.



If you find that you are giving away answers, consider replacing some of your questions.

SAMPLE

Avoid Redundant Questions

Rationale

Avoid redundant questions—questions that are almost identical. Asking the same question in different ways doesn't add value. Meanwhile, it robs you of the opportunity to ask other important questions.

Examples

Example 1: This example contains five questions about the elements necessary to prove a cause of action in a lawsuit. The first four elicit the same response—all elements must be present. It's not necessary to ask the same thing in different ways. Move on; ask something else. The answers to both true/false questions are true. The answer to both multiple-choice questions is (a).

Similar: T/F If one element of a cause of action does not apply, the entire legal theory is inapplicable.

Similar: T/F To win a case, an attorney must prove each element of the cause of action.

Similar: If one element of a cause of action does not apply:

- a. The legal theory is inapplicable.
- b. The attorney will have more trouble prevailing, but this is not an insurmountable problem.
- c. The legal theory may still apply if the attorney can prevail on a related cause of action.
- d. Both (b) and (c).

Similar: In attempting to apply a legal theory to a client's fact pattern, you discover that one element of the cause of action does not apply. You conclude:

- a. The legal theory is inapplicable.
- b. The facts must be wrong.
- c. You must refine the facts to fit the legal theory.
- d. You must find an interpretation of the legal theory that fits the facts of the case.

The final question still requires test takers to know that every element to a cause of action is essential. But now they have to also know the elements necessary to prove negligence. This is not redundant. The answer is (e).

Different: Which of the following is **not** a necessary element to prove negligence?

- a. The defendant had a duty of care to the plaintiff.
- b. The defendant breached a duty to the plaintiff.
- c. The plaintiff was harmed.
- d. The defendant's negligence was a substantial factor in causing the plaintiff's harm.
- e. None of the above. All are essential elements.

Avoid redundant questions—questions that are almost identical.



Redundancy robs you of the opportunity to ask other important questions.

Example 2: The first two questions below are similar enough that they shouldn't both be used on the same test. The answers are true and (b), respectively.

Similar: T/F Restlessness is usually the first indication that an ill or injured person is going into shock.

Similar: Which of the following is usually the first indication that an ill or injured person is going into shock?

- a. Cyanosis
- b. Restlessness
- c. Dilated pupils
- d. Rapid, weak pulse

The next question is different enough that it could be used on the same test with one of the questions above. It could also be used alone, because it adequately conveys the idea that restlessness is often the first indication that an ill or injured person is going into shock. The answer is (d).

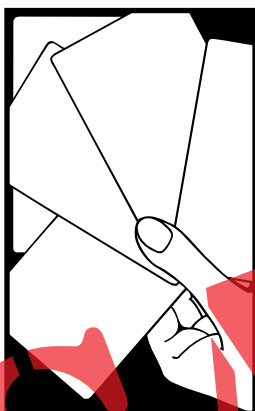
Different: A 56-year-old female is complaining of a fluttering feeling in her chest. She has no history of heart disease and denies having chest pain or difficulty breathing. Her vital signs are all within normal ranges. She says the symptoms came on while she was resting in bed. There are no other obvious clues as to what's wrong, except that she is restless and cannot get comfortable. The restlessness is most likely:

- a. Insignificant.
- b. A form of restless leg syndrome.
- c. Due to her anxiety about the unexplained fluttering feeling in her chest.
- d. The first indication of shock from insufficient oxygen reaching the brain.

Instead of asking two or more questions that are similar, ask something different.

You can ask multiple questions about the same concepts, yet make them different enough to have value.

Hints may be appropriate where a little guidance can help focus test takers or where the wording of a question may be unclear.



Hints are not the same as giveaways. Hints guide the test takers; giveaways cheat them.

Give Hints if Appropriate

Rationale

Sometimes it's appropriate to give test takers hints. Understand, however, that giving hints is very different from giving away the answers. Hints guide the test takers; giveaways cheat them instead.

Hints may be appropriate in entry-level classes where a little guidance can help focus students who have received only a limited exposure to concepts they will learn more about later. Hints may also be appropriate where you want to clarify the scope of your question.

Finally, hints may be appropriate if the way you've worded a question might otherwise be unclear. Naturally, it's better to write clear questions. But that's not always easy, so there must be some allowances for concepts that are difficult to express.

Examples

Example 1: The desired answer for the questions below is *exclusionary rule*. The hint in the second question doesn't give anything away. Rather, if test takers are vacillating between *exclusionary rule* and something else, it may help them narrow it down. The advantage of the third question is that it helps test takers come up with *exclusionary rule* versus *Fourth Amendment*, which is the basis for the *exclusionary rule*, but not the desired answer.

No Hint: The _____ provides that evidence seized in violation of a defendant's constitutional rights cannot be used to convict him or her of a crime.

Hint: The _____ provides that evidence seized in violation of a defendant's constitutional rights cannot be used to convict him or her of a crime.

Hint: The _____ rule provides that evidence seized in violation of a defendant's constitutional rights cannot be used to convict him or her of a crime.

Note: Some professional test writers recommend making all fill-in blanks the same length to avoid giving hints. Whether you choose to give hints or not is up to you. But whatever you decide, give test takers enough room to write their answers so they don't become frustrated by lack of space.

Example 2: The question below helps clarify that the test writer is looking for five specific things. Test takers can use the abbreviation PQIRST (provokes, quality, region, severity, and time) to remember key things to ask someone complaining of chest pain. The hint is a guide, not a giveaway. It does double duty of reinforcing that this is an important abbreviation to remember. It benefits both the test takers and the test writer, because it keeps test takers from straying too far from the desired answers.

Hint: What questions should you ask a patient complaining of chest pain? (Hint: PQIRST)

Chapter 4

Use Good Grammar

This section briefly addresses grammar, punctuation, and related rules of writing. It is included to help you:

- Avoid errors that can change the meaning of your sentences.
- Avoid problems that can make it more difficult for people to read and understand test questions.
- Avoid errors that test takers find distracting.
- Present yourself as an intelligent and educated professional.

Some of the information was touched on in previous sections. Some of it is new.

By using good grammar and punctuation, you can avoid errors that might change the meaning of your sentences.



You can also avoid problems that make it more difficult for people to read and understand test questions.

Write Concisely

Rationale

Being concise is fundamental to effective writing. Writing concisely does not mean omitting details for the sake of brevity. Nor does it require writers to sacrifice creativity. But it does mean using words economically and omitting words that don't add value.

Writing concisely requires more time and effort than simply getting your thoughts down on paper does. But it's a process—as is any aspect of writing well. Good writers often start with a rough first draft, doing very little editing in the first pass. That first pass is all about getting Critical Self out of the way long enough for Creative Self to breathe life into the project. But once the content is down on paper, good writers devote themselves to refining their work. For many, the editing is more fun and more creative than the first pass. And part of the joy comes from artfully using the English language to convey ideas as economically as possible.

It's beyond the scope of this book to cover this topic in depth. But we'll touch on a few guidelines that will benefit you in any writing you do.

Unnecessary repetition

Repetition is sometimes an effective tool to make writing more coherent or emphatic. Careless repetition, however, will weaken your writing. Here's a simple example of unnecessary repetition. There's no difference between *white* and *white in color*. So delete the extra two words.

Wordy: Tanks containing high-pressure gases generally have at least the top two-thirds painted white in color.

Concise: Tanks containing high-pressure gases generally have at least the top two-thirds painted white.

Here's another example of unnecessary repetition, along with two fixes.

Wordy: The defendant killed her by smothering her to death.

Concise: The defendant killed her by smothering her.

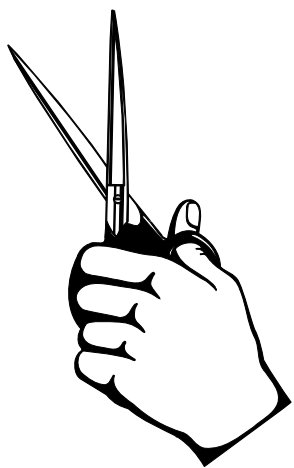
Concise: The defendant smothered her to death.

Little redundancies can creep into your writing because of the way people sometimes express thoughts verbally. Consider the following examples.

<u>Redundant</u>	<u>Concise</u>
advance warning	warning
unexpected surprise	surprise
intentional sabotage	sabotage
totally demolished	demolished

When an adjective or adverb adds nothing to the word it modifies, delete the redundant modifier.

Being concise is fundamental to effective writing.



The key to writing concisely is using words economically and omitting words that don't add value.

Wordy phrases

Replace wordy phrases, like those below, with more concise ones.

<u>Wordy</u>	<u>Concise</u>
at the present time	now, currently
at that point in time	then
until such time as	until
at a later date	later
ahead of schedule	early
for the purpose of	for
in order to	to
for the reason that	because
because of the fact that	because
in the event that	if
provided that	if
during the course of	during
pertaining to	about
in spite of the fact that	although, even though
a sufficient number of	enough
it is my opinion that	I think

Avoid unnecessary repetition, redundant modifiers, and excessive detail.

Excessive detail

In these examples, the unnecessary language makes the sentences unclear and difficult to read. Readers quickly become frustrated with such garbled writing. The revisions convey everything the original sentences do. But they are clearer and more eloquent in their simplicity.

Unclear: The operations concepts addressed in this plan allow for the emergency response and mitigation efforts relating to a broad spectrum of hazards with which the site could be faced. (29 words)

Clear: This plan contains guidelines for responding to a variety of emergencies. (11 words)

Unclear: If special assistance is required for the evacuation of disabled persons, assist as necessary with “buddies” or Emergency Response Teams if the evacuation buddies are unable to accomplish the action. (30 words)

Clear: Assign employees to help evacuate disabled people as needed. (9 words)

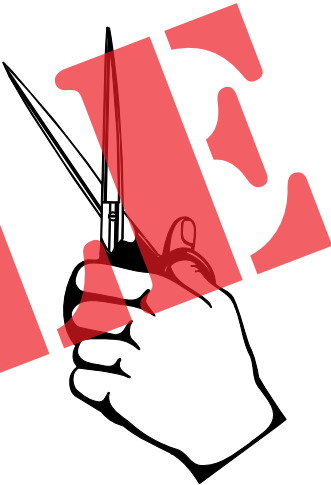
Weak and wordy expressions

The English language is filled with wonderful adjectives and adverbs that enhance our ability to express ideas. But the best writers seldom rely on adjectives and adverbs. Instead, they select strong nouns, verbs, and other expressions that convey the intended meaning without help.

This doesn’t mean you should eliminate adjectives and adverbs from your writing. They’re often necessary, as in the example of *parched* grass below. But ideas should be conveyed as concisely as possible.

Wordy: The fire spread quickly through the bone dry grass.
Concise: The fire raced through the parched grass.

Use strong words and expressions that convey the intended meaning without additional help.



Avoid discretionary expressions that introduce ambiguity.



If you challenge yourself to convey your message in as few words as possible, you will find it easier to write concisely.

Avoid de-energizing your sentences by burying verbs in wordier expressions, such as those in the left-hand column below.

<u>Weak</u>	<u>Strong</u>
conducted an investigation	investigated
managed to escape	escaped
reached an agreement	agreed
came to the realization	realized
made a decision	decided

Think about word count when you're writing. Ask yourself, "How can I say the same thing in as few words as possible?" If you challenge yourself that way, you'll find it much easier to write concisely.

- Wordy:* The earthquake, which was terrifying and occurred without warning, displaced hundreds of people from their homes. (16 words)
- Concise:* The sudden, terrifying earthquake left hundreds homeless. (7 words)

Discretionary expressions

Discretionary expressions used to qualify a statement can sometimes introduce ambiguity. Consider the phrase *for all intents and purposes* in the following example. Is the investigation complete or not? If it is, don't add the extra words. If it's not complete, specify what still needs to be done.

- Unclear:* The investigation is complete, for all intents and purposes.
- Clear:* The investigation is complete.
- Clear:* The investigation is complete, except for the independent analysis from a private lab.

What about the phrase *all things considered* in the first example below? What does that really mean? It may be appropriate if the sentence follows a discussion of problems encountered at the fire. By itself, however, the phrase raises questions. It is better to eliminate the phrase or replace it with specific information.

- Unclear:* All things considered, we made a good stop on the fire.
- Clear:* We made a good stop on the fire.
- Clear:* Despite delays due to difficult access and poor hydrant pressure, we made a good stop on the fire.

Examples

Let's now look at these concepts in some sample test questions.

Example 1: This example illustrates unnecessary repetition. *Consensus* and *consensus of opinion* mean the same thing ... both of which will result in mistrials. The answer to these questions is true.

Wordy: T/F In most criminal cases, if jurors cannot reach a consensus of opinion, the court will declare a mistrial.

Concise: T/F In most criminal cases, if jurors cannot reach a consensus, the court will declare a mistrial.

Concise: T/F In most criminal cases, if jurors cannot agree on a verdict, the court will declare a mistrial.

Example 2: The first question below is confusing because of a second sentence that's unnecessary. (This is a variation of the discretionary expressions illustrated earlier.) Test takers should have no trouble distinguishing between substantive and procedural law. But are they two sides of the *same coin*? They're clearly related. But what does the test writer mean by *two sides of the same coin*? And is it significant? This feels like a trick question. Many test takers will struggle with it. The answer to both questions should be true.

Confusing: T/F Substantive law outlines our rights and responsibilities, whereas procedural law sets forth the methods we use to enforce our rights. They are two sides of the same coin.

Clear: T/F Substantive law outlines our rights and responsibilities, whereas procedural law sets forth the methods we use to enforce our rights.

Example 3: Writing concisely is a process. Your first pass at a test question might look like the first example below. That's okay. Capture the content, then worry about refining the question. The answer to both questions is (b).

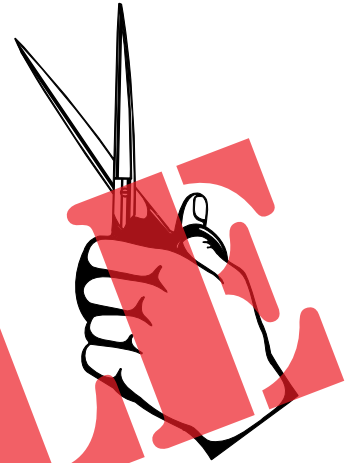
Wordy: The way that nitroglycerin works to relieve pain for someone suffering from angina is:

- By regulating the beating of the heart.
- By dilating the blood vessels in order to allow more blood and oxygen to reach the heart and vital organs.
- By dissolving blood clots that are clogging the coronary arteries and restricting blood flow to the heart.
- By numbing pain receptors in the heart muscle.

Concise: Nitroglycerin helps relieve angina pain by:

- Regulating the heartbeat.
- Dilating the blood vessels so more blood and oxygen can reach the heart.
- Dissolving blood clots that are restricting blood flow to the heart.
- Numbing pain receptors in the heart muscle.

**Writing concisely
is a process.**



**Get your
thoughts
down on paper
first. Then
look for ways
to convey the
message more
economically.**

Use the Appropriate Voice

Rationale

There are two voices in sentence structure: active and passive. The *active voice* emphasizes the one doing the action (the actor). The *passive voice* emphasizes the person or thing being acted upon (the object of the action.)

Active: The teacher wrote the test.
Passive: The test was written by teacher.

The second example above contains three more clues to recognizing the passive voice. Not every sentence will have all three elements, but most have at least two of them:

- A form of the verb *be* (*be, am, is, are, was, were*)
- A past participle (a past-tense form of a verb)
- The word *by*

Benefits of Active Voice

The active voice is preferable for most writing, in part, because readers expect a sentence to reveal who **does what to whom**—in that order. Passive voice reverses the normal word order, effectively causing the sentence to flow backwards and making it harder for readers to follow the action.

Active: Actor → does something to → recipient
 (Subject → Verb → Object)
Passive: Recipient ← has something done to him/her by ← actor
 (Object ← Verb ← Subject)

Passive voice has other potential pitfalls. It's easy to omit the actor—intentionally or unintentionally—when writing in the passive voice. And it's easy to introduce unintended ambiguity.

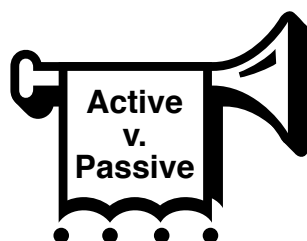
The question below provides a perfect example of how active voice is preferable to passive voice and how the way a sentence is worded can make the difference between clarity and ambiguity. The correct answer is (a).

Example: An appliance manufacturer is drafting a user's manual for a new product. Which of the following sentences is the best way to warn users against removing the outer cover of the appliance?

- To reduce the risk of fire or electric shock, do not attempt to remove the outer cover.
- To reduce the risk of fire or electric shock, removal of the outer cover should not be attempted.
- Do not attempt to remove the outer cover to reduce the risk of fire or electric shock.
- Removal of the outer cover should not be attempted to reduce the risk of fire or electric shock.

Answer (a) clearly directs users not to remove the appliance cover, because if they do remove it, they risk fire or electric shock. Answer (b), written in the passive voice, is weaker. The word *should* makes it a recommendation versus a direction. And even if the word *must* were used instead, answer (b) wouldn't be as forceful as answer (a).

The active voice emphasizes the one doing the action, whereas the passive voice emphasizes the person or thing being acted upon.



The active voice is preferable for most writing.

Answers (c) and (d) are poorly written. Both can be misread to mean that reducing the risk shouldn't be used as an excuse to remove the outer cover (i.e., that removing the cover is not a recommended way to reduce the risk). Readers should be smart enough to recognize the intended meaning, but one of your goals should be to eliminate ambiguity in everything you write. Practicing good habits at all times can prevent unintended consequences at times when it really counts.

The following question illustrates how use of the passive voice can create ambiguity by failing to name the actor. Imagine a reader being injured after following erroneous instructions in a book. The reader then sues the author and publisher. The passive clause in the example below doesn't specify who must indemnify the publisher, so there's no clear answer to the question.

Example: Your client, a book publisher, has written a publishing contract containing the following indemnification clause:

Publisher will be indemnified, defended, and held harmless from all claims based on allegations that, if true, would constitute a breach of any of the foregoing warranties or any other obligation of Author under this Agreement, and any and all liabilities, losses, expenses (including attorneys' fees and costs) and damages in consequence thereof.

The indemnification clause, as it is written, means that _____ is responsible for indemnifying, defending, and holding harmless the publisher.

- a. The book author
- b. Any plaintiff to a lawsuit
- c. The court
- d. Any of the above
- e. None of the above

One might argue that the responsibility is implied in a contract between the author and publisher. But this is the type of oversight that leads to court battles, especially when there is a lot of money on the line. If the court decides that the terms of a contract are ambiguous and the court can't resolve the uncertainty in any other way, the court has the right to resolve the ambiguity by interpreting the terms of the contract most strongly against the drafter. In other words, the publisher could be on the hook for injuries resulting from the author's errors. The correct way to phrase this is, "Author will indemnify, defend, and hold harmless Publisher from all claims ..."

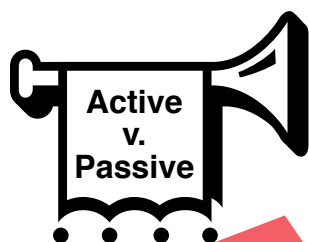
Bottom line, the active voice is clearer, more powerful, and more interesting than the passive voice is. The active voice is generally more concise too. So use the active voice as much as possible, unless you have good reason to do otherwise.

The active voice is clearer, more powerful, and more interesting than the passive voice is. The active voice is generally more concise too.



When you write in the active voice, you are less likely to introduce ambiguity the results in unintended consequences.

The passive voice is often preferable when the emphasis belongs on the person or thing being acted upon rather than on the one doing the action.



When in doubt, write your sentences in both the active voice and the passive voice. Then look at which one is clearest and puts the emphasis where it belongs.

Benefits of Passive Voice

Although the active voice is generally the best choice, there are legitimate reasons for using the passive voice.

The passive voice is often preferable when the actor is unknown or less important than the person or thing being acted upon. In the example below, the passive voice puts the emphasis on the girl who was rescued, whereas the active voice puts the emphasis on the firefighters.

Passive: The girl was found under the debris by firefighters.
Active: Firefighters found the girl under the debris.

The passive voice may be preferable when it is desirable to protect the identity of the actor. In the first example below, there's no mention of who saw the suspect with the victim before the shooting. But notice how it's possible to protect the identity of the actor even in active voice by simply changing *the bartender* to *a witness*.

Passive: The suspect was seen with the victim an hour before the shooting.
Active: The bartender saw the suspect with the victim an hour before the shooting.
Active: A witness saw the suspect with the victim an hour before the shooting.

The passive voice can be used to deflect attention. The following sentences illustrate how a defense attorney and prosecutor, respectively, might characterize the same incident. (The merits of deflecting attention to escape responsibility might be questionable, but the ability to shift emphasis is clear.)

Passive: Ms. Lockhart was pushed down the stairs.
Active: The defendant pushed Ms. Lockhart down the stairs.

The passive voice is often used to sound more diplomatic, to soften the impact of a strong statement, or to avoid sounding bossy.

Passive: The problems must be corrected within 60 days.
Active: You must correct the problems within 60 days.

The passive voice is often used in scientific and technical writing to put emphasis on the action being taken versus on the one doing the action.

Passive: Several studies are being conducted across the country to identify a more effective treatment.
Active: Several doctors across the country are conducting studies to identify a more effective treatment.

When in doubt, write your sentences in both the active voice and the passive voice to see which one is clearest and puts the emphasis where it belongs. Don't automatically choose passive voice because you may be used to it or because it's "customary" in your workplace. Do what's right for your readers.

Examples

Now let's look at how active voice and passive voice affect some sample test questions.

Example 1: In this example, the emphasis should be on paralegals and what they are allowed to do (or not do, as the case may be). Therefore, active voice works better. The answer is false.

Weak: T/F Depositions can be conducted by paralegals.

Better: T/F Paralegals can conduct depositions.

Example 2: In the emergency childbirth examples below, the active voice is clearer and more concise than the passive voice is. The revised question also clearly conveys who should clamp the cord and leave it intact, whereas the original question merely conveys that it should be done by an unnamed someone. The answer to both questions is (b).

Poor: A baby had to be delivered in the field, because there was not enough time to get the mother to a hospital. What should be done with the umbilical cord afterwards?

- a. The umbilical cord should be clamped and cut as soon as possible to prevent excessive bleeding from the baby or the mother.
- b. Two clamps should be put on the umbilical cord once the pulsations stop, but the cord should not be cut unless it is necessary.
- c. The cord should be cut first, then the ends should be clamped to prevent excessive bleeding from the baby or the mother.

Good: You have helped deliver a baby in the field, because there was not enough time to get the mother to a hospital. What should you do with the umbilical cord afterwards?

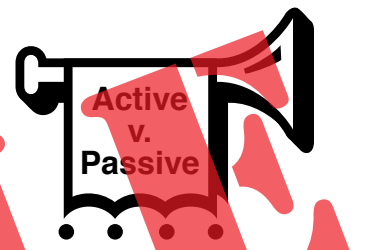
- a. Clamp and cut the cord as soon as possible to prevent excessive bleeding from the baby or the mother.
- b. Put two clamps on the cord once the pulsations stop, but do not cut the cord unless it is necessary.
- c. Cut the cord first, then clamp the ends to prevent excessive bleeding from the baby or the mother.

Example 3: Here's an example where the passive voice is more effective than the active voice is. The second statement reads better. It also leaves no room for ambiguity. The first statement can be misread to mean that only the *size* of a contingency fee is dependent on the outcome of the case, but one way or another, the attorney collects a fee. The answer to both questions is true.

Weak: T/F The outcome of the case determines a contingency fee.

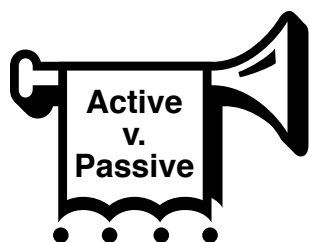
Better: T/F A contingency fee depends on the outcome of the case.

Use the active voice when the emphasis belongs on the one doing the action.



The active voice should generally be your first choice.

Use the passive voice when the emphasis belongs on the person or thing being acted upon.



Use the passive voice if there is no good way to write the question in the active voice without adding unimportant details or introducing ambiguity.

Example 4: There is no good way to write the following question in the active voice without adding unimportant details. Here, the passive voice is more concise, and it puts the emphasis on the tanks and how they behave when exposed to fire. Most atmospheric-pressure cargo tanks (such as those used to transport gasoline) are made of *aluminum*, which *melts* when exposed to fire.

Weak: Companies that manufacture atmospheric-pressure cargo tanks make most of them out of _____, so the tanks are inclined to _____ when exposed to fire.

Better: Most atmospheric-pressure cargo tanks are made of _____ and are inclined to _____ when exposed to fire.

Notice, also, that the revised question has more room to write. Test takers, especially those who write big, will quickly become frustrated if you don't leave enough room to write.

Example 5: Here's another example where there is no good way to write the question in the active voice without adding unimportant details. The correct answer to both questions is (a).

Weak: The lawmakers who wrote Title 49 of the United States Code intended that Department of Transportation (DOT) placards be used on:

- a. Motor vehicles, freight containers, and rail cars transporting hazardous materials.
- b. Fixed facilities where hazardous materials are manufactured, used, or stored.
- c. All packages containing hazardous materials.
- d. All of the above.

Better: Department of Transportation (DOT) placards are intended to be used on:

- a. Motor vehicles, freight containers, and rail cars transporting hazardous materials.
- b. Fixed facilities where hazardous materials are manufactured, used, or stored.
- c. All packages containing hazardous materials.
- d. All of the above.

Avoid Needless Shifts

Rationale

A shift is a change in structure or style midway through a sentence or paragraph. Among the most common problems are needless shifts in number, person, and voice. The example below contains an inappropriate shift from active voice to passive voice.

Wrong: We followed the suspect and his position was radioed to officers on the ground.

Right: We followed the suspect and radioed his position to officers on the ground.

Most shifts result in confusing or awkward sentences. They have the effect of changing gears on unsuspecting readers.

Examples

Example 1: The first question below shifts from singular (*an attorney*) to plural (*they*). You can fix this by making everything singular or plural. Making everything plural is often the easiest approach. Alternatively, you can rewrite the sentence to eliminate the pronoun. The answer to all of these questions is true.

Wrong: T/F If an attorney perpetrates fraud upon the court, they can be disbarred.

Right: T/F If an attorney perpetrates fraud upon the court, he or she can be disbarred.

Right: T/F If attorneys perpetrate fraud upon the court, they can be disbarred.

Right: T/F Attorneys who perpetrate fraud upon the court can be disbarred.

Example 2: The first question below shifts from third person (*a patient*) to second person (*you*). You can fix this by putting everything in either second person or third person or by rewriting the sentence. The answer to all of these questions is true.

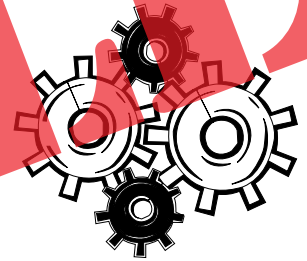
Wrong: T/F If a patient stops breathing, you can suffer brain damage in four to six minutes.

Right: T/F If you stop breathing, you can suffer brain damage in four to six minutes.

Right: T/F If a patient stops breathing, he or she can suffer brain damage in four to six minutes.

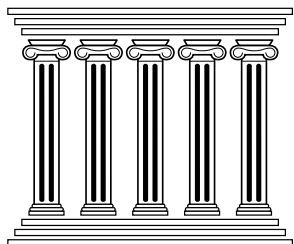
Right: T/F Patients who stop breathing can suffer brain damage in four to six minutes.

Most shifts in structure or style result in confusing or awkward sentences that have the effect of changing gears on unsuspecting readers.



Among the most common problems are needless shifts in number, person, and voice.

Earlier in the book, nonparallel structure was cited as a problem that often gives away the answer.



But nonparallel structure can also be a source of confusion or distraction for test takers.

Use Parallel Structure

Rationale

To use parallel structure means to use like form or structure in your writing. In other words, when two or more items or ideas are presented in the same sentence or list, the wording or format should be similar.

Earlier in the book, nonparallel structure was cited as a problem that often gives away the answer. But the emphasis in this section is on writing well so that test takers aren't confused or distracted by poor writing.

Examples

Example 1: Nonparallel structure is most obvious in multiple-choice questions due to the vertical list format. Three of the answers below are written as directions, and two are written as statements of fact. Bad form like this often forces test takers to reread the question for clarity. That's a disservice to test takers. The answer to both of these questions is (e).

Poor: If you are the public information officer at an emergency scene, you should do all of the following **except**:

- a. Choose a safe interview location where the media can get good pictures.
- b. Speak clearly and concisely, providing the media with good sound bites if possible.
- c. Information must be approved by the incident commander before it is released to the media.
- d. Anticipate likely questions and have good answers ready.
- e. If you do not know the answer to a question, it is best to say, "No comment."

Good: If you are the public information officer at an emergency scene, you should do all of the following **except**:

- a. Choose a safe interview location where the media can get good pictures.
- b. Speak clearly and concisely, providing the media with good sound bites if possible.
- c. Ensure that information has been approved by the incident commander before releasing it to the media.
- d. Anticipate likely questions and have good answers ready.
- e. Say "No comment" if you do not know the answer to a question.

Example 2: Nonparallel structure can also occur in horizontal lists. The first question below isn't bad enough to interfere with clarity, but it can be distracting. The answer to these questions is true.

Poor: T/F In negligence cases, children are judged by a different standard than adults are. A child is required to use the degree of care that a reasonably careful child who is the same age, being equally intelligent and having similar experience, would use in that same situation.

Good: T/F In negligence cases, children are judged by a different standard than adults are. A child is required to use the degree of care that a reasonably careful child of the same age, intelligence, and experience would use in that same situation.

Example 3: This example is worse than the previous one, because while test takers are distracted by the nonparallel structure, they may miss the fact that the sentence describes the purpose of a *case* brief, not a *trial* brief. (A trial brief is written to persuade the court to render a particular decision.) Even when the question is properly written, test takers could miss that subtle distinction. But if you've added to the confusion with bad grammar, test takers are more likely to challenge the question. The answer to both questions is false.

Poor: T/F According to the course textbook, the purpose of writing a trial brief is to summarize a court opinion, force the attorney or paralegal to actively read the case, facilitating case analysis, and it reduces the need to reread the case.

Good: T/F According to the course textbook, the purpose of writing a trial brief is to summarize a court opinion, force the attorney or paralegal to actively read the case, facilitate case analysis, and reduce the need to reread the case.

Example 4: Here, nonparallel structure comes from numbers written in different formats. It's confusing. When the potential answers consist of numerical data, use a consistent format. The answer to these questions is (c).

Poor: According to the Inverse Square Law, doubling your distance from a radioactive source will reduce your exposure by:

- a. 40%.
- b. Half.
- c. 3/4.
- d. 90%.

Good: According to the Inverse Square Law, doubling your distance from a radioactive source will reduce your exposure by:

- a. 40%.
- b. 50%.
- c. 75%.
- d. 90%.

Nonparallel structure is most obvious in multiple-choice questions due to the vertical list format.



Nonparallel structure can occur also in horizontal lists.

Avoid Faulty Sentence Construction

Rationale

Best-case scenario, faulty sentence construction is a needless distraction that causes test takers to lose valuable time rereading the material. Worst-case scenario, it creates subtle errors that change the meaning of a sentence and affect the accuracy of the test question.

Examples

Example 1: The first question below contains a grammatical error. Test takers should be able to look past the error to recognize that the answer is true. But when test takers lose valuable time rereading poorly written questions, it may hurt their ability to finish the test in the time allotted. The answer to all three questions is true.

Faulty: T/F By doubling your distance from a radioactive source reduces your risk of exposure by 75%.

Revised: T/F By doubling your distance from a radioactive source, you reduce your risk of exposure by 75%.

Revised: T/F Doubling your distance from a radioactive source reduces your risk of exposure by 75%.

Example 2: The intended answer to both questions below is true. But the first question is faulty, because people design devices, not the use of those devices. While most test takers will look past the error, some could argue that the sentence is not true as written. Neither you nor your test takers need the headache of squabbling over a grammatical error.

Faulty: T/F The use of an oropharyngeal airway is designed to hold the tongue away from the back of the airway on an unresponsive patient in a supine position.

Revised: T/F Oropharyngeal airways are designed to hold the tongue away from the back of the airway on an unresponsive patient in a supine position.

Example 3: The intended answer to all three of the following questions is true. However, the first question contains a subtle error. The distinction between *deciding* to do something and actually *doing* it is that one can make a decision without following through. For example, I might *decide* to sue a doctor for medical malpractice only to learn from talking with an attorney that I'm barred by the statute of limitations. If so, my *decision* won't trigger any action; I'm stuck. Test takers should be able to look past this error, but it's best if you avoid these potential pitfalls.

Faulty: T/F Deciding to file a medical malpractice lawsuit in California requires sending the healthcare provider a notice of intent to sue 90 days before commencing the action.

Best-case scenario, faulty sentence construction is a needless distraction to test takers.



Worst-case scenario, it creates subtle errors that change the meaning of a sentence and affect the accuracy of the test question.

Revised: T/F Filing a medical malpractice lawsuit in California requires sending the healthcare provider a notice of intent to sue 90 days before commencing the action.

Revised: T/F To file a medical malpractice lawsuit in California, a plaintiff must send the healthcare provider a notice of intent to sue 90 days before commencing the action.

Example 4: Here is another example of a subtle error that shouldn't bother test takers too much. But there's no reason to be grammatically incorrect. The first statement below is faulty because lividity is an observable sign, not a place. Avoid using *is where* or *is when* to complete your definitions. Such constructions are sometimes heard in informal speech, but they are not appropriate in writing. The answer to both questions is true.

Faulty: T/F Lividity is where there is a purplish discoloration of the skin caused by blood pooling in the dependent parts of the body after death.

Revised: T/F Lividity is the purplish discoloration of the skin caused by blood pooling in the dependent parts of the body after death.

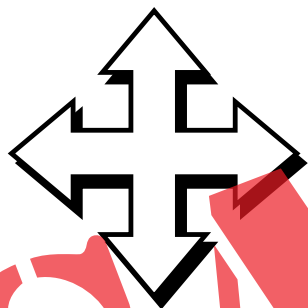
If test takers are forced to reread unclear questions, it wastes valuable time and may hurt their ability to finish the test in the time allotted.



Test takers shouldn't be penalized because of grammatical errors.

SAMPLE

Misplaced and dangling modifiers can change the meaning of a sentence or result in confusing, amusing, or embarrassing sentences.



People generally associate modifiers with the nearest words they might logically modify.

Avoid Misplaced and Dangling Modifiers

Rationale

Misplaced and dangling modifiers can change the meaning of a sentence or result in confusing, amusing, or embarrassing sentences.

What is a modifier? It's a word or group of words used as an adjective or adverb. It qualifies, limits, or "modifies" something else.

People generally associate modifiers with the nearest words they might logically modify. So when these modifiers are misplaced or don't clearly describe anything in the sentence, it can create ambiguity or inaccuracies.

A lazy writer might believe that misplaced and dangling modifiers are no big deal. After all, readers can often figure out the intended meaning. But anything that causes people momentary confusion or forces people to reread the sentence is a distraction and a disservice to the reader (or test taker, as the case may be). And particularly in the legal arena, where different parties can have different interpretations of a contract or other document, it's essential to avoid ambiguities and inadvertent mistakes.

Misplaced Modifiers

These two amusing examples are good illustrations of misplaced modifiers. One implies that someone extinguished the fire before the fire department could do any significant damage. The other implies that the police pose a threat to your home.

Misplaced: The fire was extinguished before any significant damage was done by the fire department.

Revised: The fire was extinguished by the fire department before any significant damage was done.

Misplaced: The following are tips for protecting your home from the police department.

Revised: The police department offers the following tips for protecting your home.

The following newspaper headline was displayed as a graphic on several television networks after the unfortunate discovery of a murdered child. It reads as if authorities found the 21st body of the same child.

Misplaced: 21st Body of Child Found

Revised: Body of 21st Child Found

A special type of misplaced modifier is the *squinting modifier*. A squinting modifier is one that falls between two words or phrases and can conceivably modify the words or phrases on either side. In the first sentence below, it's not clear whether the reference is to people who routinely drove the ambulance or to people who complained about it routinely.

Squinting: Anyone who drove that ambulance routinely complained about steering problems.

Revised: Anyone who routinely drove that ambulance complained about steering problems.

Here's another squinting modifier. It's not clear in the first sentence if the writer is worried about a sudden building collapse or if the writer is suddenly worried about the eventual possibility.

Squinting: The possibility of the building collapsing *suddenly* worries me.

Revised: The possibility of the building *suddenly* collapsing worries me.

Limiting modifiers modify the word or words that immediately follow them. Examples of limiting modifiers include *almost*, *even*, *exactly*, *hardly*, *just*, *merely*, *nearly*, *only*, *scarcely*, and *simply*. Notice how changing the position of the modifier changes the meaning of the following sentences. The first version means that all I did was read the document; I didn't do anything else with it. The second version means that the only document I read was the deposition; I didn't read anything else.

Version 1: I *only* read the deposition.

Version 2: I read *only* the deposition.

Here's another example of how moving a limiting modifier changes the meaning of a sentence. The first version means that my client could have lost his whole business, but didn't. The second version means that he lost the bulk of his business; very little is left.

Version 1: My client *almost* lost his entire business.

Version 2: My client lost *almost* his entire business.

Dangling Modifiers

A dangling modifier is one that does not clearly describe anything in the sentence. Although the connection is clear to the writer, it's not necessarily clear to the reader. Remember, readers generally associate modifiers with the nearest words they might logically modify. So in the first example below, it reads as if the phrase *weaving in and out of traffic* applies to the pronoun *I*—the subject of the sentence. One way to correct this is to give the introductory phrase a subject of its own.

Dangling: Weaving in and out of traffic, I suspected that the man was driving under the influence of alcohol.

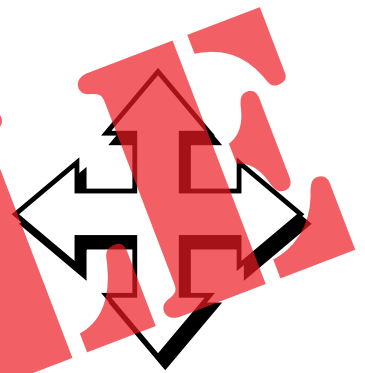
Revised: Because the man was weaving in and out of traffic, I suspected that he was driving under the influence of alcohol.

The first sentence below reads as if the structure rescued the last victim. Here it was necessary to supply missing information.

Dangling: Three minutes after rescuing the last victim, the structure collapsed.

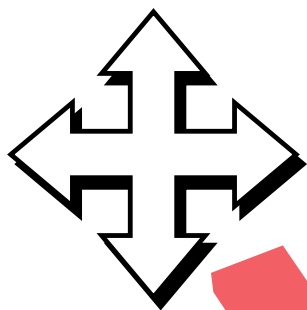
Revised: Three minutes after firefighters rescued the last victim, the structure collapsed.

A misplaced modifier is exactly what it sounds like ... a modifier put in the wrong location.



A dangling modifier is one that does not clearly describe anything in the sentence.

Even if the intended meaning is clear, misplaced and dangling modifiers are a distraction and a disservice to test takers.



Particularly in the legal arena, you can't afford to have the ambiguity often caused by misplaced and dangling modifiers.

Examples

Let's now look at these concepts in some sample test questions.

Example 1: The first question below has a misplaced modifier. It reads as if patients should only be transported—nothing else—after decontamination. The revised sentence says that patients shouldn't be transported until after they have been fully decontaminated. This example may not be bad enough to confuse test takers. But if you're vigilant at all times, you're less likely to make mistakes when it really matters. The intended answer to these questions is true.

Misplaced: T/F When using air ambulances to transport patients from a hazardous materials incident, patients should only be transported after they have been fully decontaminated.

Revised: T/F When using air ambulances to transport patients from a hazardous materials incident, patients should be transported only after they have been fully decontaminated.

Example 2: The dangling modifier in the first question suggests that the attorney might be deemed inadmissible if he or she fails to establish that the evidence is relevant. The fix is to put the word *evidence* into the introductory phrase. The intended answer to these questions is true.

Dangling: T/F To be deemed admissible in court, you must establish that the evidence is relevant.

Revised: T/F For evidence to be deemed admissible in court, you must establish that it is relevant.

Example 3: Here's another dangling modifier. The first sentence suggests that if you are amputated, you should do the things listed. The intended answer to these questions is (a).

Dangling: If amputated, you should wrap the amputated part in a _____ sterile dressing, wrap it in plastic, keep it cool, and transport it with the patient to the hospital.

- a. Dry
- b. Moist

Revised: If a body part has been amputated, you should wrap the amputated part in a _____ sterile dressing, wrap it in plastic, keep it cool, and transport it with the patient to the hospital.

- a. Dry
- b. Moist

Revised: In amputation injuries, you should wrap the amputated part in a _____ sterile dressing, wrap it in plastic, keep it cool, and transport it with the patient to the hospital.

- a. Dry
- b. Moist

Use Commas Properly

Rationale

The rules about commas are too extensive to cover in this book. But because the inclusion or omission of a comma can sometimes change the meaning of a sentence, the comma deserves a little attention.

When in doubt about when and where to use commas, ask yourself the following questions:

- How do commas affect the meaning of the sentence?
- Is a comma needed to ensure clarity or to provide a pause?
- Can a substitution test reveal the correct punctuation?

A sentence must be clear *as readers are reading it*—in other words, from left to right. If readers are forced to back up and reread a sentence for clarity, you've done them a disservice.

Finally, difficulty getting the commas right is often a sign that you're trying to patch up a poorly worded sentence. So if you're struggling to determine the correct punctuation and the questions above don't help you, look to see if there's a better way to write the sentence.

How do commas affect the meaning of the sentence?

From 1850 to 1963, the State of Michigan had language in the state constitution that inadvertently legalized slavery ... all because of a misplaced comma. Section 8, Article 2, read as follows:

Wrong: Neither slavery nor involuntary servitude, unless for the punishment of a crime, shall ever be tolerated in this state.

Right: Neither slavery, nor involuntary servitude unless for the punishment of a crime, shall ever be tolerated in this state.

The way the first sentence is written, it can be interpreted to mean that slavery will be tolerated for the punishment of a crime. When the State of Michigan finally corrected the error by putting the first comma after *slavery* versus *servitude*, it became clear that slavery wouldn't be tolerated at all and that involuntary servitude would be tolerated only as punishment for a crime.

Next we have a different example—one containing two commas that don't belong in the sentence. The commas signal that *caught carrying weapons* is a nonessential element, meaning that it can be removed without making the sentence structurally incomplete. But it changes the meaning to say that *any* students will be expelled. When the commas are removed, it clearly communicates that expulsion is only for those students caught carrying weapons.

Wrong: The principal made it clear that any students, caught carrying weapons, will be expelled.

Right: The principal made it clear that any students caught carrying weapons will be expelled.

Consider whether the use or omission of a comma changes the meaning of the sentence.

If it changes the meaning of the sentence, look to see what punctuation correctly conveys your intended meaning.



Consider whether a comma is needed to ensure clarity or to provide a pause.



Caution: Every comma signals a pause, but not every pause signals the need for a comma.

Finally, this example has two versions that are grammatically correct. However, the meaning of each is different. The first sentence refers to the third of three or more patients sent to County General. The second refers to the third patient overall. That patient happened to be transported to County General. We have no information on where the first two patients were sent.

Version 1: The third patient who was transported to County General had extensive second-degree burns.

Version 2: The third patient, who was transported to County General, had extensive second-degree burns.

Is a comma needed to ensure clarity or to provide a pause?

Be careful with this guideline. Every comma signals a pause, but not every pause signals the need for a comma. People who don't know the rules often use commas where they would pause when saying the sentence aloud. But that often leads to errors that are beyond the scope of this book.

This first example illustrates how a comma is needed to prevent misreading. Without the comma, this reads as if someone were eating the patient. It's a recoverable error—readers will quickly realize the intended meaning. But it's a distraction that diverts the readers' attention unnecessarily.

Wrong: While he was eating the patient began experiencing chest pains.

Right: While he was eating, the patient began experiencing chest pains.

The omission of a comma in first example below creates a sentence fragment. The way it's punctuated, readers will expect you to reveal what happened after the fire was brought under control. The comma in the second example provides the necessary pause to ensure clarity.

Wrong: The helicopter arrived at daybreak. Soon after the fire was brought under control.

Right: The helicopter arrived at daybreak. Soon after, the fire was brought under control.

Can a substitution test reveal the correct punctuation?

A simple substitution test can often help you determine the correct punctuation. The subject of the sentence below is so lengthy that people reading this aloud will typically pause where the commas are. But it's wrong to put commas between parts of a compound subject. By substituting the pronouns *he* and *she* for the lengthier phrases above, this becomes clear immediately.

Wrong: The young boy who saved his mother by dialing 911, and the dispatcher who answered his call, will meet this afternoon at police headquarters.

Right: The young boy who saved his mother by dialing 911 and the dispatcher who answered his call will meet this afternoon at police headquarters.

Test 1: He, and she, will meet this afternoon at police headquarters.

Test 2: He and she will meet this afternoon at police headquarters.

It's also wrong to put a comma between the subject and the verb. Replacing the lengthier subject below with the pronoun *it* makes it clear that there should be no comma in the following sentence either.

Wrong: Having been arrested before, is nothing to be proud of.
Right: Having been arrested before is nothing to be proud of.

Test 1: It, is nothing to be proud of.
Test 2: It is nothing to be proud of.

Examples

Let's now look at these concepts in some sample test questions.

Example 1: The commas in the first question below make *like the ones sold for home use* a nonessential element. Consequently, the statement conveys the idea that most fire extinguishers do not meet the minimum requirements for public buildings. But the intent is to highlight only those extinguishers designed for home use. The intended answer to the question is true.

Wrong: T/F Fire extinguishers, like the ones sold for home use, often do not meet the minimum requirements for use in public buildings.

Right: T/F Fire extinguishers like the ones sold for home use often do not meet the minimum requirements for use in public buildings.

Trimming a few words makes this question more concise and eliminates the potential for confusion. The answer is true.

Better: T/F Fire extinguishers sold for home use often do not meet the minimum requirements for use in public buildings.

Example 2: The first question below is missing a comma. Readers need that little pause to prevent misreading. The answer to both questions is true.

Wrong: T/F If a defendant unlawfully aims at one person and hits another he is guilty of assault and battery on the person he hit.

Right: T/F If a defendant unlawfully aims at one person and hits another, he is guilty of assault and battery on the person he hit.

It's often possible to use a substitution test to determine whether or not commas are appropriate.

Try substituting simple pronouns for lengthier expressions. This often clarifies what punctuation is needed.

Use Latin Abbreviations Correctly

Rationale

People sometimes confuse the Latin abbreviations *e.g.* and *i.e.* The two have different meanings. Thus using them incorrectly can change the meaning of your sentences.

Abbreviation	Original Expression	English Equivalent
<i>e.g.</i>	exempli gratia	for example
<i>i.e.</i>	id est	that is

The following descriptions can also help you use the correct abbreviation:

- *For example (e.g.)* refers to a sampling of a larger group, whether that sampling contains one item or several items.
- *That is (i.e.)* identifies something specific; it is the only thing being included. The abbreviation *i.e.* should be used where the meaning is “in other words.”

Examples

Example 1: Many people don't know that *miosis* is a medical term for pinpoint pupils. So it's good to spell that out for test takers. The abbreviation *i.e.* is correct because it means “that is, pinpoint pupils” or “meaning pinpoint pupils.” The abbreviation *e.g.* suggests that pinpoint pupils is one of several symptoms associated with miosis. The intended answer to both questions is true.

Wrong: T/F The most significant indicators of nerve agent exposure are rapid onset of miosis (*e.g.*, pinpoint pupils) and muscular twitching.

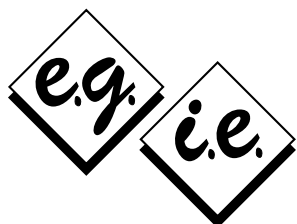
Right: T/F The most significant indicators of nerve agent exposure are rapid onset of miosis (*i.e.*, pinpoint pupils) and muscular twitching.

Example 2: Some discovery devices (such as interrogatories, requests for admission, demands for production) can be used only between parties in civil and criminal cases. But because the wrong abbreviation is used in the first question, it reads as if interrogatories are the *only* discovery device whose use is limited to parties. The intended answer to both questions is true.

Wrong: T/F Some discovery devices (*i.e.*, interrogatories) can be used only between parties; they cannot be used with nonparties.

Right: T/F Some discovery devices (*e.g.*, interrogatories) can be used only between parties; they cannot be used with nonparties.

Using the abbreviations *e.g.* and *i.e.* incorrectly can change the meaning of your sentences.



For example (e.g.) refers to a sampling of a larger group.
That is (i.e.) identifies something specific.

Chapter 5

Format Tests for Ease of Reading

Appearance matters. A test that is difficult to read, not because of the way it is written, but because of the way it is formatted, is unfair to test takers.

You don't have to make a test look pretty. But you must consider readability. And you should avoid visual distractions that take the test takers' attention away from the content.

**Appearance
matters.**

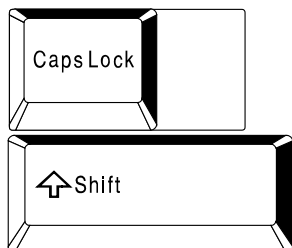
**Format tests for
ease of reading.**



**Avoid visual
distractions that
take the test
takers' attention
away from the
content.**

SAMPLE

Use full caps sparingly—if you must use full caps at all. Never use all capital letters for sustained reading.



Text set in full caps is difficult to read, because the words lack the distinctive shapes that aid in pattern recognition.

Avoid Using Full Caps

Rationale

Use full caps sparingly—if you must use full caps at all. And never use all capital letters for sustained reading.

When we read, we recognize not only the words themselves but also the shape of the words. Words set in upper and lower case have distinctive and recognizable shapes, whereas words set in full caps look like rectangles of different lengths. A simple graphic illustrates this concept:



Pattern recognition is an important part of the reading process. It helps people process words more quickly. Conversely, the monotonous rectangular shapes of words set in full caps requires readers to spend more time and more energy reading the document. So people will have an easier time reading questions written in upper and lower case versus questions written in full caps. Don't make reading the test more of a chore than necessary. Don't create pages so ugly and uninviting that they turn readers off.

Finally, most experts believe that type set in full caps appears to be shouting at the reader. Why "shout" at test takers? Tests are intimidating enough on their own.

Examples

Example 1: This example speaks for itself. The answer is (c).

Poor:

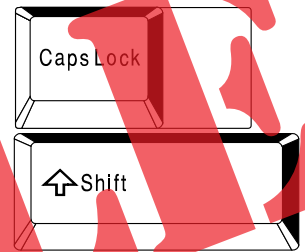
THE AMERICAN HEART ASSOCIATION (AHA) HAS IDENTIFIED THE MOST IMPORTANT FACTORS CONTRIBUTING TO THE SURVIVAL OF A CARDIAC ARREST AND CALLS THESE FACTORS THE "CHAIN OF SURVIVAL." WHICH OF THE FOLLOWING REPRESENTS ALL OF THE "LINKS" IN THE AHA'S CHAIN OF SURVIVAL?

- A. EARLY ACCESS, EARLY DEFIBRILLATION, EARLY OXYGEN, EARLY CPR, AND EARLY ADVANCED CARE.
- B. EARLY ACCESS, EARLY OXYGEN, EARLY NITROGLYCERIN ADMINISTRATION, EARLY ASPIRIN ADMINISTRATION, AND EARLY DEFIBRILLATION.
- C. EARLY ACCESS, EARLY CPR, EARLY DEFIBRILLATION, AND EARLY ADVANCED CARE.
- D. EARLY ACCESS, EARLY CPR, AND EARLY ADVANCED CARE.

The revised question is much easier to read and more inviting to look at. Note, too, that now the abbreviations AHA and CPR stand out from the rest of the text.

- Good:* The American Heart Association (AHA) has identified the most important factors contributing to the survival of a cardiac arrest and calls these factors the “Chain of Survival.” Which of the following represents all of the “links” in the AHA’s Chain of Survival?
- a. Early access, early defibrillation, early oxygen, early CPR, and early advanced care.
 - b. Early access, early oxygen, early nitroglycerin administration, early aspirin administration, and early defibrillation.
 - c. Early access, early CPR, early defibrillation, and early advanced care.
 - d. Early access, early CPR, and early advanced care.

Text set in full caps makes reading a chore. It makes the page look intimidating and uninviting.



Text set in full caps also appears to be shouting at the readers. Tests are stressful enough without you making them more intimidating.

Serif type is generally better for prolonged reading, because serifs help guide the reader's eye from one letter to the next.

Serif

**Sans
Serif**

Sans serif fonts are generally easier to read at very large sizes or very small sizes.

Use a Font That Is Easy to Read

Rationale

You may not think that font matters on a test, but it certainly can. First and foremost, consider readability. Don't choose a font that makes it more difficult for people to read the test. And don't skimp on type size just to save paper; don't make people struggle with small type. Second, don't choose a font that distracts people from the content of the test. The best font is one that goes unnoticed.

Type is grouped into two basic styles: *serif* and *sans serif*. *Serif* fonts have lines or curves projecting from the end of a letter, as in the top example in the sidebar. *Sans serif* fonts do not. Serifs help guide the reader's eye from one letter to the next. Therefore, serif type is considered better for prolonged reading. It is a good choice for a test.

Sans serif fonts, on the other hand, are generally thought to be easier to read at very large sizes or very small sizes. They work particularly well for headlines, where the type is generally larger than the rest of the text. They also work well for forms where the type is very small and space is limited. Sans serif fonts are less desirable on tests.

Beyond those basic considerations, there are many fonts to choose from. But again, the best font is one that goes unnoticed. It's not too fancy. It doesn't have a strong personality. It doesn't try to compete with the text for the readers' attention.

Finally, if you create a test by cutting and pasting from other tests, reformat the document if needed to put everything in the same font. Your test shouldn't look like a ransom note that has been pasted together from different sources.

Examples

Example 1: The two fonts used below (Helvetica and Bookman) are both attractive and easy to read. But the serifs in Bookman help carry the eye from one letter to the next, making it easier to read in large doses. (Bookman was used throughout this book.) The answer to these questions is (d).

Sans Serif: Pro bono work:

- a. Is legal service that attorneys offer free of charge.
- b. Helps create a positive image of the legal profession.
- c. Allows legal professionals to give back to the community.
- d. All of the above.

Serif: Pro bono work:

- a. Is legal service that attorneys offer free of charge.
- b. Helps create a positive image of the legal profession.
- c. Allows legal professionals to give back to the community.
- d. All of the above.

Example 2: Monospaced type (fonts that allot the same width to every letter) is more difficult to read than proportional type (fonts with width that varies for each letter). And Courier (used in the first question below) gives readers the impression that the document hasn't been updated in many years. The answer to these questions is (c).

Poor: To protect yourself at the scene of a hazardous materials incident, you should position yourself and others:

- a. Downhill and downwind
- b. Downhill and upwind
- c. Uphill and upwind
- d. Uphill and downwind

Avoid script or italic type that is better suited for party invitations. This font is Apple Chancery.

Poor: *To protect yourself at the scene of a hazardous materials incident, you should position yourself and others:*

- a. *Downhill and downwind*
- b. *Downhill and upwind*
- c. *Uphill and upwind*
- d. *Uphill and downwind*

Shown below are New Century Schoolbook and Times New Roman. Between the two fonts, New Century Schoolbook appears softer and rounder. Times New Roman appears sharper and more rigid. These are minor details that don't affect readability, but they do affect the aesthetics of a document. There is no right or wrong choice, and it's not about making the test look pretty. It's about choosing a font that's pleasing enough to go unnoticed so that people can concentrate on the test.

Good: To protect yourself at the scene of a hazardous materials incident, you should position yourself and others:

- a. Downhill and downwind
- b. Downhill and upwind
- c. Uphill and upwind
- d. Uphill and downwind

Good: To protect yourself at the scene of a hazardous materials incident, you should position yourself and others:

- a. Downhill and downwind
- b. Downhill and upwind
- c. Uphill and upwind
- d. Uphill and downwind

Notice also that all four questions on this page appear to be written in different sizes, yet they are all set in 9.5-point type. There can be considerable variation from one font to another. Be sure that whatever font you use, the type is large enough for test takers to read the text without straining. (The type for an actual test should be larger than the examples on this page.)

First and foremost, consider readability.

Don't choose a font that makes it more difficult for people to read the test.

Serif

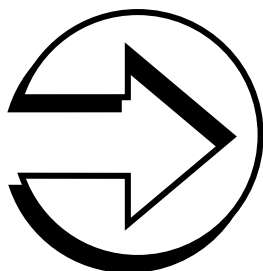
Sans

Serif

Don't choose a font that distracts people from the content of the test. The best font is one that goes unnoticed.

Avoid Alignment Distractions

Align your text for ease of reading.



It will benefit both you and the test takers.

Rationale

When your text is not aligned properly, it makes it more difficult for people to read the test, which becomes an annoyance that pulls people's attention away from the content.

Examples

Example 1: The first question below makes it more difficult for people to find the beginning of each potential answer. Obviously, it makes it harder to read the question. But it also increases the likelihood that test takers will circle something other than the correct answer of (c). And it makes it harder for you to see which answer they've chosen when you're correcting tests. So make it easy on yourself and the test takers by aligning the text for ease of reading.

Poor: One of your coworkers complains that he has chest pains and is not feeling well. The best way to check his breathing rate would be to:

- a. Tell him to breathe normally so you can check his breathing.
- b. Ask someone else to count his breaths while his attention is on something else.
- c. Check his breathing while you pretend to still be checking his pulse.
- d. Approximate the rate based on whether he is breathing faster or slower than normal.

Good: One of your coworkers complains that he has chest pains and is not feeling well. The best way to check his breathing rate would be to:

- a. Tell him to breathe normally so you can check his breathing.
- b. Ask someone else to count his breaths while his attention is on something else.
- c. Check his breathing while you pretend to still be checking his pulse.
- d. Approximate the rate based on whether he is breathing faster or slower than normal.

Use White Space Effectively

Rationale

White space is an important design element, critical to making the page look inviting and easy to read. Although you don't have to make a test look pretty, you should consider how the layout of your test helps or hurts the test taking experience. For example, if the page appears fatiguing or intimidating, it will distract test takers and rob them of energy. So leave generous margins around all edges of the test and enough space between questions to create a good visual separation.

Examples

Example 1: Leave plenty of room to write with fill-in and essay questions. Don't frustrate test takers by skimping on space. The expected answer to the question below is *undue burden or undue cost*. But even typewritten, it wouldn't fit into the stingy little space.

Poor: If electronically stored information cannot be produced without _____, it will be considered not reasonably accessible.

The first revision below is better, but it's still tight because of the way the page is formatted. In a wider format, it wouldn't be a problem.

Better: If electronically stored information cannot be produced without _____, it will be considered not reasonably accessible.

Sometimes rewording the question will enable you to put the blank at the end, giving test takers extra room to write.

Better: Electronically stored information will be considered not reasonably accessible if it cannot be produced without _____.

The best way to determine if there's enough room to write is to take the test yourself. Print it, and handwrite the answers. Write big, because some of your test takers will write big. If you have trouble squeezing in the answer, you'll know you didn't leave enough room to write. Go back and fix it, then repeat the process until you're satisfied that you've done a good job.

Some professional testing writers recommend making all fill-in blanks the same length to avoid giving hints. Whether you choose to give hints or not is up to you. But whatever you decide, leave enough room to write. That takes priority. And remember, it's a part of the critical white space that makes the page look inviting and easy to read.

Example 2: Don't split a question over two pages. It makes it more difficult for test takers to evaluate the questions and all of the potential answers. The answer to this question is (d) ... wherever it is.

Poor: A person experiencing a stroke should be positioned:

- Flat on his or her back.
- On his or her back with legs elevated.

White space is an important design element, critical to making the page look inviting and easy to read.



Leave plenty of room to write the answers to fill-in and essay questions.

Don't split a question over two pages. It makes it more difficult for people to evaluate the questions and all of the potential answers.



Create a pleasing appearance. If the page appears fatiguing or intimidating, it will distract test takers and rob them of energy.

- c. In a semi-reclining position.
- d. On the affected side (the weak or paralyzed side).
- e. On the unaffected side (opposite the weak or paralyzed side).

Good: A person experiencing a stroke should be positioned:

- a. Flat on his or her back.
- b. On his or her back with legs elevated.
- c. In a semi-reclining position.
- d. On the affected side (the weak or paralyzed side).
- e. On the unaffected side (opposite the weak or paralyzed side).

Example 3: You should normally use the default tracking in your software program. (Tracking is the amount of space between characters.) Some programs give users the option to adjust tracking, but doing so can create problems. If the tracking is so tight that the letters touch one another, the text will be difficult to read. Conversely, if the letters are spread too far apart, readers may have trouble recognizing individual words. They will quickly tire of having to work so hard to read. The answer to the questions below is (a).

Too Tight: What did the U.S. Supreme Court establish in the 1803 landmark case *Marbury v. Madison*?

- a. The power of judicial review.
- b. The broad reach of the commerce clause.
- c. The prohibition against ex post facto laws.
- d. The right of state governments to pass legislation that furthers the public interest.

Too Loose: What did the U.S. Supreme Court establish in the 1803 landmark case *Marbury v. Madison*?

- a. The power of judicial review.
- b. The broad reach of the commerce clause.
- c. The prohibition against ex post facto laws.
- d. The right of state governments to pass legislation that furthers the public interest.

Good: What did the U.S. Supreme Court establish in the 1803 landmark case *Marbury v. Madison*?

- a. The power of judicial review.
- b. The broad reach of the commerce clause.
- c. The prohibition against ex post facto laws.
- d. The right of state governments to pass legislation that furthers the public interest.

Example 4: Software programs often give users the ability to adjust leading too. Leading is the amount of vertical space between lines of text. The default setting is usually 120% of the type size. For example, the default for 10-point type is 12-point leading. If the leading is too tight, it will make the text harder to read and make the page look dark and intimidating. On the other hand, if there is too much space between the lines, readers may get lost as they move from one line to the next. The answer to these questions is (a).

Too Tight: Flash point is the:

- a. Minimum temperature at which a liquid produces enough vapor to form an ignitable mixture in air.
- b. Temperature at which enough vapors are given off to support continuous burning even after the source of ignition has been removed.
- c. Minimum temperature required to cause self-sustained combustion independent of an ignition source.
- d. Temperature at which vapor pressure of the substance is equal to or slightly greater than atmospheric pressure.

Too Loose: Flash point is the:

- a. Minimum temperature at which a liquid produces enough vapor to form an ignitable mixture in air.
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- c. Minimum temperature required to cause self-sustained combustion independent of an ignition source.
- d. Temperature at which vapor pressure of the substance is equal to or slightly greater than atmospheric pressure.

You should generally use the default tracking and leading.



If you adjust the tracking or leading, do so with care. If tracking or leading is too tight or too loose, it will make the text difficult to read.

SAMPLE

Chapter 6

Plan for Success

This last chapter is different from the others. It contains a few words of wisdom based largely on problems this author has observed through the years.

Most of the guidelines in this section are geared for instructors and the tests they write for their students. But some are also applicable to pre-employment and promotional tests.

This chapter contains a few words of wisdom to help you plan for success.



Most of the guidelines are geared for the classroom. But many are also applicable to pre-employment and promotional tests.

Consider raising the passing score if it's appropriate and you have the authority to do so.



If the passing score on a test is 70%, it means that a 30% error rate is acceptable. Would a 30% error rate be acceptable in the real world?

Raise the Bar

Raise the Passing Score ... if Appropriate

Instructors often have little control over what constitutes a passing score. It may be established by a state agency, a school, or other organization sponsoring the class. But if you have any control over this, consider raising the threshold.

It's not uncommon to see 70% as the cutoff between passing and failing. But is that appropriate? Perhaps in introductory classes. Maybe not in others.

Think about it. If the passing score on a test is 70%, it means that a 30% error rate is acceptable. Can firefighters and police officers afford to be wrong 30% of the time when lives are on the line? Can healthcare professionals afford to make mistakes on 30% of their patients? Do you want any professional who is taking care of you, your family, your home, your car, etc., to make errors up to 30% of the time?

Naturally, we make allowances for the fact that most tests do not represent the conditions under which people perform in the real world. In the real world, people may work as a team versus work solo. They may have the luxury of looking things up rather than having to rely on memory. They may not be racing the clock as they are in the classroom. And so forth. So a test may be more forgiving than the real world. But don't hesitate to raise the passing score if you have that option and feel it's appropriate for the subject matter.

Use Hands-On Testing When Possible

The closest this book came to addressing hands-on testing were a few guidelines about writing essay questions. Otherwise, hands-on testing was beyond the scope of this book. Not all classes lend themselves easily to hands-on testing. And, of course, it's more cumbersome for the instructor. But hands-on testing often does a better job of measuring what students have learned and what they are capable of doing. It also reinforces learning.

The following statistics, from *Fire Service Instructor*, 7th Edition, by the International Fire Service Training Association (IFSTA), help illustrate this point. Students retain far more when they are actively engaged in hands-on activities.

Learners Retain

- 10% of what they read
- 20% of what they hear
- 30% of what they see
- 50% of what they see and hear
- 70% of what they say
- 90% of what they say while they do something

Make Students Do Things Right

Practice doesn't make perfect. *Perfect* practice makes perfect. So the best way to ensure that students learn the material and master the skills—the best way you can fulfill your obligation to your students and to the people they will eventually serve—is to make students do things right.

This guideline applies more to hands-on training and writing assignments than to multiple-choice and true/false tests. But you can certainly have students redo any written test.

All too often, instructors will grade the students' performance in hands-on activities, highlight the things that were done well, review the things that were done incorrectly, and leave it at that. Students aren't required to go back and correct the errors.

Remember the statistics about learner retention on the previous page. If students are asked to demonstrate a skill, they are likely to remember their own performance better than they do your comments about it. Thus if they did something wrong, your spoken corrections won't be as deeply ingrained as their own muscle memory. If they do remember your words, they are more likely to leave the experience feeling a sense of failing or falling short rather than a sense of overcoming the obstacles and achieving success. Having students practice doing it right is important.

The same is true with a writing assignment. The time and energy spent doing the assignment will contribute more toward forming habits than your critique of the final product will. So if the assignment was done incorrectly, have students correct their errors.

In many ways, this mirrors what's expected in the real world. Employers don't normally tell their employees, "Don't worry about fixing your mistakes. This major error won't hurt anyone." Customers don't normally tell businesses, "I'm happy with your sloppy performance and the poor results you gave me." So why would you accept errors and sloppy performance in class? Additionally, when you set an expectation that students must correct their mistakes, it reinforces the importance of good customer service in the real world. In other words, you set a tone that we hope will carry forward and make a difference.

**Practice doesn't
make perfect.
Perfect practice
makes perfect.**



**With hands-on
tests, research
assignments,
and similar
performance-
based testing,
consider making
students correct
their errors.**

Review Tests Carefully

Make sure your tests are valid—that they measure what they are supposed to measure.



Start writing your test early enough that you can proof it several times with fresh eyes.

Make Sure Your Tests Are Valid, Fair, and Reliable

Make sure your tests are valid—that they measure what they are supposed to measure. It's beyond the scope of this book to cover test validation, *per se*, but if you've followed the guidelines throughout this book, you shouldn't have much trouble if your tests must be validated.

Although the emphasis in this book has been on tests used in the classroom setting, most of the guidelines also apply to pre-employment and promotional tests. But there are additional concerns in the employment setting. For example, a pre-employment test might need to be more generic to avoid discriminating against candidates who do not have prior knowledge of a specific subject area. Even still, the test questions should represent activities a person might have to do on the job. Reading comprehension, for example, is usually fair game, because reading comprehension is expected in most jobs.

It's not uncommon in promotional exams for candidates to be told that they are responsible for all of the material in the books on a lengthy reading list. And so they put their lives on hold for months to prepare for this exam. When the day of the test finally comes, they are confronted with a large number of questions about material they didn't expect to see on the test because it hardly seemed important compared to everything else they studied. Who is at fault? Not the candidates who spent months studying for this test. Rather, the fault lies with the test writers who failed to focus on the most important concepts for promotional candidates to know.

Make sure your tests are fair, meaning that they are free of potentially discriminatory or offensive content that could interfere with a test taker's ability to respond to the questions. Avoid terms that are sexist, as well as items that stereotype a specific gender or ethnic group.

Make sure your tests are reliable, meaning that the test results should be consistent over repeated trials. This will vary somewhat as conditions change. For example, a test should produce similar results when administered in classes taught by the same instructor. But if the instructors were different in two or more classes, the results may also vary.

Proof Your Test ... Several Times

Even the most careful writers make mistakes. It's a given. In fact, it's not uncommon for typos and other mistakes to go unnoticed for months or years. So start writing your test early enough that you can proof it several times with fresh eyes. (Start writing your test early enough to give it the time and attention it deserves. Writing good tests is time-consuming.)

If possible, have other people proof your test also, because other people will see things that you miss. And don't be afraid to ask test takers to note any problems they see as they're taking the exam. Use their input to improve it next time.

Check Your Facts

It's not uncommon to write questions that look accurate, only to have test takers find minor errors or identify exceptions that result in the questions having either no right answer or multiple correct answers. No matter how careful you are, if there's a gotcha in the question, some test taker is going to find it.

We're all going to make mistakes. It's part of being human. But there's a world of difference between being lazy and making an innocent mistake. You can't afford to be sloppy when test takers have a lot at stake, like a possible promotion, a certification, or successful completion of a course. Check your facts carefully. Make sure your questions are accurate.

Be as Diligent as You Expect Test Takers to Be

Naturally, your test should be well-written. It should be free of errors in spelling, grammar, punctuation, word choice, and so forth. Granted, even the best writers make mistakes, so test takers will forgive you if you're not perfect. But by all means, if you tell test takers that they will be graded on spelling, grammar, and punctuation on writing assignments, don't be careless in your own writing. That hurts your credibility.

If you give students a research assignment, do your own research first. Be informed enough to avoid leading students astray with a scenario that will raise more questions than answers. Anticipate the questions and problems that students will encounter so that you don't have to make up details on the fly. You might find yourself digging a deeper hole if you're reactive versus proactive.

Make Sure There Are No Surprises on the Test

There shouldn't be any surprises on the test. If test takers were told to study specific material to prepare for the test, questions should come from that material.

It's fair to test people on their ability to apply the concepts they learned in class to more challenging problems. For example, test takers may be given a question or an assignment that is more complex than anything they did in class. But it must be within the realm of what they should be able to do based on what they learned.

Tests should be designed to evaluate knowledge versus experience. Although test takers with experience in the field may find it easier to complete the test, experience shouldn't be a prerequisite to success.

Distribute Answers Evenly

On multiple-choice tests, it's best to have an even distribution of answers. In other words, if your questions all contain four choices, answers (a), (b), (c), and (d) should each be correct roughly 25% of the time.

This does not have to be exact. You can go as low as 20% on some and as high as 30% on others and still have a fairly even distribution. What you want to avoid is having test takers guess at answers based on how often (a), (b), (c), or (d) was correct throughout the rest of the exam.

You can't afford to be sloppy when test takers have a lot at stake, like a possible promotion, a certification, or successful completion of a course.



Check your facts carefully. Make sure your questions are accurate. Be every bit as diligent as you expect test takers to be.

Evaluate the test results. If test takers frequently miss particular questions, it may indicate that the questions are poorly written.



Conversely, if everyone answers particular questions correctly, those questions may not be challenging enough to measure anything of value.

On true/false tests, try to have a fairly even split. If test takers see that most of the answers are true, they'll know they stand a good chance of being correct if they guess true versus false. But be careful. As emphasized earlier in this book, it's easy to write bad questions when you're focused on trying to meet a quota for true/false questions that are false.

Evaluate Test Results

Some tests are notoriously challenging. And rightfully so. We don't want incompetent people working in professions where avoidable errors can have dire consequences. But neither do we want knowledgeable people penalized because of poorly written tests. If a large percentage of people are either failing the test or scoring poorly, chances are good that the problem is largely with the test, not with the test takers.

Evaluate the test results. Are test takers frequently missing particular questions? What answers are test takers choosing if they aren't choosing the correct one? Or in the case of fill-in and essay questions, what answers are test takers providing?

Once you see the test results, consider whether the problem is with the way the questions are written or whether the problem is external to the test. For example, in the classroom setting, perhaps the material wasn't adequately covered in the lectures.

At the other extreme, if every test taker answers a question correctly, it may indicate that the question isn't challenging enough. There's nothing inherently wrong with everyone getting questions right. However, if questions are too easy, they don't measure anything. So look at whether the questions measure what they are intended to measure.

Help Students Dispel Test Anxiety

Use Quizzes Throughout the Class

Students may complain about receiving quizzes throughout the class. And quizzes certainly take away from valuable lecture time. But quizzes are beneficial for several reasons:

- They distribute points throughout the class rather than making grades dependent on a final exam worth 100% of the grade.
- They force students to study throughout the class rather than cram at the end.
- They give you periodic feedback about how well students understand the material. If students are struggling with certain questions, you may need to present the information more clearly or rewrite test questions before the final exam.
- They give students a sense for how you write test questions.
- If you return the graded quizzes to students, students can use them to study for the final.

Don't hesitate to repeat some of the questions from the quizzes when you write the final. Don't overdo it, of course. But it's acceptable to repeat a handful of questions that cover the most important points, especially if you edit them so that they're not identical to the quiz questions.

Give Students Sample Test Questions Similar to the Ones on the Final Exam

Give students sample test questions similar to those they'll see on the final exam. (This is particularly important if you don't use quizzes throughout the class.) Textbooks often have review questions that don't adequately prepare students for the test. For example, they may be essay questions, but you plan to use multiple-choice and true/false questions instead. Students will be less nervous about the test when they have a feel for the type of questions you write and the level of difficulty they can expect.

Keep in mind that many students won't take the time to answer the review questions in a textbook. They may feel they've devoted enough time just reading the chapter. They may get frustrated if the author hasn't provided answers to the questions in the book. So don't expect review questions in the textbook to satisfy students. Provide sample questions that give them a feel for your own tests.

Give Students Helpful Study Guides or Assignments

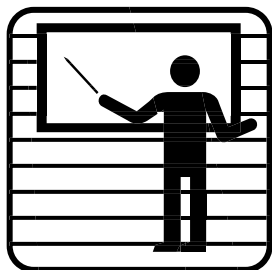
The amount of information in student textbooks is often overwhelming. And the more classes a student is taking, the worse it becomes. So consider giving students study guides or other handouts that help them identify what information you consider test-worthy.

Help students dispel test anxiety by using quizzes or giving them sample test questions so they know what to expect on the final exam.



Students are less anxious when they have a feel for the type of questions you write and the level of difficulty they can expect.

Show students how to work through difficult problems.



If students understand the problem-solving process, the problems themselves won't look so intimidating.

Another option is to give students assignments that force them to focus on material you expect to cover on the test. For example, rather than give them sample test questions, you might ask them to write a paper on a particular topic. Their own research will reinforce the key points.

Show Students How to Work Through Difficult Problems

Things that are second nature to you can be terribly intimidating to students. Consider the following question in a hazmat chemistry class. Some students will immediately be intimidated, because they can't name the four compounds. And if they can't name them, how will they ever determine which one is most likely to polymerize? The answer is (b).

Which of the following hazardous materials is most likely to polymerize?

- a. CH_3CN
- b. $\text{CH}_2\text{:CHCN}$
- c. $(\text{CH}_3)_3\text{N}$
- d. $\text{C}_6\text{H}_5\text{CH}_3(\text{NO}_2)_3$

This question may seem hopeless ... unless students understand that your goal is to help them recognize clues in a chemical formula. In this case, the colon (:) in answer (b) signals a double bond between the carbon atoms in acrylonitrile (vinyl cyanide). A double bond between carbon atoms is an unstable one, making the compound prone to polymerization. If students know just that much, they can pick the right answer. They don't need to name any of the compounds.

Solicit Test Questions from Your Students

It may sound odd to suggest soliciting test questions from your students. After all, it's *your* test and *your* job to write it. But soliciting test questions from students has several advantages.

From the students' perspective, it has the advantage of helping them study for the exam. It's impossible to write good test questions without paying attention to the material one thinks is important. It gives students some buy-in to the testing process. And if you make it an extra credit assignment, it's an opportunity for students to improve their grades.

It benefits you by spreading the work a little. Although you still have to review what students wrote, weed out the bad questions, and edit questions that need improvement, it gives you a test bank to start from. It also gives you a sense of what students think is important and can alert you to problems and misconceptions that you should address before the final. It's a win-win idea.

This same approach can be used when writing promotional tests. Instead of trying to write the test by yourself, consider soliciting sample questions from people who have already been promoted to the position. They have a good sense of what is important to know upon being promoted.

SAMPLE

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Jill Meryl Levy owns her own business called Firebelle Productions. She is an author and publisher, specializing in books on hazardous materials and more effective writing. She is also a paralegal, working for the Abronson Law Offices in Los Gatos, California.

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Jill was a volunteer firefighter for the Santa Clara County Fire Department in California for 28 years. In her spare time, Jill enjoys home construction, remodeling, sewing, quilting, and fencing (foil, épée, and saber).

Books by Jill Meryl Levy

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It's not all about the questions. Learn a few tidbits that can help both you and your test takers be successful.

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Writing good tests is not easy. It takes a lot of time, thought, and effort to write meaningful and challenging questions ... and to write them well. But people often have a lot at stake when they take tests. So you have an obligation to test takers—and to the people “downstream” from the test takers—to write good questions. This book can help you write quality tests for the benefit of all involved.

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