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# **Critical Reasoning**

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This book is dedicated to Veritas Prep's instructors, whose enthusiasm and experience have contributed mightily to our educational philosophy and our students' success.

It is also dedicated to the teachers who inspired Veritas Prep's instructors. The lesson that follows was only made possible by a lifelong love of learning and of undertaking educational challenges; we have teachers around the world to thank for that.

Finally and most importantly, this book is dedicated to our thousands of students, who have taught us more about teaching and learning than they will ever know. And to you, the reader, thank you for adding yourself to that group.

### **Personal Dedications**

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## TABLE OF CONTENTS

<b>LESSON PREVIEW .....</b>	<b>7</b>
<b>SKILLBUILDER .....</b>	<b>13</b>
<b>LESSON: INTRODUCTION TO CRITICAL REASONING.....</b>	<b>21</b>
Why Does the GMAT Test Critical Reasoning Skills?.....	22
Critical Reasoning and the Veritas Prep Pyramid .....	23
Critical Reasoning Deconstructed.....	24
<b>SECTION 1: CATEGORIZATION AND THE SWIM METHOD.....</b>	<b>25</b>
Sink or SWIM .....	25
Why Categorize? .....	26
SWIM Strategy .....	29
<b>SECTION 2: STRENGTHEN AND WEAKEN QUESTIONS.....</b>	<b>31</b>
Conclusion Is King .....	31
Mind the Gap .....	36
Common Logical Fallacies .....	41
Strategies for Strengthen and Weaken Questions Summary.....	49
<b>SECTION 3: INFERENCE QUESTIONS .....</b>	<b>51</b>
Must Be True.....	51
Focus on Scope .....	53
Inference Strategies Summary.....	55



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<b>SECTION 4: METHOD OF REASONING QUESTIONS.....</b>	<b>57</b>
Focus on Argument Structure.....	57
Roles in Boldface.....	59
Method of Reasoning Strategies Summary .....	61
<b>SECTION 5: SWIM SUBTYPES AND ADVANCED APPLICATIONS .....</b>	<b>63</b>
Plan/Strategy.....	64
Useful to Evaluate.....	67
Explain the Paradox.....	69
Assumption .....	71
Mimic the Reasoning.....	78
Strategies for SWIM Subtype and Advanced Applications Summary .....	81
<b>HOMEWORK PROBLEMS.....</b>	<b>83</b>
<b>ANSWER KEY.....</b>	<b>135</b>

### **CREATING** *Think Like the Testmaker*

Creating is the top of the pyramid in Bloom's Taxonomy. When you have completely mastered the GMAT, you are able to Think Like the Testmaker. You are on top of the pyramid looking down! You don't just have good content knowledge and lots of practice with GMAT problems; you understand how a problem has been made, what makes it hard, and how to break it down. When you Think Like the Testmaker you can:

1. Quickly recognize what the problem is actually asking,
2. Discover hidden information and manipulate it to make it useful,
3. Recognize and see through trap answers, and
4. Create your own plan of attack for any problem.



### **APPLYING** *Skills Meet Strategy*

What makes the GMAT difficult is not so much the underlying skills and concepts, but rather the way those skills and concepts are tested. On the GMAT, what you know is only as valuable as what you can do with that knowledge. The Veritas Prep curriculum emphasizes learning through challenging problems so that you can:

1. Learn how to combine skills and strategies to effectively solve any GMAT problem,
2. Most effectively utilize the classroom time you spend with a true GMAT expert, and
3. Stay focused and engaged, even after a long day in the office.



### **REMEMBERING** *Skillbuilder*

In order to test higher-level thinking skills, testmakers must have some underlying content from which to create problems. On the GMAT, this content is primarily:

- Math curriculum through the early high school level, and
- Basic grammar skills through the elementary school level.

To succeed on the GMAT you must have a thorough mastery of this content, but many students already have a relatively strong command of this material. For each content area, we have identified all core skills that simply require refreshing and/or memorizing and have put them in our *Skillbuilder* section. By doing this:

1. Students who need to thoroughly review or relearn these core skills can do so at their own pace, and
2. Students who already have a solid command of the underlying content will not become disengaged because of a tedious review of material they've already mastered.

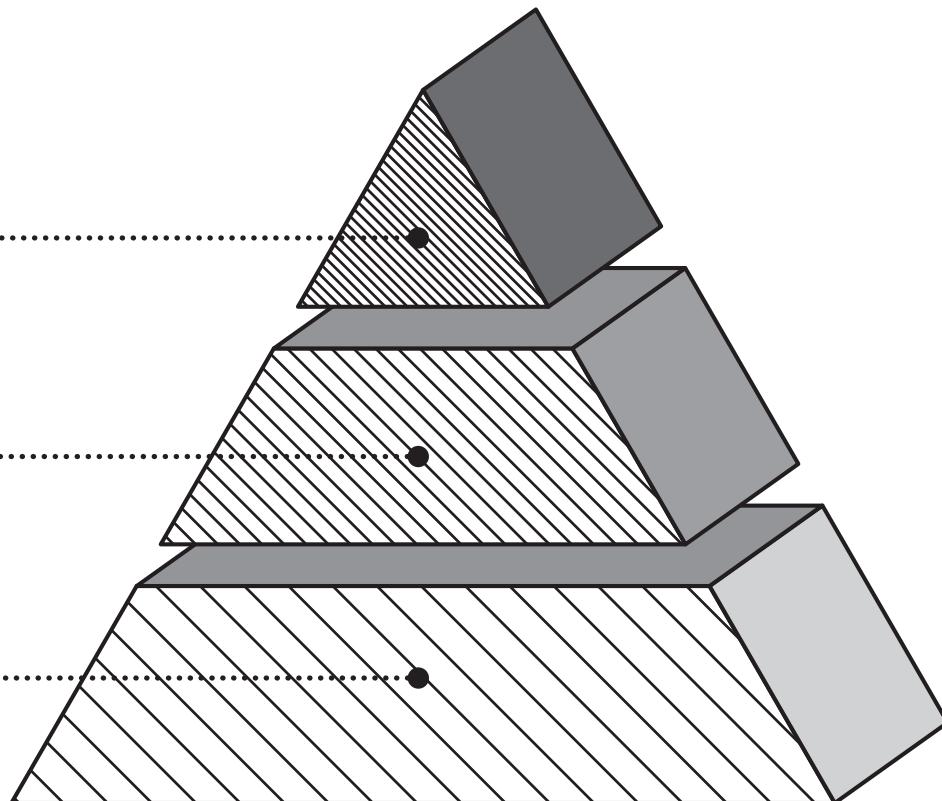




## PREVIEW

As you learned in the Foundations of GMAT Logic lesson, the educational philosophy at Veritas Prep is based on the multi-tiered **Bloom's Taxonomy of Educational Objectives**, which classifies different orders of thinking in terms of understanding and complexity.

To achieve a high score on the GMAT, it is essential that you understand the test from the top of the pyramid. On the pages that follow, you will learn specifically how to achieve that goal and how this lesson in particular relates to the **Veritas Prep Pyramid**.



## How This Book Is Structured

*Our Curriculum Is Designed to Maximize Your Time*

### The Veritas Prep Teaching Philosophy: Learning by Doing

Business schools have long featured the Case Method of education, providing students with real-world problems to solve by applying the frameworks they have studied. The Veritas Prep *Learning by Doing* method is similar. In class, you will spend your time applying skills and concepts to challenging GMAT problems, at the same time reviewing and better understanding core skills while focusing your attention on application and strategy. The Case Method in business school maximizes student engagement and develops higher-order thinking skills, because students must apply and create, not just remember. Similarly, the *Learning by Doing* philosophy maximizes the value of your study time, forcing you to engage with difficult questions and develop top-of-the-pyramid reasoning ability.

**An important note on *Learning by Doing*:** In business school, your goal with a business case is not to simply master the details of a particular company's historical situation, but rather to develop broader understanding of how to apply frameworks to real situations. In this course, you should be certain to reflect on each question not simply through that narrow lens (Did you answer correctly? What key word made the difference?), but rather as an example of larger GMAT strategy (How could the exam bait you with a similar trap? How deeply do you need to understand the content to solve this genre of problem more efficiently?).



As you learned in the Foundations of GMAT Logic lesson, there are important recurring themes that you will see in most GMAT problems:



## THINK LIKE THE TESTMAKER

- Abstraction
- Reverse Engineering
- Large or Awkward Numbers
- Exploiting Common Mistakes
- Selling the Wrong Answer and Hiding the Correct Answer
- Misdirection
- Content-Specific Themes

**REMEMBER:** Don't mistake activity for achievement!  
Focus on recurring themes, not just underlying content.



## SKILLS MEET STRATEGY

- Guiding Principles
- Problem-Solving Strategies
- Leveraging Assets

Each book in the Veritas Prep curriculum contains four distinct sections:

1. **Skillbuilder.** We strongly suggest that you **complete each Skillbuilder lesson before class** at your own pace, and return to the *Skillbuilder* when you recognize a content deficiency through practice tests and GMAT homework problem sets.

The *Skillbuilder* section will:

- Cover content that is **vital to your success on the GMAT**, but is best learned at your own pace outside the classroom.
- Allow you to **review and/or relearn** the skills, facts, formulas, and content of the GMAT. Each student will have his own set of skills that are “rusty” or even brand-new, and will find other items that come back quickly.
- **Vary in length** significantly for each book, based on the number of underlying concepts. (For instance, the Advanced Verbal lesson does not have a *Skillbuilder* because you are already building on the concepts introduced in three previous lessons.)

2. **Lesson.** The lessons are designed to provide students with maximum value added from an instructor by:

- Doing in-class problems together (*Learning by Doing*), and
- Analyzing those problems for the recurring takeaways.

With each problem, there will be a detailed explanation that will help you understand how the problem is testing a particular concept or series of concepts, what makes the problem hard, and what underlying skills are required to solve it.

When relevant, there will be particular boxes for *Think Like the Testmaker*, *Skills Meet Strategy*, and *Skillbuilder* when you should be focused on particular aspects of how the question is made or how the underlying content is being tested.

**NOTE:** When doing in-class and homework problems, you should **do your work below the problem**, and you **should not circle the answer** on the actual question (just note it on the bottom of the page). That way, if you want to redo problems, you can simply cover up your work and proceed as if you had never done it.



## PREVIEW

### How This Book Is Structured

PREVIEW

3. **You Oughta Know.** The *You Oughta Know* sections will round out each lesson and cover:

- Obscure topics that arise infrequently.
- More advanced topics that are not common on the GMAT but do get tested.

While these uncommon content areas do not warrant in-class time, we believe you should have some exposure to these topics before taking the GMAT. Therefore you should **complete these sections before moving to the homework problems.** As with the *Skillbuilders*, the length of these will vary depending on their importance.

4. **Homework Problems.** In many ways, the homework problems are **the most important part of each book.** After refreshing core content in the *Skillbuilder* and then applying that knowledge in the lesson, you must reinforce your understanding with more problems.

Each question is accompanied by a **detailed explanation** in your online student account, as well as a quick-reference answer key on the last page. A majority of questions are above the 50<sup>th</sup> percentile in difficulty, and they are arranged in approximate order of difficulty (easiest to most difficult). By completing all of the homework problems, you will learn all of the different iterations of how concepts and skills are tested on the GMAT.

Homework problems are designed to be challenging, so do not despair if you are answering questions incorrectly as you practice! Your goal should be to learn from every mistake. Students can miss a significant percentage of questions in each book and still score extremely high on the GMAT, provided that they learn from each problem. Embrace the challenge of hard problems and the notion that every mistake you make in practice is one that you will know to avoid on the GMAT when every question counts.





## SKILLBUILDER

True to their name, Critical Reasoning problems measure your ability to think critically. In large part, these questions ask you to read arguments and notice flaws or vulnerabilities within them, noting the potential for alternative explanations (other than the conclusion proffered) and counterarguments.

To sharpen your mind for the in-class Critical Reasoning lesson, this Skillbuilder section will take you through three important thought processes that we introduced in the Foundations of GMAT Logic lesson:

1. Separating arguments into context, premises, and conclusions.
2. Reading Critical Reasoning question stems to quickly understand your role within the argument.
3. Reading arguments critically, and finding flaws and assumptions embedded within them.

With these fundamental skills at your disposal, you can more comfortably and efficiently attack the Critical Reasoning problems that you will see later in the lesson.

### Finding the Conclusion

As you may remember from the Foundations of GMAT Logic Lesson, there are four major ways to find a conclusion in a Critical Reasoning argument:

1. Conclusion language (like "therefore," "thus," "in conclusion," etc.)
2. A call for action ("we should...," "they must...," etc.; note that these phrases sound natural with conclusion language in front of them ("therefore, we should...") and that these phrases should be dependent on some kind of premise)
3. Premise wording to set up a conclusion ("because of X, Y is true" → Y is the conclusion, based on X)
4. The "Why Test": If the argument gives a reason "why" for a statement, then it could be the conclusion. If it does not attempt to explain "why," then it must be a premise. Example: *Denzel Washington is in this movie, so I think you'll like it.* Why is Denzel in the movie? The argument doesn't explain, so that's just a premise. Why do I think you'll like it? Because Denzel is in it—so that statement has a reason "why" and would be the conclusion of that argument.

### Finding the Conclusion Drill

In the drill that follows, please identify the conclusion for each argument.

1. If the Association wants a mayor who will attract more businesses to the town, Cooper is the only candidate it could support. So, since the Association is supporting Cooper, it must have a goal of attracting more businesses to the town.
2. Businesses should never stop innovating if they plan to remain successful. Federtech has decided to return dividends to its shareholders instead of reinvesting its profits. It is likely, then, that Federtech will soon begin its decline in profitability.
3. Artwork is typically valuable because it is either pleasing to the eye or it is introspective about its subject. *The Kramer* is wholly displeasing to the eye, so it must be introspective about its subject. After all, it sold for an extremely high price.
4. Plymouth Township needs its own library. The increased commercial activity in the City of Plymouth has not only made parking near the city library difficult, but the traffic in downtown makes it dangerous for our precious children to ride their bikes to the library and enjoy the pleasure of reading a new book.
5. Over the past 20 years, salaries for law school graduates have drastically dropped while law school tuition has dramatically increased. It should be expected, accordingly, that the volume of applications to law school will soon drop significantly.

### Finding the Conclusion Drill Solutions

1. “So...it must have a goal of attracting more businesses to the town”—We know this because “So...must have” is conclusion language, and “since the Association is...” is premise wording that leads directly to this statement.
2. “Federtech will soon begin its decline”—This passes the Why Test (Why? Because it isn’t reinvesting in innovation), and the word “then” helps demonstrate that this statement depends on the others.
3. “...it must be introspective”—This statement leads with the conclusion language “so,” and passes the Why Test (Why? Because it doesn’t meet the other characteristic of valuable artwork, but we know it has value).



4. "Plymouth Township needs its own library"—This statement is a call for action, and passes the Why Test, as the other statements (difficult parking; dangerous for children) provide reasons for why this library is necessary.
5. "...the volume of applications to law school will soon drop"—The word "accordingly" exists as conclusion language, and this statement passes the Why Test (Why? Because the cost/benefit analysis is looking grim, so people will start deciding the other way).

### Critical Reasoning Question Stems

As you will learn in the lesson that follows, there are four major families of Critical Reasoning questions, and once you have identified the type of question (by reading the question stem first) you can more efficiently read the stimulus with an understanding of which components of the paragraph will be most important. These families are:

**S**trenthen: You are asked to strengthen an existing conclusion.

**W**eaken: You are asked to weaken an existing conclusion.

**I**nference: You are asked to draw a conclusion.

**M**ethod of Reasoning: You are asked to analyze the functions of statements within the argument.

To this point, you have become comfortable analyzing the role of statements within an argument (which is the conclusion; which are essential premises; which are merely context). As you can see in the list above, some questions (Strengthen and Weaken) will hinge directly on your ability to identify and work with a conclusion. Others (Inference) will not have a conclusion, but rather will call on you to draw one based on your reading of the premises. Accordingly, you should know before you begin reading which elements of an argument will be present as you read. In the drill that follows, please identify which type of question you are being asked, as your ability to do so will significantly enhance your ability to read each stimulus efficiently.

### Question Stem Drill

1. Which one of the following can be correctly inferred from the argument above?
2. Which of the following, if true, most helps to justify the author's conclusion?
3. On the basis of the statements above, which of the following must be true?
4. Which of the following, if true, most calls into question the validity of the author's argument?
5. From which one of the following does the conclusion logically follow?
6. The statements highlighted in **boldface** play which of the following roles?
7. The author's conclusion would be most threatened if which of the following were proven to be true?
8. The statements above best support which of the following?
9. Which one of the following proposals, if implemented together with the proposal made above, would improve the prospects for achieving the stated objective?
10. The conclusion above could not be true unless which of the following were also true?

Question Stem Drill Solutions: 1. Inference. 2. Strengthen. 3. Inference. 4. Weaken. 5. Strengthen. 6. Method. 7. Weaken. 8. Inference. (Note: The word "support" can be tricky; we'll cover this later in the lesson.) 9. Strengthen. 10. Strengthen.



## Reading Critically

As you can infer from the previous sections, your success on Critical Reasoning questions will come from your ability to read arguments critically. In Strengthen questions, you need to be able to identify and fill gaps in logic that exist in weak arguments. In Weaken questions, you need to identify and exploit those same gaps. In Inference questions, you will eliminate potential conclusions in answer choices that are not fully supported by the given premises. And many Method questions will ask you to determine the validity or weakness of the argument that you are asked to dissect.

In the drill that follows, please note at least one weakness in each argument that you see. You can weaken arguments by noting particular logical flaws or just by noticing that arguments leave room for an alternative explanation to override the conclusion. For your purposes here, make sure that you proceed with the mindset that each argument is weak, and turn on that critical part of your mind that will help you root out weaknesses.

### Reading Critically Drill

1. If an employer requires an employee to work overtime, that employer is obligated to pay one-and-one-half times the normal wage. But Erin's employer did not require that she work overtime; it was her choice. Therefore her employer is not obligated to pay her at the increased rate.
2. The fact that all five of the news networks declared candidate X the victor is proof that candidate X is, in fact, victorious. After all, it has never been the case that all five networks were wrong about an election outcome.
3. All evidence points to the fact that the Atacama Desert last received direct rainfall 23 million years ago, making it not only the driest place on earth, but also the oldest of all the deserts on earth. Curiously, recent discoveries point to the existence of lakes in a portion of the Atacama Desert as recently as ten thousand years ago. These recent discoveries must, however, be false since no lake can exist without sufficient rainfall.
4. The new High Speed Motors "Impresso" car is the best car ever made. Each one of the parts used on the car is the highest quality part available. Additionally the workers who assemble the car are the most skilled workers from around the world.

5. If the proposed tax cuts are pushed through the legislature this year, they will result in cuts to many vital programs, such as education, senior services, healthcare, and crime prevention. But most people strongly support these programs. Therefore, the proposed tax cuts will not be adopted by the legislature this year.
6. Allowing additional imports of steel from other countries would further reduce domestic steel prices and have a damaging impact on the remaining domestic steel manufacturers. The Trade Council always acts in the best interest of the manufacturing sector in order to preserve as many manufacturing jobs as possible. Therefore the Trade Council will not allow any increase in the volume of imported steel.
7. Each year the committee chooses the best work of art and purchases that work for display in the university library. For the last seven years the one thing that each work of art has had in common is size: All were over 4 feet tall. It is clear, therefore, that size is the main criteria that the committee uses in its selection.
8. Politician: "The president claims that the only way that the country can emerge from the economic downturn and regain its greatness is for the parties to compromise. However, this country is built on definite principles laid out in the Constitution: principles of freedom, justice, and equality. What the president is advocating, therefore, is the betrayal of everything that the founding fathers believed in."



### Reading Critically Drill Solutions

1. The flaw: If the presence of something triggers an outcome (required overtime means increased pay), that does not mean that the absence of that cause leads to the absence of the effect. It is still possible that laws or the policy of the employer require that all overtime work is compensated at time-and-a-half.
2. The flaw: The past is not the future. Because something has not occurred in the past is not proof that it cannot occur in the future. Of course it is unlikely that all five networks are wrong. However, the conclusion does not say that candidate X is "likely" victorious; it states that candidate X "is victorious."
3. The flaw: There are two pieces of evidence that do not work together. Either the Atacama has not had rainfall in over 23 million years or there were lakes in a portion of the Atacama only ten thousand years ago. One of these facts must be false, but there is nothing to indicate which one. The argument simply names the existence of the lakes as false, when that evidence could just as easily be true and the other fact mistaken.
4. The flaw: Just because something is true about part of a thing, does not mean it is true about the whole thing. Yes, the best parts are used and the best workman, but what if the design is terrible? Remember to think skeptically and critically when you read these arguments. The best parts do not guarantee the best car.
5. The flaw: Just because the tax cuts have an outcome that people do not support does not mean that the tax cuts will not be adopted. This flaw is more a practical flaw that we deal with on a daily basis. Just because most people support something does not mean that the powerful interests will allow it to happen. One way to weaken this argument would be to expose the flaw with an answer choice that said, "The legislature does not always act in a way that is consistent with the wishes of the majority."
6. The flaw: The conclusion assumes that more jobs would be lost in the steel industry than would be gained in other industries. Perhaps the importation of more cheap steel would help the car domestic industry. If this were an assumption question, we might make this gap in logic explicit and choose an answer that said, "More jobs will be lost in the steel industry due to the lower price of steel than will be gained in other types of manufacturing."

7. The flaw: Correlation does not equal causation. Just because the seven works have been over 4 feet tall does not mean that this characteristic is the reason the works were selected. It is possible that the committee is interested in other factors, such as how the art represents the university, and the winning entries just happened to be over 4 feet tall. If the conclusion were more limited—for example, “It seems that you can increase your odds of having your work selected if you make it at least 4 feet tall”—then it would be better supported since there is evidence that this has been the case.
8. The flaw: The flaw is a simple trick often used by disingenuous politicians. The word compromise has two distinct meanings. One meaning is to come together for a solution that is agreeable to all parties. This is a positive use of the word and the one that the president meant. The politician then inserts the other, negative definition of compromise: “giving up one’s core principles.” This trick enables the politician to seemingly use the president’s own words against her. If this were a Method of Reasoning question, the correct answer would describe the method of reasoning as “The politician alters the meaning of the president’s words to make them say something that was not intended.”



# LESSON

## Introduction to Critical Reasoning

For each of the GMAT question types, we have assigned a mantra for what the question type is really designed to assess. For Data Sufficiency, for example, it's "resource management," your ability to maximize the value of your resources, determine what is truly necessary to accomplish a task, and know when your assets aren't quite as valuable as meets the eye. For Sentence Correction, it's "decision points," your ability to sift through clutter to determine where you're most able to effect logical, positive change.

For Critical Reasoning, the question type is so aptly named that its theme is, simply, "critical reasoning":

- **Reasoning:** The questions are assigned to assess how *logically, efficiently, and effectively* you think, process information, and make decisions.
- **Critical:** The name of the game is to think *critically* and *skeptically*.
  1. Distrust arguments or plans that seem logical on the surface but have significant flaws,
  2. Try to anticipate information that might damage a conclusion, and
  3. Catch fallacies or assumptions that can doom your own thinking.

## Why Does the GMAT Test Critical Reasoning Skills?

If you've been around corporations, you've undoubtedly heard clichés and buzzwords such as *paradigm shift*, *think outside the box*, *yes men*, *groupthink*, and others. What's the common thread in this list? They refer to the need to avoid traditional flaws in thinking, to really analyze decisions, and to consider exceptions or threats to the conventional wisdom. Businesses are often hamstrung by reliance on conventional thinking (often done without actually thinking), so MBA programs seek candidates who will:

- Question the status quo, and
- Create better-reasoned strategies and processes.

After the global financial crisis, we can all agree that banks could have used more people skilled in critical reasoning to attack the generalization flaw in the argument that "home values have traditionally increased in value well beyond their mortgage rates, so we can safely lend even to risky borrowers."

Notice, too, that the evolution of the GMAT has become even more practical toward business, with more and more Critical Reasoning questions based on plans and strategies (much more on this later in the lesson), replacing some of the traditional premise/conclusion argument problems. Sound strategy requires critical reasoning, looking for flaws in logic and seemingly out-of-nowhere threats to effective outcomes. GMAT Critical Reasoning is designed to prepare your mind for the type of reasoning you will employ in business school and beyond, and to reward with admission those minds that are most up to the challenge.

In this lesson you will learn about multiple families of Critical Reasoning questions (Strengthen, Weaken, Inference, and Method of Reasoning), but to be truly effective with Critical Reasoning you should keep the "Weaken" mentality in mind on just about every question. The more critical you are when you read, the better you will do. And, admit it, you like to criticize; we all do.



## Critical Reasoning and the Veritas Prep Pyramid



### **"Core Skills" from Skillbuilder**

- Deconstructing Arguments
- Isolating Conclusions
- How to Categorize



### **"Skills Meet Strategy" Takeaways from the Lesson**

- Guiding Principles
- Learning by Doing



### **"Think Like the Testmaker" Takeaways from the Lesson**

- Selling the Wrong Answer and Hiding the Correct Answer
- Misdirection
- Abstraction
- Content-Specific Themes

## Critical Reasoning Deconstructed

Critical Reasoning accounts for 12 to 14 of the 41 questions on the verbal section of the GMAT.

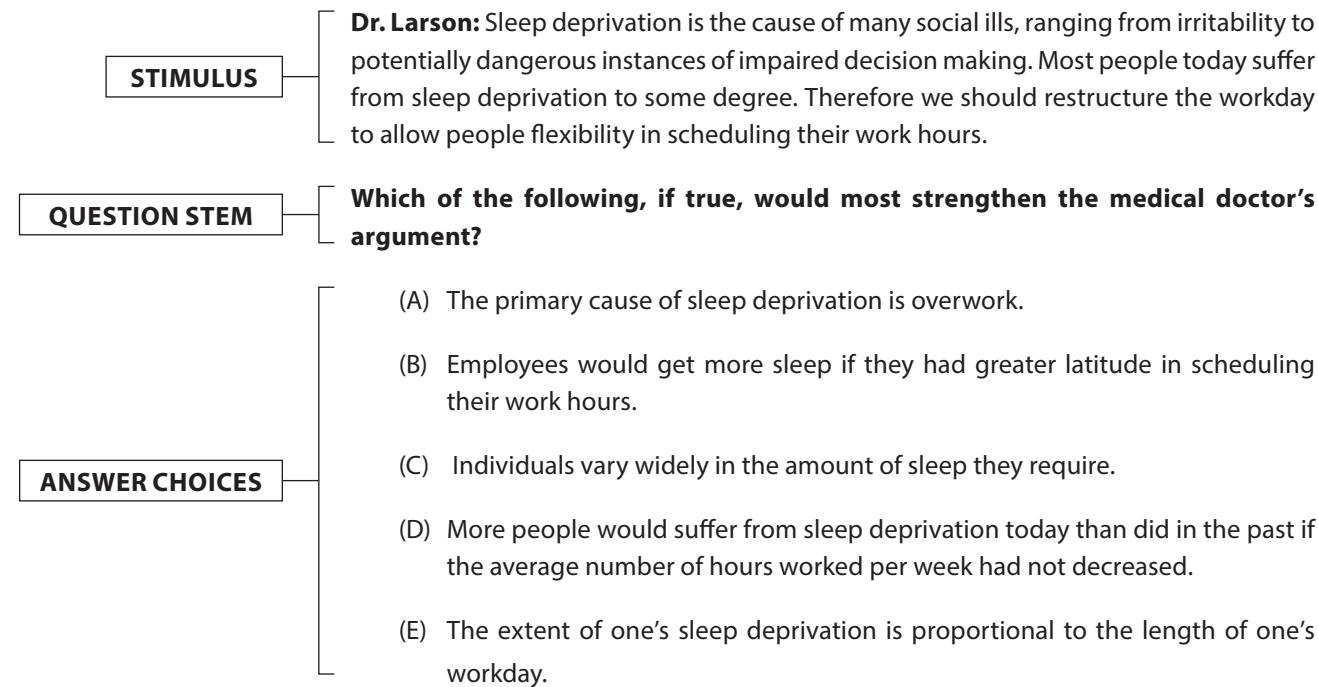
Typically, each question contains:

- A short passage of between 16 and 125 words (the **stimulus**),
- A **question stem**, and
- Five **answer choices**.

Questions appear in order of difficulty based on how well you are doing on the exam.

### Anatomy of a Critical Reasoning Problem

**Official Directions:** Analyze the situation on which each question is based, and then select the answer choice that is the most appropriate response to the question. No specialized knowledge of any particular field is required for answering the questions, and no knowledge of the terminologies and conventions of formal logic is presupposed.





## SECTION 1: CATEGORIZATION AND THE SWIM METHOD

### **Sink or SWIM**

To perform well on Critical Reasoning questions, you need to:

1. Properly identify the question category.
2. Apply the appropriate strategy based on the category.

You will identify question types by *reading the question stem first*, not the stimulus that precedes or follows it.

Over the years, testmakers have created dozens of different question stems, but through years of research Veritas Prep has determined that every Critical Reasoning GMAT question falls into one of four major categories. For each category, you will have a strategy to read, assess, and attack the problem.

For starters, let's address the four categories, which fit into the mnemonic device SWIM:

#### **(S) Strengthen**

Add new information to support an existing conclusion

#### **(W) Weaken**

Add new information that will undermine an existing conclusion

#### **(I) Inference**

Draw your own inference or conclusion

#### **(M) Method of Reasoning**

Analyze and either describe or mimic the line of reasoning

Once you have learned to identify the question stem by category, you can find the correct answer choice with speed and confidence.

## Why Categorize?

The SWIM acronym provides an ideal starting point to set your mind for reading the stimulus. Before you ever read the stimulus paragraph, even though it comes first, you should read the question stem and categorize the question. Why?

1. **SWIM is constructive.** Educational research supports the theory of constructivism, which suggests that our minds process new information by constructing it on top of some other known information. When you read something, your mind immediately attempts to link that knowledge to something else in your memory bank. **By categorizing, you will automatically link the stimulus you are reading back to previous problems; this will help you quickly deconstruct the argument and anticipate common traps and tricks hidden within the question at hand.** Because Critical Reasoning questions address so many different topics, SWIM allows you build on what you know and avoid getting lost in strange content that doesn't really matter.
2. **SWIM is instructive.** Each category comes with its own strategy for reading the passage and approaching the answer choices. **Reading and categorizing the question stem first will allow you to immediately approach new information with a strategy in mind and will tell you which portions of the paragraph are most important to you.** Often test-takers lament that the verbal section contains too much information, too many details, and too many opportunities to wear down mentally. There's a strategy for that: By knowing how to read each question efficiently and effectively, focusing solely on what you need to obtain a correct answer, you can conserve mental energy and save valuable time—and you will get many more correct answers as well!
3. **SWIM is habit-forming.** By becoming intimately familiar with the different question types, you will be more efficient and comfortable on test day. Try to remember the first time you rode a bike. Rest assured that it was not easy. Now it is something you take for granted—something you don't even think about when you do it! The same thing happens on the GMAT: **When your methods are clear and repeatable, then they soon become automatic.** For example, when you see that you have a Method of Reasoning question you know exactly what to do, so you are free to concentrate more fully on the particulars of this stimulus. Strong habits are one of the secrets of high GMAT scorers.

# 1

## SECTION 1: CATEGORIZATION AND THE SWIM METHOD

### Why Categorize



4. **If you don't SWIM, you may sink.** Without categorization techniques, you will make mistakes about what the question is really asking you to do. One of the more effective tools in the GMAT authors' toolkit is the cleverly worded question stem that, for instance, sounds like a Strengthen question at first glance but is really an Inference question. The following drill will illustrate this concept.

### Core Skills Review: Identifying Question Categories

Consider these question stems and determine whether each is asking you to:

1. Strengthen a conclusion that exists within a stimulus, or
  2. Draw your own conclusion based on the information in the stimulus.
- 
- **Which of the following best strengthens the argument made above?**
  - **Which of the following is a logical conclusion based on the information above?**
  - **Which of the following best supports the medical doctor's argument?**
  - **The information above supports which of the following?**
  - **The city official's response supports which of the following?**

Certain question stems take a few seconds of real thought to determine your next steps. During those few seconds, you're apt to lose track of the information in the stimulus, anyway. Categorizing will help you to firmly determine your objective **before** you begin to tackle the argument itself.

LESSON

### The SWIM Method

	Keyword Triggers	Answer Is	Focus On	Tips
<b>S</b>	<ul style="list-style-type: none"> <li>• <b>Strengthen</b></li> <li>• Justify</li> <li>• Explain</li> <li>• Assumption</li> </ul>	Premise	Conclusion (or Paradox or Plan)	<ul style="list-style-type: none"> <li>• New relevant info</li> <li>• Need not prove</li> <li>• Link premises to specific conclusion</li> </ul>
<b>W</b>	<ul style="list-style-type: none"> <li>• <b>Weaken</b></li> <li>• Undermine</li> <li>• Challenge</li> <li>• Cast doubt</li> <li>• Flaw in logic</li> </ul>	Premise	Conclusion, gap in logic	<ul style="list-style-type: none"> <li>• Reflect: how to criticize</li> <li>• Expose gap in logic</li> <li>• Need not disprove</li> </ul>
<b>I</b>	<ul style="list-style-type: none"> <li>• <b>Inference</b>/Conclusion</li> <li>• Must be true</li> </ul>	Conclusion	Premises in stimulus	<ul style="list-style-type: none"> <li>• Correct answer must be true</li> <li>• Others not necessarily true</li> </ul>
<b>M</b>	<ul style="list-style-type: none"> <li>• <b>Method</b> of Reasoning</li> <li>• Argument technique,</li> <li>• Flaw in logic</li> <li>• Discrepancy</li> <li>• Proceeds by</li> <li>• <b>Boldfaced</b> sentences</li> </ul>	Description of the author's logic	Description of the author's logic	<ul style="list-style-type: none"> <li>• Find accurate description of the logic (or flaw)</li> <li>• Eliminate answers inconsistent with stimulus</li> </ul>

**1****SECTION 1: CATEGORIZATION AND THE SWIM METHOD*****SWIM Strategy*****SWIM Strategy**

Critical Reasoning questions have three major components: a stimulus, a question stem, and five answer choices.

To read efficiently and effectively, you should plan to read the question stem first, so that you can adjust your focus through the stimulus accordingly. If you are asked to strengthen or weaken an argument, for example, you will want to pay particular attention to the conclusion and how the premises support it. If you are asked to draw an inference, you must supply a valid conclusion based upon the stimulus. Regardless, if you know your role within the argument before you read, you will be more personally invested and therefore reduce the probability of losing focus and needing to reread the question. Consider the following example:

1. It can safely be inferred that there are at least as many trees in Ithaca as there are in Tompkins. More trees were planted in Ithaca in the past two years than in Tompkins.

For which one of the following does the conclusion logically follow?

- (A) More trees were planted in Ithaca in the past two years than in Tompkins.
- (B) Ithaca is the region within which Tompkins is located.
- (C) Tompkins is suffering from an epidemic of tree-virus infection.
- (D) The average annual rainfall for Ithaca is greater than the average annual rainfall for Tompkins.
- (E) The average number of trees cut down annually in Tompkins is higher than in Ithaca.

**LEARNING BY DOING**Why Categorize?

In the previous problem, success depends mainly on the proper categorization of the question stem. If you read it quickly, you could easily assess it as an Inference question, but it is really a Strengthen question. What does a conclusion follow? Premises. So the question is asking for a missing premise. The conclusion in the stimulus is: "There are at least as many trees in Ithaca as in Tompkins." What premise would support this conclusion? If Tompkins is an area inside Ithaca, then it must be true that Ithaca has at least as many trees as Tompkins, so the answer is answer choice B.

**THINK LIKE THE TESTMAKER***Breaking Down Confusing Question Stems*

**NOTE** the subtle wording in the question stem that makes this problem difficult. The author of this question includes the word "conclusion" in the question stem to tempt you into thinking that you're drawing a conclusion, when really you need to strengthen a conclusion. Perhaps the trickiest question stem word of all is the word "support" and its derivatives (supports, supported, etc.).

As you saw in the previous drill, the word "supports" can be used in both a Strengthen capacity and an Inference capacity. As a general rule of thumb, think about the "direction of support":

If the answer choice supports the stimulus,  
then it's a Strengthen question.

Stimulus	.....
.....	
A. ....	
F. ....	B. ....
G. ....	C. ....
H. ....	D. ....
I. ....	E. ....



If the stimulus supports an answer choice,  
then it's an Inference question.

Stimulus	.....
.....	
A. ....	
B. ....	
C. ....	
D. ....	
E. ....	





## **SECTION 2: STRENGTHEN AND WEAKEN QUESTIONS**

### **Conclusion Is King**

Although they represent two different categories, Strengthen and Weaken questions require very similar thinking:

1. Read the question stem and identify the question category (SWIM).
  2. Find and understand the conclusion.
  3. Identify the supporting premises.
  4. Identify the logical “gaps” and/or common logical fallacies in the argument.
- 5a. **Strengthen questions:** Select an answer choice that will fill those logical gaps and correct any flaws, making the conclusion ***more likely to be true***.
- 5b. **Weaken questions:** Select an answer choice that will expose those logical gaps and create a flaw, making the conclusion ***less likely to be true***.

Remember: All arguments in Strengthen/Weaken questions have logical gaps! Your job is to read critically and isolate those flaws **before** going to the answer choices. Consider another example:

2. **Dr. Larson:** Sleep deprivation is the cause of many social ills, ranging from irritability to potentially dangerous instances of impaired decision making. Most people today suffer from sleep deprivation to some degree. Therefore we should restructure the workday to allow people flexibility in scheduling their work hours.

Which of the following, if true, would most strengthen the medical doctor's argument?

- (A) The primary cause of sleep deprivation is overwork.
- (B) Employees would get more sleep if they had greater latitude in scheduling their work hours.
- (C) Individuals vary widely in the amount of sleep they require.
- (D) More people would suffer from sleep deprivation today than did in the past if the average number of hours worked per week had not decreased.
- (E) The extent of one's sleep deprivation is proportional to the length of one's workday.

2

**SECTION 2: STRENGTHEN AND WEAKEN QUESTIONS**

*Conclusion Is King*



3. **Nate:** Recently a craze has developed for home juicers, \$300 machines that separate the pulp of fruits and vegetables from the juice they contain. Outrageous claims are being made about the benefits of these devices: Drinking the juice they produce is said to help one lose weight or acquire a clear complexion, to aid in digestion, and even to prevent cancer. But there is no indication that juice separated from the pulp of the fruit or vegetable has any properties that it does not have when unseparated. Save your money. If you want carrot juice, eat a carrot.

Which of the following, if true, most calls into question Nate's argument?

- (A) Most people find it much easier to consume a given quantity of nutrients in liquid form than to eat solid foods containing the same quantity of the same nutrients.
- (B) Drinking juice from home juicers is less healthy than is eating fruits and vegetables because such juice does not contain the fiber that is eaten if one consumes the entire fruit or vegetable.
- (C) To most people who would be tempted to buy a home juicer, \$300 would not be a major expense.
- (D) Nate was a member of a panel that extensively evaluated early prototypes of home juicers.
- (E) Vitamin pills that supposedly contain nutrients available elsewhere only in fruits and vegetables often contain a form of those compounds that cannot be as easily metabolized as the varieties found in fruits and vegetables.

LESSON

## LEARNING BY DOING

### *Focus on Conclusions*

In the Foundations of GMAT Logic Reasoning lesson, you learned the methods for finding conclusions:

- Conclusion Language
- Call for Action
- Premise Language
- The “Why?” Test

In the previous two examples, it is clear why you need to properly isolate the exact conclusion. **Identifying and specifically zoning in on the conclusion of a Strengthen or Weaken argument is the single most important thought process in Critical Reasoning.** In the first example, the conclusion states: “we should give people flexibility in scheduling their work hours.” Clearly, there is a large gap between the premises (which indicate that sleep deprivation is bad) and the conclusion (which suggests that to solve that problem you should give flexibility in scheduling). The correct answer must be something that bridges that gap, and answer choice B does that perfectly: If people would get more sleep with flexibility in scheduling, then the premises lead logically to the conclusion.

The second example is trickier because the conclusion is not as easy to find; there is no transition language to point it out. You must see that both “Save your money” and “If you want carrot juice, eat a carrot” are calls for action. The author’s conclusion is essentially “the juicer adds no value.” Since this is a Weaken question, you need to find something that shows how the juicer adds a value (in other words, a reason to buy the juicer). If people are much more likely to get the nutrients in juiced form, then the juicer does add value (convenience, in this case), and answer choice A thus weakens the author’s conclusion.



## SKILLS MEET STRATEGY

### *The Conclusion Is King*

Remember that on all Strengthen and Weaken questions, the conclusion is king. Correctly identify the conclusion on a question (and read it precisely!) and you’ll probably get it right; incorrectly identify the conclusion on any question and you’ll certainly get it wrong. When you identify a question stem as Strengthen or Weaken, you must both find and carefully read the conclusion before you move on to answer choices.

## 2

## SECTION 2: STRENGTHEN AND WEAKEN QUESTIONS

*Conclusion Is King*



### THINK LIKE THE TESTMAKER

*Misdirection*

It is important with Critical Reasoning questions to understand the “sucker” choices and even to anticipate what they will be. In the first example, the question addresses a topic where everyone has preconceived notions: When reading about sleep deprivation and work, you automatically think about how much you are working, not flexibility in scheduling. Therefore you are apt to read the first conclusion as “we should shorten the workday” and think that both answer choices A and E are relevant. In the second example, instead of writing the simple conclusion “don’t buy the juicer,” testmakers write “save your money” in order to get you thinking about money. The argument is not “don’t buy the juicer because they are expensive” but rather “don’t buy the juicer because there are no health benefits.” However, your mind is apt to treat this argument as “not buying a juicer will help you save money,” and then you would likely pick incorrect answer choice C. **The writers of the GMAT know that people have a tendency to gloss over details and see what we expect or want to see.** As the famous e-mail forward goes: that is why you can read this sentence without much trouble. Don’t hijack conclusions. **Read them exactly as they are and beware of clever misdirection.**

### THINK LIKE THE TESTMAKER

*Don’t Confuse Strengthen Answers with Weaken Answers (or vice versa)*

On almost every Weaken question, at least one of the incorrect answer choices strengthens the conclusion, and on almost every Strengthen question, at least one of the incorrect answer choices weakens the conclusion. This is particularly true on problems like the question about the juicer in which the conclusion is negatively worded. Since the conclusion is essentially “don’t buy the juicer” and you are asked to weaken that conclusion, it is a bit confusing. Get rid of the double negative and realize that to weaken the question, you are looking for a reason to buy the juicer! As you can see, answer choice B strengthens the argument, as testmakers know that people will be confused with the negation. **On all Strengthen and Weaken questions, particularly those with negation, beware of the incorrect answer choice that does the opposite of what the question stem is really asking for.**

LESSON

## Mind the Gap

In the Foundations of GMAT Logic lesson, you learned how to isolate premises and conclusions and to anticipate gaps in logic. For Strengthen questions, in particular, this skill of anticipation is important for several reasons:

1. It makes you more confident in isolating the correct answer.
2. It makes you less likely to be baited by incorrect answers.

What are gaps in logic? Let's review briefly with an example from the Foundations lesson:

**Major Premise: All men are mortal.**

**Minor Premise: Socrates is a dog.**

**Conclusion: Therefore, Socrates is mortal.**

In the example above, the gap is clearly between the two premises. The second premise is not logically connected to the first, so the argument is flawed. If you fill that gap with an additional premise ("What is true for men is true for dogs") then the argument becomes valid.

Consider a simplified version of a previous problem:

**Major Premise: Sleep deprivation is bad and should be avoided.**

**Minor Premise: Most people suffer from sleep deprivation.**

**Conclusion: We should restructure the workday so people have flexibility in scheduling their hours.**

Here, the two premises are logically linked to each other, but the gap lies between the premises and the conclusion. The conclusion needs to be some call to action that will guarantee more sleep, and this one does not. This gap is filled by the premise: "If you give people flexibility, they will sleep more."

For both of these examples, you should be able to anticipate the gap in logic. On actual GMAT questions, the same holds true. For the majority of moderate Strengthen and Weaken questions, you can anticipate the correct answer by isolating gaps in logic (or, as you will see shortly, common logical fallacies). While the correct answer will rarely be the exact problem or gap you have isolated, it will relate to it somehow. **The bottom line on Strengthen and Weaken questions is this: Be proactive.** Most test-takers are far too passive on Weaken and Strengthen questions. To highlight the importance of these strategies, consider two examples on the following pages:

**2****SECTION 2: STRENGTHEN AND WEAKEN QUESTIONS***Mind the Gap*

4. Opponents of peat harvesting in this country argue that it would alter the ecological balance of our peat-rich wetlands and that, as a direct consequence of this, much of the country's water supply would be threatened with contamination. But this cannot be true, for in Ireland, where peat has been harvested for centuries, the water supply is not contaminated. We can safely proceed with the harvesting of peat.

Which one of the following, if true, most strengthens the argument?

- (A) Over hundreds of years, the ecological balance of all areas changes slowly but significantly, sometimes to the advantage of certain flora and fauna.
- (B) The original ecology of the peat-harvesting areas of Ireland was virtually identical to that of the undisturbed wetlands of this country.
- (C) The activities of the other industries in coming years are likely to have adverse effects on the water supply of this country.
- (D) The peat resources of this country are far larger than those of some countries that successfully harvest peat.
- (E) The peat-harvesting industry of Ireland has been able to supply most of that country's fuel for generations.

LESSON

**LEARNING BY DOING***Anticipate*

The logical gap in the previous question should come fairly naturally to you: How can you make a decision about the future of our ecosystem based solely on what happened to Ireland's if you don't know that the two situations are analogous? If the question used Antarctica instead of Ireland, the gap would seem even that much clearer.

If you noticed that gap, you probably anticipated the correct answer to this Strengthen question. You need to fill that gap between the premise (peat harvesting was okay in Ireland) and the conclusion (so you can safely do it here) by showing somehow that the U.S. and Ireland are the same. Answer choice B does that perfectly.

**SKILLS MEET STRATEGY***On Strengthen and Weaken Questions, Be Proactive*

One of the core guiding strategies used by good test-takers on Critical Reasoning questions is to be proactive and anticipate the correct answer. While this does not work for Inference questions (as you will learn; however, you can often anticipate the *incorrect* answers on those), it is an essential strategy for Strengthen and Weaken questions. Obviously, if the gap or logical fallacy does not come to you quickly, then you must use the answer choices to determine which one actually weakens or strengthens the conclusion. However, as you will see clearly from the next question, incorrect answer choices will pollute your mind and get you focused on the wrong thing. Whenever possible on Strengthen and Weaken questions, proactively anticipate the correct answer. Your accuracy rate and speed will increase dramatically.

**(2)****SECTION 2: STRENGTHEN AND WEAKEN QUESTIONS***Mind the Gap*

5. Numerous ancient Mayan cities have been discovered in the Yucatan peninsula in recent decades. The ruins lack any evidence of destruction by invading forces, internal revolts, or disease, and appear simply to have been abandoned. Some archaeologists have theorized that the cities were abandoned due to a severe drought known to have occurred in the region between 800 and 1000 AD.

Which of the following, if true, most strongly supports the archaeologists' theory?

- (A) Ample archaeological evidence of Mayan peasant revolts and city-state warfare exists, but such events could never result in the permanent abandonment of cities.
- (B) No monumental inscriptions created after 900 AD have been found in these cities, but inscriptions dating before that time have been found in abundance.
- (C) Studies of Yucatan lake sediment cores provide conclusive evidence that a prolonged drought occurred in the region from 800 to 1000 AD.
- (D) Climatic studies have documented cycles of intermittent drought in the Yucatan peninsula dating from the present to at least 7,000 years ago.
- (E) The Mayan city Uxmal was continuously inhabited from 500 to 1550 AD.

LESSON

**LEARNING BY DOING***Incorrect Answer Choices Pollute Your Brain*

If you had anticipated a problem or gap in the previous argument before going to the answer choices, it would *not* have been “We don’t know if the drought occurred.” The argument specifically tells you that the **drought was known to have occurred**. However, the argument *is* lacking one very important piece of information. The argument states that a drought occurred between 800 AD and 1000 AD, and concludes that this drought must have caused the disappearance of the Maya. However, absolutely no evidence is given that the Maya actually disappeared during the time of the drought. Answer choice B gives you exactly that missing piece of information and is thus correct. Almost any person who is new to critical reasoning makes the mistake of picking answer choice C on this problem because it seems to be important. Had you considered the argument before moving to answer choices, it is unlikely you would have made this mistake.

**THINK LIKE THE TESTMAKER**

*Make Sure It’s New Information*

**If an answer choice on a Strengthen or a Weaken question simply repackages a premise that was already given, it is never the correct answer.** The goal with Strengthen questions is to improve the quality of the argument, and the goal with Weaken questions is to lower the quality of the argument. Clearly, if one of the answer choices is simply rephrasing a premise that already exists in the argument, it cannot achieve this goal. Repackaged premises are a common trick used by testmakers on Weaken and Strengthen questions.

**NOTE:** As you will learn in the section on Inference questions, a repackaged piece of information will be correct on that question type, because the goal with Inference questions is to pick something that must be true based upon what you have read in the stimulus. For instance, if you learn that Bill is 65 years old in the stimulus of an Inference question, if an answer choice says Bill is over 50 years old, then it would be correct as it *must be true*. On a Strengthen question, that would necessarily be a sucker choice as it is not giving new information.



## Common Logical Fallacies

In addition to minding the gap on Strengthen and Weaken questions, it is important that you become proficient at recognizing common logical fallacies used in Critical Reasoning questions. The faster you are able to recognize these flaws, the faster you can hone in on an answer choice that corrects the problem (Strengthen) or exposes it (Weaken). The three most important logical fallacies on the GMAT are mistaking correlation for causation, generalization, and data and statistical flaws.

### Mistaking Correlation for Causation

Without question, the most common fallacy you will see on GMAT Critical Reasoning questions is mistaking correlation for causation. Consider the following argument:

**Last year researchers in California found that 95% of people with chronic fatigue syndrome (CFS)—a debilitating illness with no known cause—were infected with a rare virus not seen in the general population. Therefore, this virus must be the cause of chronic fatigue syndrome.**

In this argument, the rare virus and CFS are strongly correlated with each other. However, you do not know if one is causing the other. It is certainly possible that the virus is causing CFS, but the following scenario is just as likely: Something else causes CFS, CFS decimates the patient's immune system, and then an opportunistic virus infects the patient. In other words, CFS is really causing infection by the virus, not the other way around. If you were asked to strengthen this argument, then you would want to know that the virus was present at the onset of the illness, as that would increase the likelihood (but not prove) that it is causing CFS.

**NOTE:** Do not assume causation when you note that two things are correlated.

With Critical Reasoning, it is essential to always consider alternative explanations. While not exactly the same fallacy, consider the following statement:

**It is dark outside, so it must be nighttime.**

Here, the fact that it is dark outside is a premise, leading to the conclusion that "it must be nighttime." But what are alternative explanations? It could be a solar eclipse; it could be wintertime in the Arctic Circle. While the conclusion is likely true, the existence of alternate explanations provides room for a Weaken answer choice. In both this example, and the true "correlation vs. causation" example above, the key to success is recognizing the possibility for alternative explanations or alternative causes.

### Generalization

This is a much easier logical fallacy to understand than the previous one. In an argument, you are not allowed to make broad, sweeping conclusions from isolated examples. Consider the following example:

**John visits his friend Steve in Brooklyn and has to take the F train into Manhattan on his first day visiting. John waits for the train for over an hour and concludes angrily: "The F train is always late."**

Clearly, you cannot make such a broad conclusion from only one instance. In fact, that conclusion would only be valid if proof was given that every F train in the history of the subway system has been late—clearly an impossible thing to prove! In most cases of generalization there are two simple ways to improve the flaw:

1. Give more examples, or
2. Show that the one example is typical of most examples.

It is important to note, however, that isolated instances can often be sufficient to confirm negatively worded conclusions. Consider a similar example to the one above:

**John visits his friend Steve in Brooklyn and has to take the F train into Manhattan on his first day visiting. The train comes immediately after John arrives on the platform and he declares happily: "The F train is not always late."**

Here the argument is valid because the one instance has proved that the F train is not always late.

**NOTE:** Beware of broad conclusions that are based on isolated cases, but understand that individual examples can sometimes be sufficient to prove seemingly broad conclusions.



### Data and Statistical Flaws

This is a broad category that we will cover in much more detail in the Advanced Verbal Strategy lesson. Know this about statistics and data on Critical Reasoning questions: If statistics and/or data are present, you can almost be sure that they are being used improperly. Consider a simple example of a data flaw:

**In the last decade, the number of violent crimes has increased substantially in City X. Therefore, City X should hire more police officers and put a greater emphasis on law enforcement.**

In an example such as this, absolute number data is meaningless. Imagine if the population has doubled in City X during the past decade. The number of violent crimes could have increased substantially, but the number of violent crimes per capita could have decreased dramatically. Here, percentage data is required, and a conclusion such as this could never be properly based on absolute number data.

**NOTE:** When statistics or data are present, make sure that the conclusion logically follows from that information.

## Common Logical Fallacies Summary

On Strengthen and Weaken questions, you are often correcting or exposing one of these common logical fallacies. It is important that you become proficient at recognizing these flaws and that you understand how to correct them:

- For errors relating to correlation and causation, **do not mistake correlation for causation**, and always consider alternative explanations.
- For errors of generalization, **be wary of broad conclusions based on isolated instances**, and understand that generalization can be improved with more examples or by showing that one example is typical of most.
- For errors relating to data and statistics, **always be suspicious of conclusions based on seemingly appropriate data**. Make sure that the data being used properly support the conclusion given.

**(2)****SECTION 2: STRENGTHEN AND WEAKEN QUESTIONS***Common Logical Fallacies*

6. Researchers have found that people who drink five or more cups of coffee a day have a risk of heart disease 2.5 times the average after corrections are made for age and smoking habits. Members of the research team say that, on the basis of their findings, they now limit their own daily coffee intake to two cups.

Which of the following, if true, indicates that the researchers' precaution might not have the result of decreasing their risk of heart disease?

- (A) The study found that for people who drank three or more cups of coffee daily, the additional risk of heart disease increased with each extra daily cup.
- (B) Per capita coffee consumption has been declining over the past 20 years because of the increasing popularity of soft drinks and because of health worries.
- (C) The study did not collect information that would show whether variations in the level of coffee consumption are directly related to variations in level of stress, a major causal factor in heart disease.
- (D) Subsequent studies have consistently shown that heavy smokers consume coffee at about three times the rate of nonsmokers.
- (E) Subsequent studies have shown that heavy coffee consumption tends to cause an elevated blood-cholesterol level, an immediate indicator of increased risk of heart disease.

**LEARNING BY DOING***Correlation Versus Causation*

The argument in this problem suffers from the most common of the logical fallacies: mistaking correlation for causation. The researchers note that people who drink more than five cups of coffee a day are much more likely to suffer from heart disease than those who drink less. But does that necessarily mean that the coffee is causing the heart disease? No! Perhaps people who drink five or more cups of coffee are just generally unhealthy people; maybe they don't sleep enough or maybe they are under enormous stress. The coffee might just be an indicator of a person who is more likely to suffer from heart disease, not the underlying cause. Answer choice C clearly identifies this fallacy and indicates that reducing the amount of coffee that you drink might do nothing to reduce your risk of heart disease.

**SKILLS MEET STRATEGY***Focus on Alternative Explanations*

One of the most important thought processes on Strengthen and Weaken questions is to consider alternative explanations for a particular conclusion.

**In any Critical Reasoning question in which a cause is given or suggested for some conclusion or outcome, your job is to question that explanation.** If you always think about what else might explain the result other than the given cause, you will become expert at exposing flaws relating to correlation and causation.

**THINK LIKE THE TESTMAKER***Don't Pick the Repackaged Premise*

As you have seen, it is essential that you do not accidentally pick an answer choice that is really just a repackaged premise. On this problem it is particularly tricky. You might read the stimulus, properly isolate the logical fallacy relating to causation and correlation, and then pick answer choice D, thinking that it is the smoking that is really causing the increased risk, not the coffee. This would be a correct answer except that the study "corrected for smoking habits," so the information in answer choice D has already been accounted for in the argument. Always make sure that what you are providing as a correct answer choice provides new information on Strengthen and Weaken questions.

**(2)****SECTION 2: STRENGTHEN AND WEAKEN QUESTIONS***Common Logical Fallacies*

7. **Alonso:** The introduction of a new drug into the marketplace should be contingent upon our having a good understanding of its social impact. However, the social impact of the newly marketed antihistamine is far from clear. It is obvious, then, that there should be a general reduction in the pace of bringing to the marketplace new drugs that are now being created.

Which one of the following, if true, most strengthens the argument?

- (A) The social impact of the new antihistamine is much better understood than that of most new drugs being tested.
- (B) The social impact of some of the new drugs being tested is poorly understood.
- (C) The economic success of some drugs is inversely proportional to how well we understand their social impact.
- (D) The new antihistamine is chemically similar to some of the new drugs being tested.
- (E) The new antihistamine should be next on the market only if most new drugs being tested should be on the market also.

## LEARNING BY DOING

### *Generalization*

The argument in this problem contains a glaring case of another common logical fallacy: generalization. Simplified into syllogism structure, the argument reads as follows:

**Major Premise:** Drugs should not be brought to market if their social understanding is poor.

**Minor Premise:** The social understanding of one drug is poor.

**Conclusion:** We should stop bringing all drugs to the market.

This broad, sweeping conclusion is based on one isolated instance, so clearly the argument is quite weak. What is a great way to improve generalization? Show that the one example is typical of most. Answer choice A does exactly that, showing that most drugs being brought to marketplace are worse than the antihistamine and thus greatly strengthening the argument.



### THINK LIKE THE TESTMAKER

*Hiding the Correct Answer and Selling the Wrong Answer with Wordplay*

If answer choice A so strongly improves this argument, why do so few people pick it? Because the wording is quite tricky, and most people miss what it is really saying: Most drugs are worse than the one antihistamine, which itself is poorly understood. Instead they read at as “most drugs are better than the antihistamine” and that statement would clearly not strengthen the argument. Answer choice B, on the other hand, appears to strengthen the argument by giving more examples. However, answer choice B does not necessarily strengthen the argument, because the word “some” is too ambiguous. “Some” could mean only one drug, in which case it would not be new information and thus would not improve the argument. Answer choice B relies on a misinterpretation of the word some, a common mistake of many test-takers.



## Strategies for Strengthen and Weaken Questions Summary

Strengthen and Weaken questions typically make up over half of the Critical Reasoning questions that you will see on the GMAT. Therefore it is important that you are familiar with the important strategies summarized below:

- **Properly categorize the question** using the question stem, making particularly sure that you do not confuse a Strengthen question with an Inference question.
- After deciding that the question type is Strengthen or Weaken, read the argument carefully and isolate the conclusion. **Note any gaps or common logical fallacies within the argument.**
- Make sure that you are very specific with the conclusion. The correct answer must strengthen or weaken the exact conclusion, not what you think the conclusion is about! **Be careful not to “hijack” the conclusion.**
- If it is a Strengthen question, consider what piece of information would fill the gap or remove any flaw within the argument. If it is a Weaken question, consider what piece of information would expose or create a flaw within the existing argument.
- After you have read the argument, carefully isolated the exact conclusion, and tried to anticipate the correct answer, look at each answer choice. Pick the one that provides a *new* piece of information (**do not pick a “repackaged premise” from the original argument**) that either strengthens or weakens the conclusion.
- Remember that on almost every Strengthen question, at least one of the answer choices will instead weaken the conclusion, and on almost every Weaken question, at least one of the answer choices will instead strengthen the conclusion. This is particularly true when there is confusing negation in the argument. **Make sure you are picking the answer choice that follows the goal of the question stem.**





## SECTION 3: INFERENCE QUESTIONS

### Must Be True

While you can often predict a close replica of the correct answer choice in a Strengthen or Weaken question, Inference questions are much more an exercise in process of elimination. The standard for a correct Inference answer is that it *must be true*. That means that an incorrect answer is *not necessarily true*—or, in other words, an incorrect answer *could be false*.

“Must be true” is a high standard of proof. Words like “all,” “only,” “and,” etc. are quite limiting, so pay attention to the parameters of each answer choice. If you can find an opportunity for even part of the conclusion to be false, that is your opportunity to eliminate it and move on. Consider an example:

8. If Shero wins the election, McGuinness will be appointed head of the planning commission. But Stauning is more qualified to head it since he is an architect who has been on the planning commission for 15 years. Unless the polls are grossly inaccurate, Shero will win.

Which one of the following can be properly inferred from the information above?

- (A) If the polls are grossly inaccurate, someone more qualified than McGuinness will be appointed head of the planning commission.
- (B) McGuinness will be appointed head of the planning commission only if the polls are a good indication of how the election will turn out.
- (C) Either Shero will win the election or Stauning will be appointed head of the planning commission.
- (D) McGuinness is not an architect and has not been on the planning commission for 15 years or more.
- (E) If the polls are a good indication of how the election will turn out, someone less qualified than Stauning will be appointed head of the planning commission.

## LEARNING BY DOING

### *Inferences Must Be True*

This question provides an excellent illustration of the “must be true” Inference question standard. While the facts do show that Shero, if elected, will appoint a less-qualified planning commissioner, McGuinness, there is nothing explicit that says Stauning would even be considered under any other regime. You may think that Shero is the only person who would appoint McGuinness, but there is no evidence given for that. The only thing we know here is that a Shero win means that McGuinness, a lesser planning commissioner than Stauning, will be appointed. So while options like answer choice A (if Shero loses, a better commissioner will be appointed) and answer choice B (Shero is McGuinness’s only hope to get the job) may seem probable, they are not necessarily true.

On a question like this, you can eliminate incorrect answer choices by proposing hypotheticals that are consistent with the facts but undermine the answer choice. To eliminate answer choices A, B, and C here the hypothetical “for some reason, anyone who wins will select McGuinness” undercuts all of those answer choices. Only answer choice E is necessarily true.



### SKILLS MEET STRATEGY

*On Inference Questions, Stay Within the Boundaries of the Stimulus*

The biggest mistake that people make on Inference questions is that they go outside the scope and boundaries of the information provided in the stimulus. For instance, in the previous problem, you only learn about what will happen when Shero wins. If Shero loses, you have *absolutely no idea* what will happen, because the stimulus does not tell you anything about that scenario. Answer choices A, B, and C all prey upon the fact that many people assume what might happen if Shero does not win. When you learn to live precisely within the stimulus, your accuracy rate on Inference questions will climb dramatically.

**3****SECTION 3: INFERENCE QUESTIONS***Focus on Scope***Focus on Scope**

As you learned in the last problem, scope is fundamentally important in determining whether an answer choice must be true in an Inference question. Correct, “must be true” answers stay within the scope of the information given in the stimulus; incorrect, “not necessarily true” answers go beyond the scope of the information given in the stimulus. Consider the following example and focus on staying within the scope of the argument at hand:

9. **Treasure Hunter:** In general, archaeological artifacts found on public property cannot legally be privately owned. But according to centuries-old maritime law, people who risk their lives attempting to rescue a ship in peril are permitted to keep whatever cargo they can salvage. Under this rule treasure hunters clearly are entitled to keep the cargo from ancient shipwrecks that they risk their lives to save from oblivion in public waters.

**Archaeologist:** Not so. These shipwrecks have stabilized over the centuries they have lain underwater. The only danger they are in is from greedy treasure hunters who destroy archaeological evidence in their hurry to loot salable artifacts.

On the evidence of their statements, it can be concluded that the treasure hunter and the archaeologist disagree on which of the following?

- (A) What constitutes an archaeological artifact
- (B) In what sense, if any, an ancient shipwreck can be said to be in peril
- (C) Whether treasure hunters risk their lives when they retrieve artifacts from ancient shipwrecks
- (D) Whether maritime law can ever be applied to a ship that has already sunk
- (E) Whether antique shipwrecks in public waters can properly be said to be on public property

## LEARNING BY DOING

### *Don't Be Baited into Generalization*

Remember: The correct answer on an Inference question must be true. And the previous question provides an excellent example of that. The treasure hunter and archaeologist may well disagree on many grounds, but we can only answer the question based on what is explicitly in the passage. And the key to that lies with the archeologist's rebuttal: "The only danger (these shipwrecks) are in is from greedy treasure hunters...." He chooses to rebut the claim that the ships are in any real danger, having already sunk long ago, meaning that he clearly disagrees with the assertion that they are in peril. Answer choice B, then, must be true.

Answer choice D, while it may seem clear as a point of disagreement in this case, is not necessarily true overall. It is simply too broad, as the argument as stated only pertains to ancient shipwrecks that have long since settled. To say that they necessarily disagree whether the law can "ever" apply to "any ship that has already sunk" ignores plenty of possibilities with recently sunk ships or other aspects of the maritime law code. Answer choice D makes the mistake of generalization, but does so by subtly drawing a broad conclusion to an argument in which narrow circumstances are given. Beware the overly broad conclusion in Inference questions.



### THINK LIKE THE TESTMAKER

#### *Misdirection and Precision in Wording*

This problem contains another classic trick used by testmakers. Many people read the treasure hunter's side of the argument and note that an important part of maritime law is that people must be risking their lives for the law to apply: "people who risk their lives attempting to rescue a ship in peril are entitled...." They then see that the archaeologist responds by saying "The only danger they are in..." and they go right to answer choice C and circle it. A more careful reading of the response shows that the archaeologist is talking about whether the ancient shipwrecks are in peril, not the people diving to the shipwreck! **Clever wordplay is one of the most important tricks used by testmakers, so always make sure you are properly interpreting wording.**



## Inference Strategies Summary

While not as common as Strengthen and Weaken questions, Inference questions are nearly certain to show up multiple times on your GMAT exam. To succeed with Inference questions, remember these three critical themes:

- **Make sure that you properly categorize Inference questions. It is easy to confuse them with Strengthen questions.**
- **Correct answer choices on Inference questions must be true.** Regardless of how the question stem is worded, once you determine that the question is asking for a conclusion, make sure the conclusion you pick must be true.
- **Scope is the key to success on Inference questions.** Incorrect answer choices always go a little too far—that is, they go outside what can be guaranteed from the information in the stimulus. Be wary of broad, categorical statements that seem reasonable but are not supported by the information in the stimulus.





## SECTION 4: METHOD OF REASONING QUESTIONS

### **Focus on Argument Structure**

With Strengthen, Weaken, and Inference questions you are part of the argument; you have some skin in the game. In a Strengthen question, you own the conclusion and your job is to help make it true. In a Weaken question, you're like an attorney cross-examining a witness, eagerly anticipating and trying to find flaw in an argument to disprove the opponent's case. And in an Inference question you're much like a jury: Your job is to rule on a proper decision that must be true.

Method of Reasoning questions have you take a step back from the argument to merely describe it. Here your job is to analyze the way in which an argument is constructed and to select an apt description.

10. **Opponent of offshore oil drilling:** The projected benefits of drilling new oil wells in certain areas in the outer continental shelf are not worth the risk of environmental disaster. The oil already being extracted from these areas currently provides only 4 percent of our country's daily oil requirement, and the new wells would only add one-half of 1 percent.

**Proponent of offshore oil drilling:** Don't be ridiculous! You might just as well argue that new farms should not be allowed, since no new farm could supply the total food needs of our country for more than a few minutes.

The drilling proponent's reply to the drilling opponent proceeds by:

- (A) Offering evidence in support of drilling that is more decisive than is the evidence offered by the drilling opponent
- (B) Claiming that the statistics cited as evidence by the drilling opponent are factually inaccurate
- (C) Pointing out that the drilling opponent's argument is a misapplication of a frequently legitimate way of arguing
- (D) Citing as parallel to the argument made by the drilling opponent an argument in which the conclusion is strikingly unsupported
- (E) Proposing a conclusion that is more strongly supported by the drilling opponent's evidence than is the conclusion offered by the drilling opponent

## LEARNING BY DOING

### *Argument Structure and Precision in Language*

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In Method of Reasoning questions, the game is twofold:

1. You must understand the argument and how it is structured, and
2. You must pick the answer choice that properly describes that structure.

Either one of these elements (or both) can make a Method of Reasoning question hard. In this case, it is better to focus on how the answer choices are worded than the argument structure itself. For most students, it is relatively easy to narrow this problem down to answer choice C or D. At that point you can ask yourself simply: Is this person pointing out anything or citing a parallel example? If you point something out in argument, you must specifically reference something in the argument and then discuss it. This person is letting an example speak for itself, so the answer must be answer choice D—citing as parallel. Many people will not pick answer choice D, however, because of the words “strikingly unsupported”. Here is where understanding the argument helps. The conclusion that “no farm could (alone) support our entire food needs, so no new farms should be opened” IS strikingly unsupported. It suggests that there is a huge food need, and that many individual farms need to all contribute. That parallel argument is strikingly unsupported, so answer choice D is absolutely a correct description.



### THINK LIKE THE TESTMAKER

*Hiding the Correct Answer  
and Selling the Wrong Answer*

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**One of the keys to success on the verbal side of the GMAT is your ability to leverage differences between answer choices.** Students often report that they can narrow a verbal problem down to two choices but then pick incorrectly in that final choice. **You should know that on almost any difficult verbal problem, there will be something in the correct answer that you don't like and something enticing about the incorrect answer choice.**

Here students are worried about the strong language in answer choice D that states “strikingly unsupported,” so they move toward answer choice C because it seems close enough. While strong language can often be problematic in verbal answer choices, do not automatically dismiss answer choices that contain it. Here, you should focus on the clear difference between “pointing out” and “citing as parallel” but it is easy to get hung up on the other differences and incorrectly pick answer choice C.



## Roles in Boldface

Recently the most common form of Method of Reasoning question has become the “roles in boldface” subtype, in which the question asks you to describe the functions of two different sections (and occasionally only one section) of an argument in boldface or—in questions with just one portion in boldface—to replace the boldface statement with an answer choice that serves the same function.

11. There are those who complain that municipal libraries are outdated and unnecessary. **These same people object to the tax dollars spent funding municipal libraries.** However, these people are missing out on a simple pleasure: reading a great book. **Taken this way, libraries are truly wonderful resources worthy of public funding.**

The two boldface portions play which of the following roles?

- (A) The first is a generalization accepted by the author as true; the second is a consequence that follows from the truth of that generalization.
- (B) The first is evidence that supports one of two contradictory points of view; the second is the second point of view.
- (C) The first is a commonly held point of view; the second is support for that point of view.
- (D) The first is one of two contradictory points of view; the second is the other point of view.
- (E) The first concedes a consideration that weighs against the viewpoint of the author; the second is that viewpoint.

## LEARNING BY DOING

### *Understand Argument Structure*

As you can see from this example, success with roles in boldface questions depends heavily on your ability to properly identify premises and conclusions. Remember from the Foundations of GMAT Logic lesson that everything in an argument must be a premise, a conclusion, or contextual information. If you are unsure about the role of one piece of information, employ the “why?” test. If you use that test on this difficult question, it is likely that you will get it correct. The two boldface sections are each conclusions, and here is how you know: Ask why do **“These same people object to the tax dollars spent funding municipal libraries”**? Because libraries are outdated and unnecessary. As you can see, the first sentence (not boldface) is the premise for the conclusion (boldface). Again for the second **boldface** portion ask why **“are libraries truly wonderful resources worthy of public funding.”** Because of the pleasure of reading a book. The third sentence (not boldface) is the premise for the conclusion (that is boldfaced). Since each **boldface** section is a conclusion, the correct answer is answer choice D. Both answer choices B and E incorrectly describe the first **boldface** portion as a premise when it is really a conclusion.



### SKILLBUILDER

#### *Identifying Premises and Conclusions*

For the most part, boldface problems are exercises in properly identifying conclusions, premises, and contextual information. If you are still struggling with this skill, revisit the Skillbuilder and the section in the Foundations of GMAT Logic book that deals with this important skill.



## Method of Reasoning Strategies Summary

To succeed with Method of Reasoning questions, remember the following:

- **Method of Reasoning questions are easy to categorize.** If the answer choices are describing argument structure or anything is boldface in the stimulus, you know you are dealing with a Method of Reasoning question.
- Boldface questions are the most common type of Method of Reasoning questions.
- Success on Method of Reasoning questions hinges on your ability to:
  1. Understand the argument and **properly identify the conclusion (or multiple conclusions), premises, and contextual information in the stimulus.**
  2. **Pick the answer choice that is accurately describing the boldface sections.** Often the differences in these descriptions are very subtle, but remember that only one answer choice can be correct. Look very carefully at the differences in wording, and figure out what makes one answer choice correct and the other incorrect.
- **Your ability to use the “why?” test and properly isolate conclusions is particularly important on Method of Reasoning questions.**





## SECTION 5: SWIM SUBTYPES AND ADVANCED APPLICATIONS

In the previous sections, you were introduced to the core question types and important strategies and approaches associated with them. In each of these categories—Strengthen, Weaken, Inference, and Method of Reasoning—there are some important subtypes that you will see on the GMAT. In this section you will address each important subtype:

- Strengthen/Weaken questions that involve plans and strategies
- Strengthen/Weaken questions that ask what would be most useful to evaluate a conclusion
- Strengthen questions that involve a paradox instead of a conclusion
- Assumption questions
- Mimic the Reasoning questions

### Plan/Strategy

An increasingly common Critical Reasoning question type involves not a traditional argument, but rather a plan or strategy. These problems put a spin on the Strengthen/Weaken form by focusing slightly less on pure logic and more on practicality. At their core, however, they are Strengthen/Weaken problems, with this as your guiding principle:

***The objective of the plan takes the role of the conclusion.***

When you see a plan/strategy question, be sure to identify the objective of the plan first, and be mindful of the gap between the plan and its intended goal. Consider the following example:

12. Acid rain, caused by high levels of sulfur dioxide and mercury trapped in global air currents, affects one third of China's territory. Coal-fired power plants are notorious for emitting large quantities of these pollutants. To combat the problem, the Chinese national government has set aggressive environmental goals for the next five years. These goals include a 20-percent improvement in energy efficiency and a pledge that, by the end of the five years, 10 percent of the nation's energy will come from renewable resources such as hydroelectric or wind power.

Which of the following, if true, is the best criticism of the Chinese government's strategy as a method for achieving a reduction in acid rain?

- (A) Some forms of air pollution, such as heavy particulate fumes, would not be affected by the suggested energy improvements.
- (B) Once the changes have been implemented, the actual reduction in acid rain would vary from region to region.
- (C) The goals would be forced on every region in China, including those that have no problems with acid rain.
- (D) Acid rain is also caused by other factors, such as volcanic eruptions or pollution from neighboring countries, over which China has no control.
- (E) Regional Chinese officials tend to ignore environmental regulations in order to meet aggressive economic requirements imposed on their regions' industries.

**5****SECTION 5: SWIM SUBTYPES AND ADVANCED APPLICATIONS****Plan/Strategy****LEARNING BY DOING****A Better Plan Does Not Weaken the Existing Plan**

The answer on this question is answer choice E, although *many* people will pick answer choice A and, to a lesser extent, answer choice D. In this example, you should first isolate the objective of the plan: to reduce China's acid rain. The plan is to set aggressive goals that will reduce emissions and thus reduce acid rain. If answer choice E is true and officials tend to ignore environmental goals, then this plan will not work and it clearly weakens the plan. The mistake that people make with this problem revolves around a common trick used on Weaken questions: Testmakers present answer choices that get you thinking about a better plan than the one stated, but do not actually *weaken* that plan. For answer choice A, just because some particulates will not be affected by the current plan does not mean it will not "reduce acid rain"—the stated objective in the plan. People tend to pick answer choice A because they think that the objective is to "reduce all acid rain." As you learned in the sections on Strengthen and Weaken questions, don't hijack the conclusion!

**SKILLS MEET STRATEGY****Pattern Recognition**

One reason students struggle with critical reasoning is that they do not get the proper takeaways from problems. Because Critical Reasoning questions contain such diverse topic material, students often don't realize how similar many of the questions really are. Categorization helps you contend with this problem by grouping questions and learning strategies to repeat for those types. Beyond that, you should also look for repeatedly tested logical fallacies and thinking flaws like the one presented in this problem. The next time you are presented with information suggesting a better plan, will you still think that it weakens the current plan? We have presented you with the most commonly repeated fallacies and flaws in this lesson and in the homework questions.

**When doing critical reasoning, focus on repeating patterns in questions: flaws, tricks, set-ups, and structures that testmakers use over and over again.** Your speed and accuracy will increase dramatically with this increased recognition.

**THINK LIKE THE TESTMAKER***How Your Mind Works*

Critical Reasoning questions are expertly made to get you to make very particular mistakes: to accidentally pick a cleverly repackaged premise in a Strengthen question, to go just outside the boundaries of the stimulus in an Inference question, or to believe that one thing is the cause of a conclusion when other explanations are possible. This example baits you into making yet another common thinking flaw that you are likely to repeat if you don't really understand it. Consider the following argument to help you avoid this mistake in the future:

**In an effort to reduce my electricity bill and my overall carbon footprint, I will remove all of the incandescent light bulbs in my home and replace them with energy-saving fluorescent bulbs.**

Do either of the following statements weaken the plan's likelihood of success?

- (A) Over 80% of my home electricity consumption comes from appliances.
- (B) Replacing the windows on my home with better-insulated windows would reduce my electricity usage by a much greater amount than replacing the light bulbs ever could.

No! They do not! **The presence of a better plan does not weaken the existing plan.** To weaken this plan, one needs to show that the plan is not likely to reach its objective. A correct weaken answer might be "energy-saving fluorescent bulbs light a smaller radius than do incandescent bulbs, so most fluorescent bulb owners simply use a greater number of lamps to achieve optimal illumination." That would show that the per-bulb energy usage may be down, but that the user is likely to use just as much electricity overall.

**5****SECTION 5: SWIM SUBTYPES AND ADVANCED APPLICATIONS***Useful to Evaluate***Useful to Evaluate**

Some Critical Reasoning questions will ask you what information would be most useful to evaluate an argument. Because such questions ask for new information—a premise—or the parameters of a study that would provide such information, these questions can be viewed as either Strengthen or Weaken questions. It is helpful to note, however, that these questions will always feature a stimulus with a gap in logic, and so you should treat them as Weaken questions. Similarly, you will likely find that viewing these with a degree of skepticism—much like the cross-examiner you tend to play when approaching Weaken questions—is the most effective way to determine which information is missing; this is another reason that you will want to treat these as Weaken questions.

13. It is logical to conclude that it is more dangerous to ride in an automobile than to ride a on a motorcycle. After all, the National Safety Council estimates that one person in 19,000 will die each year in an automobile, while only one out of every 73,000 will be killed as a motorcyclist.

Which of the following studies would be most useful in assessing the validity of the argument above?

- (A) Comparing the National Safety Council's statistics with those of other nations where traffic laws and conditions are similar
- (B) Expressing the difference between the probability of death among automobile passengers and that of motorcyclists as a percentage of the total number of deaths
- (C) Separating the odds of death due to operating vehicles illegally from those in which the operator is not at fault
- (D) Comparing death rates per thousand members of each group rather than comparing total numbers of deaths
- (E) Comparing the number of deaths that take place on highways versus those that take place on local roads

**LEARNING BY DOING***Expose the Flaw*

You were likely able to expose the flaw in the previous question: Not nearly as many people ride motorcycles as drive cars, so of course more people are killed in cars than on motorcycles. The sample sizes for each group are wildly incongruent; the argument is like saying that you are more likely to be injured while walking than while taming a lion. True—but walking is still safer. We just do that so much more than we tame lions that the absolute numbers won't be representative of the risk.

When sample sizes are incongruent, a better comparison comes from taking the per-capita rate (how many from each group) than taking the absolute numbers. And that is what answer choice D correctly does: It standardizes the comparison by expressing the probability on the basis of 1,000 members of each group, and not as a probability of the population (which likely includes billions who do not ride motorcycles) as a whole. Beware of answer choice B. If you read it quickly, you might think it would give the necessary information to properly assess the argument, but it still is not breaking apart the groups and giving the necessary per capita information for each group separately. It is yet another example of a cleverly repackaged premise; the study would not give you any new information.

**SKILLS MEET STRATEGY***Be Wary of Conclusions  
Drawn from Data*

Most Useful to Evaluate questions on the GMAT involve arguments with data that frequently contain one of the common logical fallacies that you learned earlier in this lesson. Any time that you see data in a Critical Reasoning question, you should distrust how that data is being used. In this example, you should understand that absolute-number data is meaningless because of the incongruent sample size. If you can expose the data flaw immediately after reading the stimulus, your speed and accuracy on "useful to evaluate" questions (and all Strengthen and Weaken questions) will increase dramatically.

**5****SECTION 5: SWIM SUBTYPES AND ADVANCED APPLICATIONS*****Explain the Paradox*****Explain the Paradox**

Some Strengthen questions are not written as arguments, per se, but rather situations that involve seemingly paradoxical facts. Consider this example:

**Scientists have discovered that lead paint can causes an array of health problems, particularly in young children. Yet those same scientists have recommended that lead paint not be removed from walls in homes with small children.**

These two statements seem to be incompatible. How could the scientists say that lead paint is bad for children and recommend not removing it? Consider the following answer choice, which would completely resolve the apparent paradox:

**Removing lead paint from walls disperses a great deal of lead dust, which is more easily ingested by children than is paint on walls.**

Strategically, your mission is nearly identical with what you will face on Strengthen questions. There is a logical gap, this time between the two portions of a paradox or discrepancy, and you need to find a premise that links them together.

14. Raisins are made by drying grapes in the sun. Although some of the sugar in the grapes is caramelized in the process, nothing is added. Moreover, the only thing removed from the grapes is the water that evaporates during the drying, and water contains no calories or nutrients. The fact that raisins contain more iron per food calorie than grapes do is thus puzzling.

Which one of the following, if true, most helps to explain why raisins contain more iron per calorie than do grapes?

- (A) Since grapes are bigger than raisins, it takes several bunches of grapes to provide the same amount of iron as a handful of raisins does.
- (B) Caramelized sugar cannot be digested, so its calories do not count toward the food calorie content of raisins.
- (C) The body can absorb iron and other nutrients more quickly from grapes than from raisins because of the relatively high water content of grapes.
- (D) Raisins, but not grapes, are available year-round, so many people get a greater share of their yearly iron intake from raisins than from grapes.
- (E) Raisins are often eaten in combination with other iron-containing foods, while grapes are usually eaten by themselves.

**LEARNING BY DOING***Isolate the Paradox and Find the Missing Link*

In this example, you learn that when grapes are turned into raisins, no nutrients are gained or lost, and the only major change is that some sugar is caramelized. You then learn that somehow the iron per food calorie has increased during this process. But how can that be? This is the paradox that you should isolate instead of the normal conclusion on a Strengthen question: How can iron per food calorie increase when no nutrients are gained or lost and the only change is that sugar is caramelized? There must be some missing link that allows these seemingly contradictory statements to stand, and that is what you look for in the answer choices—a new piece of information that when added to this stimulus removes that paradox and logically links the two statements. Notice the importance of reading the “conclusion” (which in this case is the paradox) carefully. The entire paradox deals with “iron per calorie”—not iron per second, iron per year, iron per meal, or iron per handful, as some of the answer choices seek to explain. If the calories from caramelized sugar do not count toward the caloric value, thereby reducing the denominator of that fraction and increasing the overall value, then you can understand how that ratio increased. No iron was gained (what your brain naturally tries to explain) but the calories are no longer counted, so answer choice B is correct.

**THINK LIKE THE TESTMAKER***Misdirection and Precision in Wording*

What makes this problem time-consuming and difficult for many students? Clever wordplay and misdirection. Your natural inclination when reading this argument is to come up with some explanation for how more iron could have been created in the drying process. You focus on “more iron,” not “more iron per calorie,” and completely forget that there are two ways to increase a ratio. One is to increase the numerator, and the other is to decrease the denominator.

**The importance of reading carefully and being precise with wording cannot be overstated; it is the most important skill in critical reasoning.** Testmakers are always setting clever traps with wording. Don’t fall for them!



## Assumption

Another spin on the Strengthen/Weaken theme is the assumption question type. Assumption questions can be a significantly more difficult cousin of Strengthen questions for one particular reason: You are typically not filling a gap in logic but rather eliminating a deeply embedded possibility that, if true, would be problematic for the question at hand. When a question asks “Which of the following is an assumption required by the argument?” it is really asking “Which one of the following answer choices removes a flaw from the argument that you would probably not have anticipated on your own?”

Another difficulty with assumption questions is that the correct answer tends not to advance the argument farther, but instead to protect the argument from regressing. The correct answer choice often exposes a flaw (usually with difficult and clever language) and then removes that flaw with negation. You might think of correct answers as on assumption questions as “shields,” in that correct assumption answers often protect your argument from an attack that you might not have predicted. Testmakers know you will be looking for a sword (something to advance the argument) when the correct answer choice is usually a shield. Consider the following argument:

**Bill received the greatest number of votes in the school election, so he will become the new president of the student council.**

Seems pretty fair, right? But a cleverly written assumption answer might say:

**Bill was not running for an office other than president.**

or

**The electoral system does not include a provision by which the candidate with the most votes could lose the overall election.**

Note the role of these options: They do not necessarily advance the argument, and they may not have been assumptions that you would have identified on your own. You may well have accepted the argument at face value. And these choices also, like many assumption choices, used negation in them: “Bill was not running...”; “the electoral system does not include....”

One helpful way to navigate this negation, and to better understand the “removes the flaw” nature of many assumption choices, is to use the Assumption Negation Technique on each answer choice. This technique involves negating each of the answer choices (one of which is the correct necessary assumption).

To negate a potential assumption, you will want to take the opposite of:

1. A universal or particular modifier (all → not all; some → none; etc.) in the dominant clause of the sentence,

OR

2. The verb in the dominant clause of the sentence (was → was not; did not run → ran; etc.).

Because answer choices may be worded similar to Sentence Correction prompts, with multiple subordinate and modifying clauses, you will need to note that your negation must change the meaning of the sentence itself, and not merely a tangential component. By trial and error, with practice, this can become natural.

When you use the Assumption Negation Technique, you will find that the correct answer, when negated, will void the conclusion. Going back to Bill's student council example, if we were to negate "Bill was not running for an office other than president," it would become "Bill *was* running for an office other than president." Clearly, then, the conclusion is invalid. That is the benefit of the Assumption Negation Technique: It allows you to see what would happen without the conclusion, and if the direct opposite of the answer choice destroys the conclusion, then the choice itself must be a necessary assumption.

**5****SECTION 5: SWIM SUBTYPES AND ADVANCED APPLICATIONS*****Assumption***

15. About two million years ago, lava dammed up a river in western Asia and caused a small lake to form. The lake existed for about half a million years. Bones of an early human ancestor were recently found in the ancient lake-bottom sediments on top of the layer of lava. Therefore, ancestors of modern humans lived in Western Asia between 2 million and 1.5 million years ago.

Which one of the following is an assumption required by the argument?

- (A) There were not other lakes in the immediate area before the lava dammed up the river.
- (B) The lake contained fish that the human ancestors could have used for food.
- (C) The lava under the lake-bottom sediments did not contain any human fossil remains.
- (D) The lake was deep enough that a person could drown in it.
- (E) The bones were already in the sediments by the time the lake disappeared.

**LEARNING BY DOING***Understand the Assumption Negation Technique*

To apply the Assumption Negation Technique, negate each answer choice and then consider its impact on the conclusion. The correct answer, when negated, will directly undermine the argument. Here are the answers in their negated form:

- (A) There **were not** other lakes in the immediate area before the lava dammed up the river.
- (B) The lake **contained did not contain** fish that the human ancestors could have used for food.
- (C) The lava that lay under the lake-bottom sediments **did contain** any human fossil remains.
- (D) The lake was **not** deep enough that a person could drown in it.
- (E) The bones were **not** already in the sediments by the time the lake disappeared.

When considering the impact that each negation would have on the conclusion, it becomes relatively clear that answer choices A, B, and D are quite irrelevant to whether human ancestors could have lived in that time frame.

Answer choice C is a popular, but incorrect, choice. Look specifically at the conclusion. It only states that ancestors of modern humans lived in this region at this time—not that they were the first. Therefore, it should not matter whether any ancestors were there beforehand. Actually, the presence of such ancestors probably makes it more likely that those we are talking about were, indeed, there at this time. There's precedent that people had been in the region long before! If answer choice C was correct it would have to contradict the conclusion, and it clearly does not do that.

By taking the negation of answer choice E, however, it becomes apparent that the statement directly contradicts the conclusion. If the bones were not in the sediments before 1.5 million years ago when the lake disappeared, you would be left with no evidence of the humans' presence in that area at that time. The entire argument hinges upon the bones found in that sediment; if it turns out that the bones were transplanted there by a more-recent earthquake, perhaps, or an archaeological hoax, the entire conclusion would fail to stand. Accordingly, the argument assumes that "the bones were already in the sediments by the time the lake disappeared" (answer choice E).

**THINK LIKE THE TESTMAKER***Negation*

Testmakers know that it is difficult to properly comprehend information when it is presented negatively. In most assumption questions, the answer choices are presented negatively because they are removing some possibility or stating that some flaw is not present. Generally speaking, it is very difficult to decide whether a negatively worded statement is strengthening an argument but not that difficult to decide if an affirmatively worded statement is weakening an argument. This is the primary value of the Assumption Negation Technique—that it allows you to sort through difficult negation and consider things affirmatively. Always use the Assumption Negation Technique on assumption questions with negatively worded answer choices.

**5****SECTION 5: SWIM SUBTYPES AND ADVANCED APPLICATIONS*****Assumption*****Assumption Challenge Question**

16. In North America there has been an explosion of public interest in, and enjoyment of, opera over the last three decades. The evidence of this explosion is that of the 70 or so professional opera companies currently active in North America, 45 were founded over the course of the last 30 years.

The reasoning above assumes which one of the following?

- (A) All of the 70 professional opera companies are commercially viable options.
- (B) There were fewer than 45 professional opera companies that had been active 30 years ago and that ceased operations during the last 30 years.
- (C) There has not been a corresponding increase in the number of professional companies devoted to other performing arts.
- (D) The size of the average audience at performances by professional opera companies has increased over the past three decades.
- (E) The 45 most recently founded opera companies were all established as a result of enthusiasm on the part of a potential audience.

LESSON

## LEARNING BY DOING

### *Remove the Flaw*

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The previous question should strongly demonstrate the usefulness of the Assumption Negation Technique. Most students will not anticipate the correct answer here (although if you can, it is the best way to get it correct!), and most are also tempted by the way that answer choices A, D, and E advance the argument. If not only are there 45 new operas, but all of them were established on the basis of enthusiasm of a potential audience, that certainly seems to further the idea that there has been a dramatic increase in opera enthusiasm.

However, what if 45 new operas were founded because of audience enthusiasm, but 150 operas closed due to low attendance and apathetic interest?

Then where is your explosion of interest? Assumption Negation Technique shows that answer choices A, D, and E are not necessary:

- (A) **NOT** All of the 70 professional opera companies are commercially viable options.  
→ *Did we need all of them to earn money? What if two are still struggling, or were founded as nonprofit entities to enrich communities, but the others are thriving? The conclusion is still strengthened. Answer choice A is not necessary.*
- (D) The size of the average audience at performances by professional opera companies has **NOT** increased over the past three decades. → *Do we need the average audience to increase? If there are twice as many companies, with twice as many performances, even if the average audience slips a bit there are still quite a few more patrons, evidence of a surge in enthusiasm. Answer choice D is not necessary.*
- (E) The 45 most recently founded opera companies were **NOT** all established as a result of enthusiasm on the part of a potential audience. → *Similar to answer choice A, do we need all of them to be established as a result of enthusiasm? If two or three of them were established with lukewarm reception, the vast majority still reflect enthusiasm. Answer choice E is not necessary.*



But consider answer choice B. (**NOTE:** Answer choice C is pretty far out of scope. Other performing arts are irrelevant.) If negated, answer choice B shows a major weakness in the argument as given:

- (B) There were **MORE** fewer than 45 professional opera companies that had been active 30 years ago and that ceased operations during the last 30 years. à If the 45 new operas don't even begin to make up for the number of operas that have closed, then we have no evidence of an explosion in opera interest. For example, if 45 opened but 60 closed, that's a -15 net change in the number of operas. What's worse, our only evidence of increased opera enthusiasm is those 45 new operas; if they themselves don't reflect an increase, than our argument has no merit. Answer choice B, while confusing and maybe even bland as written, when negated shows that it is essential to the argument. The author assumes that the 45 new operas reflect an increase. Otherwise the argument holds no merit.

Notice this about the correct answer here: It does not really "advance" the argument, but rather proposes and then removes a potential flaw. By doing so, it certainly strengthens the argument (that's one less weakness to which it is vulnerable) but probably not in a way that you would anticipate or to which you would gravitate. Therein lies the difficulty in Assumption problems: The correct answer is often one that you wouldn't come up with on your own, but the assumption Negation Technique can alert you to its necessity.

#### THINK LIKE THE TESTMAKER

##### *Misdirection/Hiding the Correct Answer and Selling the Wrong Answer*

This problem contains one of the more clever cases of misdirection that you will see on a Critical Reasoning question. After reading the argument it is hard not to say to yourself: "Just because 45 opera companies were founded over the last 30 years, it doesn't mean that people really like opera and it certainly doesn't mean that there has been an explosion of interest in opera." You look automatically for an answer choice that corrects that flaw by linking increased interest with the new opera companies. Answer choice E seems to do just that. However, in the meantime you have missed a much bigger flaw that the testmakers have made you overlook by selling an incorrect answer choice so well. As you learned in the previous question: What if 1,000 companies went out of business in the same period the 45 were founded? Answer choice B removes that flaw with such obtuse language that people miss its importance. It is only after you note the data flaw that you will realize that the other answer choices do not necessarily strengthen the argument.

### Mimic the Reasoning

"Mimic the Reasoning" questions are a subtype of the Method of Reasoning category; they are very common on the LSAT but extremely uncommon on the GMAT. These questions provide five arguments as answer choices and want you to pick the one that mimics the argument structure presented in the original stimulus. To succeed on Mimic the Reasoning you should:

1. Focus on structure not subject matter.
2. Mimic any negation that appears in the original argument structure.
3. Make sure elements are linked together using the same logic as the original but that do *not* worry about the order with which those elements are presented.

**5****SECTION 5: SWIM SUBTYPES AND ADVANCED APPLICATIONS***Mimic the Reasoning*

While you will probably not see a Mimic the Reasoning question on the GMAT, it is important to practice a few in case one shows up on your test.

17. Professor Edwards must have revealed information that was embarrassing to the university. After all, to have been publicly censured by the head of the university, as Edwards was, a professor must either have revealed information that embarrassed the university or have been guilty of gross professional negligence, and Edwards's professional behavior is impeccable.

Which one of the following arguments exhibits a pattern of reasoning most similar to that in the argument above?

- (A) According to company policy, employees who are either frequently absent without notice or who are habitually late receive an official warning. Since Ms. Jensen has never received such a warning, rumors that she is habitually late must be false.
- (B) Any employee of Wilkins, Waddel, and Sloan, who discussed a client with a member of the press will either be fired or demoted. But since Wilkins employees never discuss their clients at all, no Wilkins employee will ever be demoted.
- (C) Anyone promoted to supervisor must either have worked on the shop floor for three years or have an influential sponsor. Daniels, therefore, has an influential sponsor, since he was promoted to supervisor after a year on the shop floor.
- (D) To earn a merit salary increase, an employee of TGX must either bring in new clients or develop innovative products. No innovative products were developed at TGX this year, so TGX employees must have brought in many new clients.
- (E) Anyone who is either awarded a letter of commendation or who receives a bonus must be recommended by a company officer. Simon has been recommended by a company officer and will receive a bonus, so he must not have been awarded a letter of commendation.

## LEARNING BY DOING

### *Map Out the Argument Structure*

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Like Method of Reasoning questions, Mimic the Reasoning questions hinge on your understanding of argument structure and not on your ability to contribute to (or attack) the argument in question. It is therefore important to divorce the argument from subject matter and outline the direction of the argument in your own terms.

In this question, the argument essentially says (remember that order of presentation does not matter):

An action took place (he was censured). There are only two possible explanations for that action (either he revealed embarrassing information or he was professionally negligent). One of the two possible explanations is eliminated so the other one must be true (his professional behavior is impeccable so he must have revealed information).

In reading the answer choices, your only goal is to find that exact structure, regardless of the order of presentation and the subject matter. Only answer choice C contains this structure:

An action took place (he was promoted). There are only two possible explanations for that action (either he has an influential sponsor or worked for more than three years). One of the two possible explanations is eliminated, so the other one must be true (he did not work for more than three years, so he must have an influential sponsor).

### **THINK LIKE THE TESTMAKER**

#### *Hiding the Correct Answer and Selling the Wrong Answer*

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On Mimic the Reasoning questions, the correct answer often “sounds” very different from the original but contains the same argument structure. Often the order of presentation will be very different (as in this case) or the subject matter will be so different that it is hard to link the two in your brain.

**Note this about incorrect sucker choices on mimic the reasoning questions:**  
**If an answer choice sounds exactly like the original or contains similar subject matter, it is probably incorrect.** Look carefully to make sure some component is not different in these kinds of answer choices.



## Strategies for Subtypes and Advanced Applications Summary

While the strategies for these subtypes are essentially the same as for their broader category, there are a few important differences to consider.

### Plan/Strategy

- The objective of the plan takes the place of the conclusion.
- If it is a Weaken question, make sure you are actually weakening the plan, not simply considering what could make it better.

### Useful to Evaluate

- These questions are best thought of as Weaken questions. Find the flaw in the argument and you will be able to figure out what missing information is required to better evaluate it.
- Most of these involve the common logical fallacies. Be particular wary of any questionable conclusions formed from data.

### Explain the Paradox

- Instead of isolating a conclusion, you must isolate an apparent paradox or contradiction.
- Make sure the answer you pick is new information that completely resolves the apparent paradox.

### Assumption

- Assumption questions are very common and generally a difficult type for students.
- The Assumption Negation Technique is particularly helpful in dealing with negatively worded answer choices.
- Remember: These are just Strengthen questions, but usually the correct answer is not advancing the argument but rather removing a flaw or possibility that would break down the argument.

LESSON

### Mimic the Reasoning

- Focus on argument structure, not content.
- The correct answer choice must contain the same logic, but the premises and conclusions do not need to be presented in the same order as the original.
- Any negation needs to be mimicked in the correct answer choice.





## ||||| **HOMEWORK** |||||

18. More and more computer programs that provide solutions to mathematical problems in engineering are being produced, and it is thus increasingly unnecessary for practicing engineers to have a thorough understanding of fundamental mathematical principles. Consequently, in training engineers who will work in industry, less emphasis should be placed on mathematical principles so that space in the engineering curriculum will be available for other important subjects.

Which of the following, if true, most seriously weakens the argument given for the recommendation above?

- (A) The effective use of computer programs that provide solutions to mathematical problems in engineering requires an understanding of fundamental mathematical principles.
- (B) Many of the computer programs that provide solutions to mathematical problems in engineering are already in routine use.
- (C) Development of composites and other such new materials has meant that the curriculum for engineers who will work in industry must allow time for teaching the properties of these materials.
- (D) Most of the computer programs that provide solutions to mathematical problems in engineering can be run on the types of computers available to most engineering firms.
- (E) The engineering curriculum already requires that engineering students be familiar with and able to use a variety of computer programs.

19. After Company K released its low-fat butter substitute into European markets for the first time, it found that it was unable to achieve any appreciable market share. To combat this problem, Company K re-released the product under a new name with great fanfare and a substantial marketing budget, calling it the “new low-fat alternative to butter.”

Which of the following, if true, casts the most doubt on the effectiveness of the solution proposed above?

- (A) In many European countries, satisfactory taste and low-fat content are believed to be entirely contradictory.
- (B) The market for yellow fats such as margarine and butter has been slowly shrinking in many European countries due to the emergence of specialized cheese spreads.
- (C) Company K could only feasibly maintain such a marketing budget for 10 to 12 months before scaling down the campaign.
- (D) After Company K attempted a similar marketing strategy in South America, sales of the new product greatly increased.
- (E) In Denmark, the new low-fat butter substitute achieved a market share of 15% within the first year – without any massive marketing campaign.



20. Most pain relievers come with warnings against continuous use longer than 7 consecutive days. While some people might be able to safely use a particular pain reliever for a longer period of time, many people will begin to experience side effects if the warnings are ignored.

The information above most strongly supports which of the following?

- (A) A physician should not advise any patient to take any pain reliever for a period of longer than 7 consecutive days.
- (B) People who are sensitive to one type of pain reliever should not attempt to use a different pain reliever.
- (C) At least some people who take pain relievers for longer than 7 days will experience side effects.
- (D) Any side effects experienced by a patient who has taken a pain reliever for fewer than 7 consecutive days cannot be the result of the pain reliever.
- (E) Anyone who wants to maximize their natural health and well-being should avoid pain relievers entirely.

21. It is inaccurate to say that a diet high in refined sugar cannot cause adult-onset diabetes, since a diet high in refined sugar can make a person overweight, and being overweight can predispose a person to adult-onset diabetes.

The argument above is most parallel, in its logical structure, to which of the following?

- (A) It is inaccurate to say that being in cold air can cause a person to catch a cold, since colds are caused by viruses, and viruses flourish in warm, crowded places.
- (B) It is accurate to say that no airline flies from Halifax to Washington. No single airline offers a direct flight, although some airlines have flights from Halifax to Boston and others have flights from Boston to Washington.
- (C) It is correct to say that over-fertilization is the primary cause of lawn disease, since fertilizer causes lawn grass to grow rapidly and rapidly growing grass has little resistance to disease.
- (D) It is incorrect to say that inferior motor oil cannot cause a car to get poorer gasoline mileage, since inferior motor oil can cause engine valve deterioration, and engine valve deterioration can lead to poorer gasoline mileage.
- (E) It is inaccurate to say that Alexander the Great was a student of Plato; Alexander was a student of Aristotle, and Aristotle was a student of Plato.



22. In an attempt to protect the environment and stop oil companies from sinking a decommissioned North Sea oil platform to the bottom of the ocean, environmental groups ringed the platform with protest boats and demanded that it be towed to land, where it could be dismantled above water. Environmentalists argued that sinking the oil platform would cause irreparable damage to the deep sea ecosystem and release into the ocean over 53 tons of oil residue and heavy metals.

Which of the following, if true, indicates the plan to tow the oil platform to land is ill-suited to the environmentalist group's goals?

- (A) The National Environmental Research Council approved the sinking of the oil platform, calling it the "best practicable environmental option."
- (B) Dismantling the oil platform on land would cost over 70 million dollars, compared to the \$7.5 million needed to secure and sink it in a deep ocean location.
- (C) The release of 53 tons of toxic material into the ocean is very little compared to the volume of very highly toxic materials released by deep sea volcanoes.
- (D) Towing the oil platform into shallow waters poses a massive risk that it may break up on its way to land, releasing the contained pollutants into fragile coastal waters.
- (E) The sinking of the platform is fully in line with internationally approved guidelines for the disposal of off shore installations at sea.

23. Which of the following best completes the passage below?

Some anthropologists theorize that no great city-state has ever been conquered without first being rife with internal conflict. Recently, evidence has been discovered that a great city-state, known as Archaic C, was sacked and occupied by a rival city-state in the first millennium BC. Therefore, if the anthropologists' theory is correct, we can say that \_\_\_\_\_.

- (A) after Archaic C was sacked and occupied, internal divisions remained in the region.
- (B) no internal divisions ever existed in Archaic C.
- (C) Archaic C was not truly a great city-state.
- (D) Archaic C suffered from internal conflict at some point in the first millennium BC or earlier.
- (E) Archaic C was not the first great city-state to be conquered by outside forces.



24. The use of a wood harvesting technique known as clear cutting has had two especially insidious environmental impacts. The first is that it causes erosion, as hillsides that were covered with mature trees are abruptly exposed to the full impact of the elements. The second is that when new trees grow in the area they are often nearly all of the same age and species and therefore highly susceptible to disease and insect infestation.

From the passage above, it can be properly inferred that wood harvesting can continue with fewer negative impacts if which of the following techniques is employed?

- (A) Waiting longer periods between harvests so that the trees will be larger when cut.
- (B) Using selective harvesting techniques that leave some mature trees standing.
- (C) Spraying areas that are clear cut with an insecticide to prevent infestation.
- (D) Leaving some areas uncut, such as those near state parks and along roadsides.
- (E) Planting monocultures, a single species of fast growing tree, in areas that have been clear cut.

25. **Nick:** The best way to write a good detective story is to work backward from the crime. The writer should first decide what the crime is and who the perpetrator is and then come up with the circumstances and clues based on those decisions.

Which one of the following illustrates a principle most similar to that illustrated by the passage?

- (A) When planning a trip, some people first decide where they want to go and then plan accordingly, but for most of us, much financial planning must be done before we can choose where we are going.
- (B) In planting a vegetable garden, you should prepare the soil first and then decide what kinds of vegetables to plant.
- (C) Good architects do not extemporaneously construct their plans in the course of an afternoon; an architectural design cannot be divorced from the method of constructing the building.
- (D) In solving mathematical problems, the best method is to try out as many strategies as possible in the time allotted. This is particularly effective if the number of possible strategies is fairly small.
- (E) To make a great tennis shot you should visualize where you want the shot to go and then determine the position you need to be in to execute the shot properly.



26. Heavy consumption of alcohol causes impaired judgment, a loss of fine motor skills, slower reaction times, a decrease in visual acuity, and other short-term symptoms. Since alcohol can be metabolized in the average person's body at a rate of 0.015 BAC (or "blood alcohol content") per hour, a severely intoxicated individual with a BAC of 0.15 should be symptom-free after 10 hours. After this time, if the individual exhibits similar symptoms, such symptoms cannot be caused by alcohol.

Which of the following, if true, most seriously weakens the conclusion above?

- (A) Some symptoms normally associated with alcohol consumption may resemble symptoms caused by prescription drugs or even drowsiness.
- (B) Increases in BAC are based on the amount of alcohol consumed rather than the number of drinks (some drinks contain more alcohol than others).
- (C) Heavy alcohol consumption has numerous long term effects such as cirrhosis of the liver, stomach ulcers, and birth defects.
- (D) The metabolic rate of alcohol varies according to a person's health, weight, diet, and genetic predispositions.
- (E) Some people, due to an acute sensitivity to alcohol, cannot even reach a BAC of 0.15 before becoming violently ill.

27. When astronomers observed the comet Steinman-Arnet 3 becoming 1,000 times brighter in September 1995, they correctly hypothesized that its increased brightness was a result of the comet's breaking up. When comets break up, they emit large amounts of gas and dust, becoming visibly brighter as a result. However, their observations did not reveal comet Steinman-Arnet 3 actually breaking into pieces until November 1995, even though telescopes were trained on it throughout the entire period.

Which of the following, if true, most helps to resolve the apparent conflict in the situation above?

- (A) Comets often do not emit gas and dust until several weeks after they have begun to break up.
- (B) The reason comets become brighter when they break up is that the gas and dust that they emit refract light.
- (C) Gas and dust can be released by fissures in a comet, even if the comet is not broken all the way through.
- (D) The amount of gas and dust emitted steadily increased during the period from September through November.
- (E) The comet passed close to the sun during this period and the gravitational strain caused it to break up.



28. To get into a top MBA program **one must have five years of work experience and a 90<sup>th</sup> percentile GMAT score**. Alexis has a 95<sup>th</sup> percentile GMAT score and five years of experience in the work force, so **Alexis must be accepted into a top MBA program**.

The two portions in **boldface** play which of the following roles?

- (A) The first is a piece of evidence; the second is a conclusion that must be true based on the evidence presented.
- (B) The first is a piece of evidence; the second is a conclusion that is not necessarily true based on the evidence presented.
- (C) The first is a conclusion that follows from the evidence; the second is a piece of evidence.
- (D) The first is a conclusion that is not necessarily true based on the evidence; the second is a piece of evidence.
- (E) The first is the conclusion of the author; the second is a cause-and-effect relationship that supports the conclusion.

29. Despite radical fluctuations during the previous decade, unit labor costs (that is, the manufacturers' average labor cost per unit produced) in country Q have remained unchanged for the last several years. However, during this period of stabilization, the average hourly wage of manufacturing laborers has increased by 7.2%.

Which of the following, if true, most helps to explain why the increase in hourly manufacturing labor cost of manufacturing labor in country Q has not led to an increase in average unit labor cost?

- (A) Inflation has caused the purchase prices of goods manufactured in country Q to increase at the same rate.
- (B) The increase in the average cost of manufacturing labor per hour has occurred despite decreases in the raw material costs.
- (C) During the same period, manufacturing productivity (units produced per laborer per hour) increased at the same rate as did wages.
- (D) In the last few years, there has been a shift in the economy of country Q, leading to more service-oriented jobs and fewer manufacturing jobs.
- (E) When the hourly compensation rate increases, it is possible to hire workers with greater skill levels.



30. The search for NEOs (or "Near Earth Objects") has intensified greatly within the last few years with the emergence of a virtual army of amateur astronomers. By combing their observations into a single database at the Smithsonian Astrophysical Observatory, "backyard scientists" are capable of accurately determining the orbits and motions of asteroids that could hit the Earth. Indeed, in recent years much of the burden for accurately evaluating the risks posed by NEOs has been shouldered by amateur astronomers. Therefore, we should reserve larger, professional telescopes for uses other than finding NEOs.

Which of the following, if true, most seriously weakens the argument above?

- (A) Because of their numbers, amateur astronomers as a group are much more efficient than are individual professional telescopes at accurately determining NEO orbits.
- (B) Because large telescopes are often controlled by governments or institutions, professional scientists do not always have full discretion to use these telescopes any way they would like.
- (C) Most amateur astronomers do not have any professional training in astronomy.
- (D) NASA has set a goal of finding at least 90% of the estimated 1000 NEOs larger than 1 kilometer in diameter.
- (E) Amateur astronomers primarily provide follow-up observations after NEO discoveries have been made by the use of larger, computerized telescopes.

31. From 1994 to 2001, violent crime in New York City steadily decreased by over 50%, from a rate of 1,861 violent crimes per 100,000 people in 1994 down to 851 violent crimes per 100,000 people in 2001. Criminologists have partially attributed this drop to proactive policing tactics such as “broken window policing,” wherein city officials immediately fixed small acts of vandalism and, as a result, lowered other types of criminal behavior. During this same period, the rate of violent crime in the United States steadily decreased by 28% (down to 500 violent crimes per 100,000 people).

Which of the following conclusions is best supported by the information above?

- (A) The decrease in the total crime rate in the United States caused the decrease in New York City's crime rate.
- (B) New York City spends more per capita on law enforcement than does the rest of the United States.
- (C) If the rest of the United States were to adopt law enforcement tactics similar to those of New York City, national violent crime rates would continue to fall.
- (D) Between 1994 and 2001, the violent crime rate in New York City was consistently higher than the national average.
- (E) The violent crime rate in New York City will soon be below the national average.



32. Pharmaceutical manufacturers have long claimed that one of the main reasons they give doctors free drug samples is so that doctors can pass the medicine along to poor patients. However, a new study shows that high-income, well-insured individuals receive considerably more prescription drug samples than do low-income, poorly insured individuals. This is because doctors favor affluent people with health insurance.

Which of the following, if true, most seriously jeopardizes the validity of the explanation for why high-income individuals receive more free prescription drug samples than low-income individuals do?

- (A) Independent medical clinics not affiliated with large hospitals receive only a small percentage of the free drug samples distributed by pharmaceutical manufacturers.
- (B) Because of the associated costs, low-income people see doctors less often, if at all.
- (C) Some medical offices refuse to treat individuals for conditions that are not critical or life-threatening if the individual does not have the means to pay for the treatment.
- (D) Once the free drug sample supply in a doctor's office is gone, the patients are forced to pay for their prescriptions.
- (E) Though they claim to give doctors free drug samples in order to help poor patients, the real reasons pharmaceutical companies do it are to increase brand awareness and to influence the doctor to prescribe these drugs more often.

33. In the early 20<sup>th</sup> century, ivory poaching led to the near extinction of the black rhino and the African elephant. As a result, numerous African nations supported a complete ban on all ivory sales. This ban has been in effect since 1989. The governments of South Africa, Botswana, and Namibia have recently put up for auction thousands of tons of confiscated ivory horns and tusks, in spite of the continued moratorium. However, the three governments have the full support of the same conservationists who helped impose the 1989 international ban on ivory sales.

Which of the following, if true, contributes most to an explanation of why conservationists support South Africa's, Botswana's, and Namibia's auction of ivory?

- (A) The international demand for ivory has decreased significantly since 1989.
- (B) Most wild black rhinos and African elephants live outside of South Africa, Botswana, and Namibia.
- (C) Once the tons of confiscated ivory are auctioned, the market will be flooded with ivory, making poaching economically impractical.
- (D) If it were not for the auction, the confiscated ivory could never be used and would have to remain in government warehouses.
- (E) Due to major conservation efforts, black rhino and African elephant populations have slowly but steadily increased in the last few years.



34. Recent market research has indicated that, because Globaltech's current line of cellphones has remained the same over the last few years without adding any cutting-edge features that consumers demand, it has lost considerable market share in the industry. So, in an attempt to regain market share, Globaltech has proposed a new line of cellphones with the capability of synchronizing various household appliances such as computers, light switches, and even toasters.

Which of the following, if true, provides the strongest reason to expect that the proposed line of cellphones will be successful in regaining market share?

- (A) Engineers have only recently been able to discover a cost-effective way to remotely control household appliances through cellphones.
- (B) An increasing number of countries throughout the world now have more cellphones than people.
- (C) The number of appliances that can be remotely controlled through a cellphone signal has more than tripled in the last few years.
- (D) Globaltech's market share began decreasing at the same time as it stopped adding new features to its cellphones.
- (E) In today's economy, the new time-saving ability to remotely control appliances is being demanded by more and more consumers.

35. Researchers have recently discovered that approximately 70% of restaurant lemon wedges they studied were contaminated with harmful microorganisms such as bacteria and fungal pathogens. The researchers looked at numerous different restaurants in different regions of the country. Most of the organisms had the potential to cause infectious disease. For that reason, people should not order lemon wedges with their drinks.

Which of the following, if true, would most weaken the conclusion above?

- (A) The researchers could not determine why or how the microbial contamination occurred on the lemon wedges.
- (B) The researchers failed to investigate contamination of restaurant lime wedges by harmful microorganisms.
- (C) The researchers found that people who ordered lemon wedges at restaurants were equally likely to contract the diseases caused by the discovered bacteria as were people who did not order lemon wedges.
- (D) Health laws require lemons to be handled with gloves or tongs, but the common practice is for waiters and waitresses to handle them with their bare hands.
- (E) Many factors that have nothing to do with lemons affect the chance of an individual contracting a disease by coming into contact with bacteria. These factors include such things as the health and age of the individual as well as the status of his or her immune system.



36. The administrative budget in the Central Valley school district is proportional to the value of the valley's property tax base, the chief source of funding for the school district. As revenue from property taxes increases, each budget segment of the school district is increased proportionately.

Which of the following statements, if true, is the best basis for a criticism of the Central Valley's budgeting policy as an economically sound budgeting method for school districts?

- (A) The school district might continue to pay for past inefficient allocation of funds.
- (B) The revenue from property taxes has remained relatively unchanged for the last decade.
- (C) Student performance is affected by fluctuations in the overall school district budget.
- (D) Many Central Valley taxpayers have complained about the high property tax rates in the area.
- (E) The current budgeting system has little impact on whether parents decide to take their children to non-district funded classes.

37. A newspaper article in the Smithville Herald argued that the strength of unions was declining. The article's evidence was the decreasing number and size of strikes as though the reason for the unions' existence was to organize strikes. Surely, in a modern industrial society, the calling of a strike is evidence that the negotiating position of the union was too weak. Strong unions do not need to call strikes. They can concentrate their efforts on working with others in the labor market to achieve common goals, such as profitable and humane working conditions.

The argument criticizing the newspaper article employs which one of the following strategies?

- (A) Questioning the accuracy of the statistical evidence that the newspaper article uses
- (B) Detailing historical changes that make the newspaper articles' analysis outdated
- (C) Reinterpreting evidence that the newspaper article uses as indicating the opposite of what the newspaper concludes
- (D) Arguing that the newspaper article's conclusion is motivated by a desire to change the role of unions
- (E) Pointing to common interests among unions and management



38. Members of the staff at the local daycare suggest that parents would have more incentive to pick up their children on time if the parents were assessed a fine after arriving more than 10 minutes late to pick up their children.

Which of the following, assuming that it is a realistic possibility, argues the most strongly against the effectiveness of the suggestion above?

- (A) By replacing social norms with market norms, fines might induce parents to weigh the "costs" of picking their children up late and, as a result, to frequently choose to be late.
- (B) There might be irreconcilable disagreements among the daycare staff about whether the late fines should be imposed.
- (C) Late fines might cause some parents to enroll their children in other daycares.
- (D) Removing the late fine policy might actually increase the number of tardy pick-ups.
- (E) Some parents might pick up their children late no matter what level of fine is imposed against them.

39. When Germany was asked to pay 132 billion gold marks in war reparations following World War I, the German government had to print money to pay its bills, drastically devaluing the currency. In response to this anticipated devaluation, Germans began spending their money while it still had purchasing power, almost completely depleting the monetary stores of domestic banks.

Which of the following, if true and taken together with the information above, best supports the conclusion that the devaluation of the German mark was likely to continue?

- (A) The recipient governments of the war reparations began to demand that the reparations be paid in goods and commodities, such as coal.
- (B) The amount of 132 billion gold marks was the largest war reparations amount ever levied to that point.
- (C) In the post-World War I period, the German government had only two options for preventing complete economic collapse: print money or take out loans from domestic banks.
- (D) Printing currency causes inflation when the money is not based on hard assets such as gold or land.
- (E) The more consumers make purchases, the more money is returned into a country's economy.



40. **Sam:** During recessions, unemployment typically rises. Thus, air pollution due to automobile exhaust decreases during a recession, since fewer people commute in cars to jobs and so cars emitting pollutants into the air are used less.

**Felipe:** Why would you think that air pollution would decrease? During a recession, fewer people can afford to buy new cars, and cars tend to emit more pollutants as they get older.

Which of the following most accurately describes how Felipe's response is related to Sam's argument?

- (A) It calls into question the truth of the premises that Sam uses to support his conclusion.
- (B) It makes an additional claim that can only be true if Sam's conclusion is false.
- (C) It presents an additional consideration that weakens the support given to Sam's conclusion by his evidence.
- (D) It argues that Sam's conclusion is true, although not for the reasons Sam gives to support that conclusion.
- (E) It presents an argument showing that the premises in Sam's argument support an absurd conclusion that Sam has overlooked.

41. Before 1986 physicists believed they could describe the universe in terms of four universal forces. Experiments then suggested, however, a fifth universal force of mutual repulsion between particles of matter. This fifth force would explain the occurrence in the experiments of a smaller measurement of the gravitational attraction between bodies than the established theory predicted.

Which one of the following, if true, most strengthens the argument that there is a fifth universal force?

- (A) The extremely sophisticated equipment used for the experiments was not available to physicists before the 1970's.
- (B) No previously established scientific results are incompatible with the notion of a fifth universal force.
- (C) Some scientists have suggested that the alleged fifth universal force is an aspect of gravity rather than being fundamental in itself.
- (D) The experiments were conducted by physicists in remote geological settings in which factors affecting the force of gravity could not be measured with any degree of precision.
- (E) The fifth universal force was postulated at a time during which many other exciting and productive ideas in theoretical physics were developed.



42. In a recent study, a group of subjects had their normal daily caloric intake increased by 25 percent. This increase was entirely in the form of alcohol. Another group of similar subjects had alcohol replace non-alcoholic sources of 25 percent of their normal daily caloric intake. All subjects gained body fat over the course of the study and the amount of body fat gained was the same for both groups.

Which of the following is most strongly supported by the information above?

- (A) Alcohol is metabolized more quickly by the body than are other food and drinks.
- (B) In the general population, alcohol is the primary cause of gains in body fat.
- (C) An increased amount of body fat does not necessarily imply a weight gain.
- (D) Body fat gain is not dependent solely on the number of calories one consumes.
- (E) The proportion of calories from alcohol in a diet is more significant for body fat gain than are the total calories from alcohol.

43. When investigators discovered that the director of a local charity had repeatedly overstated the number of people his charity had helped, the director accepted responsibility for the deception. However, the investigators claimed that journalists were as much to blame as the director was for inflating the charity's reputation, since they had naively accepted what the director told them and simply reported as fact the numbers he gave them.

Which one of the following principles, if valid, most helps to justify the investigators' claim?

- (A) Anyone who works for a charitable organization is obliged to be completely honest about the activities of that organization.
- (B) Anyone who knowingly aids a liar by trying to conceal the truth from others is also a liar.
- (C) Anyone who presents as factual a story that turns out to be untrue without first attempting to verify that story is no less responsible for the consequences of that story than anyone else is.
- (D) Anyone who lies to advance his or her own career is more deserving of blame than someone who lies in order to promote a good cause.
- (E) Anyone who accepts responsibility for a wrongful act that he or she committed is less deserving of blame than someone who tries to conceal his or her own wrongdoing.



44. **Some analysts predict that next year will see total worldwide sea shipping tonnage increase by 2% over the current year.** However, captains of freight ships generally expect that worldwide shipping tonnage will decrease next year. **At issue is the amount of freight that will be shifted from sea ships to freight airplanes as compared to growth in the overall demand for freight transport.** The analysts believe growth in demand will outstrip the shift to freight airplanes; the ship captains believe the opposite.

The two portions in **boldface** play which of the following roles?

- (A) The first portion is evidence that supports a position; the second portion is a position that is not necessarily true based on the evidence.
- (B) The first portion represents one of two opposed positions; the second portion describes the underlying reason for the difference in position.
- (C) The first portion represents one of two opposed positions; the second portion is evidence in support of that position.
- (D) The first portion is evidence that supports a position; the second portion is evidence that supports an opposed position.
- (E) The first portion represents one of two opposed positions; the second portion represents the opposing position.

45. In one study engineering students who prepared for an exam by using tooth-picks and string did no worse than did similar students who prepared by using an expensive computer with sophisticated graphics. In another study, military personnel who trained on a costly high-tech simulator performed no better on a practical exam than did similar personnel who trained using an inexpensive cardboard model. Therefore, one should not always purchase technologically advanced education tools.

Which of the following principles, if valid, most helps to justify the reasoning above?

- (A) One should use different educational tools to teach engineering to civilians than are used to train military personnel.
- (B) High-tech solutions to modern problems are ineffective unless implemented by knowledgeable personnel.
- (C) Spending large sums of money on educational tools is at least as justified for nonmilitary training as it is for military training.
- (D) One should not invest in expensive teaching aids unless there are no other tools that are less expensive and at least as effective.
- (E) One should always provide students with a variety of educational materials so that each student can find the materials that best suit that student's learning style.



46. It is proposed to introduce mosquitoes into the wild with genetic alterations that destroy their disease-carrying capacity. In this way, the dangerous wild population could eventually be replaced with a harmless one without leaving room for another disease-transmitting type to flourish. One candidate gene would interfere with the mosquito's finding mates; another would cause destruction of a disease parasite before the stage at which it could be transmitted; another would disable the mosquito's own resistance to disease, so that it would die before transmitting the disease.

Which of the following identifies a discrepancy in the proposal above?

- (A) It is presupposed that the three genes would prove equally easy to isolate and insert into the cells of the mosquitoes.
- (B) Two of the ways of destroying disease carrying capacity in the wild would jeopardize the goal of the proposal.
- (C) It does not take into account positive roles that mosquitoes play in the environment, such as serving, in the larval stage, as food for fish.
- (D) None of the proposed alternatives would ensure that there would be fewer mosquitoes in any given area.
- (E) Evidence is not presented to show that each alternative method has been successfully tested on a wide scale.

47. Zoologists seeking evidence that the *Gigantopithecus* (giant ape) once inhabited a certain region are digging into the middle and lower layers of a mound of earth. *Gigantopithecus* is known to have gone extinct before Neanderthal man came into existence. The bottom of the middle layer contains some Neanderthal bones, but the lower layer does not.

Which of the following conclusions is best supported by the evidence above?

- (A) The Neanderthals represented by the fossilized bones were not native to this region but wandered to it from another, distant region.
- (B) The *Gigantopithecus* species lived for a long time before it became extinct.
- (C) The middle layer does not represent the period in which *Gigantopithecus* lived.
- (D) Zoologists will not find any evidence of *Gigantopithecus* in this region.
- (E) The lower layer represents the period during which Neanderthal man lived.



48. **McBride:** The proposed new fuel efficiency standards, if implemented, will discourage the manufacture of full-size cars. This prospect is troubling because when a subcompact and a full-size car collide, the people in the subcompact are more likely to be seriously injured than if theirs had also been a full-size car. The new fuel efficiency standards should therefore be opposed.

**Leggett:** But whenever any two cars collide, it is more likely that someone will be seriously injured if one of the cars is a full-size car than if neither of the cars is full-size. Thus, the new fuel efficiency standards should be supported precisely because they discourage the manufacture of full-size cars.

McBride's and Leggett's statements commit them to disagreeing about the truth of which one of the following?

- (A) The manufacture of full-size cars should be discouraged.
- (B) Fuel conservation is less important than safety in the event of a collision.
- (C) When a full-size car and a subcompact car collide, the occupants of the full-size car are less likely than the occupants of the subcompact car to be seriously injured.
- (D) Reducing the number of full-size cars on the highway will reduce the frequency of collisions between automobiles.
- (E) The new fuel-efficiency standards will encourage automobile manufacturers to build more subcompact cars.

49. A scholar discovered an unlabeled nineteenth-century recording of someone reciting a poem written by Walt Whitman. During the nineteenth century, recordings of poetry were not made for wide commercial sale. Rather, they were made either as rare private souvenirs of the voices of famous poets or as publicity stunts in which actors recorded poems that were familiar to the public. Since the Whitman poem in the recording was never even published, it is likely that the voice in the recording is actually Whitman's.

The argument proceeds by...

- (A) offering several pieces of evidence, each of which independently points to the same conclusion.
- (B) distinguishing a phenomenon into two subtypes and then for a particular case eliminating one of those subtypes.
- (C) offering a general principle and then demonstrating that the general principle is violated in this particular case.
- (D) showing that two apparently mutually exclusive alternatives are actually compatible with each other.
- (E) explaining the historical context of an incident in order to demonstrate that each of the two possible scenarios involving the incident is as likely as the other.



50. Maas is, at best, able to write magazine articles of average quality. The most compelling pieces of evidence for this are those few of the numerous articles submitted by Maas that are superior, since Maas, who is incapable of writing an article that is better than average, obviously must have plagiarized the superior ones.

The argument is most vulnerable to criticism on which of the following grounds?

- (A) It simply ignores the existence of potential counterevidence.
- (B) It generalizes from atypical occurrences.
- (C) It presupposes what it seeks to establish.
- (D) It relies on the judgment of experts in a matter where their expertise is irrelevant.
- (E) It infers limits on ability from a few isolated lapses in performance.

51. Despite the fact that antilock brakes are designed to make driving safer, research suggests that people who drive cars equipped with antilock brakes have more accidents than those who drive cars not equipped with antilock brakes.

Each of the following, if true, would help resolve the apparent discrepancy described above EXCEPT:

- (A) Most cars equipped with antilock brakes, are, on average, driven more carelessly than cars not equipped with antilock brakes.
- (B) Antilock brakes malfunction more often than regular brakes.
- (C) Antilock brakes require expensive specialized maintenance to be even as effective as regular brakes that have not been maintained.
- (D) Most people who drive cars equipped with antilock brakes do not know how to use those brakes properly.
- (E) Antilock brakes were designed for safety in congested urban driving, but accidents of the most serious nature take place on highways.



52. Although many seventeenth-century broadsides, popular ballads printed on a single sheet of paper and widely sold by street peddlers, were moralizing in nature, this is not evidence that most seventeenth-century people were serious about moral values. While over half of surviving broadsides contain moralizing statements, and it is known that many people purchased such compositions, it is not known why they did so, nor is it known how their own beliefs related to what they read.

Which of the following, if true, most strengthens the argument?

- (A) Like other forms of cheap seventeenth-century popular literature, surviving broadsides seem mostly to have been of rather low literary quality and to have been written by hack writers.
- (B) In many moralizing ballads, the moral content was confined to a single stanza expressing a pious sentiment tacked onto a sensationalized account of the crime and adultery.
- (C) Some seventeenth-century ballad sellers also sold some sermons printed in pamphlet form.
- (D) The clergy occasionally stuck broadsides warning about the danger of strong drink on the doors of seventeenth-century alehouses.
- (E) Well-educated people of the seventeenth-century held broadsides in contempt and considered broadside peddlers to be disreputable vagrants.

53. A few people who are bad writers simply cannot improve their writing, whether or not they receive instruction. Still, most bad writers can at least be taught to improve their writing enough so that they are no longer bad writers. However, no one can become a great writer simply by being taught how to be a better writer, since great writers must have not only skill but also talent.

Which one of the following can be properly inferred from the passage above?

- (A) All bad writers can become better writers.
- (B) All great writers had to be taught to become better writers.
- (C) Some bad writers can never become great writers.
- (D) Some bad writers can become great writers.
- (E) Some great writers can be taught to be even better writers.



54. When a group of people starts a company, the founders usually serve as sources both of funding and of skills in marketing, management, and technical matters. It is unlikely that a single individual can both provide adequate funding and be skilled in marketing, management, and technical matters. Therefore, companies founded by groups are more likely to succeed than companies founded by individuals.

Which one of the following is an assumption required by the argument?

- (A) A new company is more likely to succeed if every founding member contributes equally to the company's initial funding than if some members contribute more funds than others.
- (B) Some founding members of successful companies can provide both funding and skills in marketing, management, or technical matters.
- (C) New companies are more likely to succeed when their founders can provide adequate funding and skills in marketing, management, and technical abilities than when they must secure funding or skills from nonfounders.
- (D) Founders of a new company can more easily acquire marketing and management abilities than technical abilities.
- (E) A new company is more likely to succeed if its technical experts are also skilled in management and marketing than if they lack management or marketing skills.

55. Dead, rotting logs on the forest floor provide the habitat for a small mammal, the red-backed vole, which subsists almost entirely on the portion of certain specialized fungi that grows aboveground. The fungi-spores are deposited on the forest floor by the voles. Some of the fungi that develop from these spores form underground sheaths around the fine roots of the growing trees and assist the trees by processing and sharing nutrients and producing an antibiotic that protects the trees from disease.

The information above provides the most support for which one of the following conclusions?

- (A) The presence of rotting logs on a forest floor can have beneficial effects on the trees around them.
- (B) The red-backed vole is usually able to derive nutrients from the spores of the fungi it eats.
- (C) Young, growing trees could not survive without the voles to distribute the spores of certain fungi.
- (D) The spores of certain fungi cannot remain viable above the ground but must be deposited near the roots of trees.
- (E) Dead and decaying trees are the ideal environment for the growth of certain fungi.



56. Environmentalist: It takes less energy to make molten glass from recycled glass than from raw materials. Once the recycled glass or raw materials have been turned into molten glass, making bottles from recycled glass follows the same process as making bottles from raw materials. Obviously, soft drink bottlers who make a large percentage of their bottles from recycled glass have significant energy savings. Therefore, by using recycled glass instead of glass made from raw materials, bottlers can lower their costs and benefit the environment at the same time.

Which one of the following is an assumption on which the argument relies?

- (A) The process of making bottles from plastic that has been recycled is not significantly more energy efficient than is the process of making bottles from glass that has been recycled.
- (B) The amount of glass that is currently recycled each year is enough to supply the major soft drink bottlers with materials for a large percentage of the glass bottles they make that year.
- (C) Most consumers are not able to distinguish bottles made from recycled glass from glass bottles made from raw materials.
- (D) Purchasing and transport costs are not so much greater for recycled glass than for raw materials that they outweigh the savings in energy costs resulting from the use of recycled glass.
- (E) The process of making molten glass from recycled glass requires fewer steps than does the process of making molten glass from raw materials.

1.

57. Concerns for the environment have led chemists to develop plastics that are degradable. All degradable plastics, which are potentially useful packaging materials, need just the right conditions to break down. Some need exposure to sunlight, some need to be buried in soil, and some need to be submerged in water. It should be cautioned that some degradable plastics leave residues of unknown toxicity.

If all of the statements above are true, which one of the following must also be true?

- (A) Some materials that are potentially useful for packaging leave residues of unknown toxicity.
- (B) Some degradable plastics need both sunlight and submersion in order to break down.
- (C) Some materials that need sunlight in order to break down are not potentially useful packaging materials.
- (D) Some materials that leave residues of unknown toxicity are not degradable plastics.
- (E) Some materials that need to be buried in soil to break down leave residues of unknown toxicity.



58. **Gerrit:** While browsing in a record store I noticed that one copy of a recording I wanted had mistakenly been priced at a quarter of the list price. When I finally reached the cashier, I was told that the price had been mismarked and I would have to pay the full list price. Since I had wasted an hour standing in line, the retailer was morally obligated to sell me the recording at the lower price.

**Saskia:** I disagree. You knew that a mistake had been made, and you were simply trying to take advantage of that mistake.

Which one of the following principles, if established, would most help to justify Saskia's position?

- (A) The price displayed on an item in a retail store morally constitutes an irrevocable offer to sell the item at that price.
- (B) Customers of retail stores are morally entitled to profit from any mistakes that the retailers make in marking prices.
- (C) Retailers are morally entitled to update marked prices periodically in order to reflect changes in manufacturers' suggested prices.
- (D) Retailers are morally obligated to meet expectations about prices that they have intentionally encouraged their customers to hold.
- (E) Retailers are morally obligated to sell an item to a customer at a mismarked price only if that customer was genuinely misled about the intended price by the mismarking.

59. The retail price of decaffeinated coffee is considerably higher than that of regular coffee. However, the process by which coffee beans are decaffeinated is fairly simple and not very costly. Therefore, the price difference cannot be accounted for by the greater cost of providing decaffeinated coffee to the consumer.

The argument relies on assuming which one of the following?

- (A) Processing regular coffee costs more than does processing decaffeinated coffee.
- (B) Price differences between products can generally be accounted for by such factors as supply and demand, not by differences in production costs.
- (C) There is little competition among companies that process decaffeinated coffee.
- (D) Retail coffee-sellers do not believe that consumers are content to pay more for decaffeinated coffee than for regular coffee.
- (E) The beans used for producing decaffeinated coffee do not cost much more before processing than the beans used for producing regular coffee.



60. According to recent study data, greenhouse gas emissions from fossil fuel-based vehicles are a major contributor to global climate instability. One plan to reduce greenhouse gases within the United States is to encourage the production of corn-based ethanol fuels. Such “biofuels” burn cleaner and therefore emit fewer harmful chemicals into the atmosphere. To encourage production, financial incentives could be given to companies to make the switch to biofuel technology.

Which of the following, if true, would cast the most doubt on the effectiveness of the plan to reduce greenhouse gas emissions by encouraging the production of corn-based fuels?

- (A) Before any law is enacted to provide financial incentives to biofuel companies, it must pass with a majority vote in both houses of Congress.
- (B) While ethanol currently makes up less than 4 percent of the motor fuel used nationally, the corn used in ethanol production constitutes 14 percent of the domestic crop.
- (C) Corn-based ethanol production increases food prices and consumes large amounts of water.
- (D) The fertilizer used in the cultivation of biofuel crops releases nitrous oxide, a potent, long-lived greenhouse gas into the atmosphere.
- (E) The scientific study of greenhouse gas emissions was conducted by a university that received funding from prominent agricultural lobby groups who would benefit greatly from new legislation.

61. The purpose of a general theory of art is to explain every aesthetic feature that is found in any of the arts. Pre-modern general theories of art, however, focused primarily on painting and sculpture. Every pre-modern general theory of art, even those that succeed as theories of painting or sculpture, fails to explain some aesthetic feature of music.

The statements above, if true, most strongly support which one of following?

- (A) Any general theory of art that explains the aesthetic features of painting also explains those of sculpture.
- (B) A general theory of art that explains every aesthetic feature of music will achieve its purpose.
- (C) Any theory of art that focus primarily on sculpture or painting cannot explain every aesthetic feature of music.
- (D) No pre-modern general theory of art achieves its purpose unless music is not art.
- (E) No pre-modern general theory of art explains any aesthetic feature of music that is not shared with painting and sculpture.



62. **Raymond:** Although some people claim it is inconsistent to support both freedom of speech and legislation limiting the amount of violence in TV programs, it is not. We can limit TV program content because the damage done by violent programs is more harmful than the decrease in freedom of speech that would result from the limitations enacted by the legislation.

Which one of the following principles, if valid, most helps to justify Raymond's reasoning?

- (A) In evaluating legislation that would impinge on a basic freedom, we should consider the consequences of not passing the legislation.
- (B) One can support freedom of speech while at the same time recognizing that other interests can sometimes override it.
- (C) When facing a choice regarding the restriction of freedom of speech, we must decide based on what would make the greatest number of people the happiest.
- (D) If the exercise of a basic freedom leads to some harm, then the exercise of that freedom should be restricted.
- (E) In some circumstances, we should tolerate regulations that impinge on a basic freedom.

63. People who have political power tend to see new technologies as a means of extending or protecting their power, whereas they generally see new ethical arguments and ideas as a threat to it. Therefore, technical ingenuity usually brings benefits to those who have this ingenuity, whereas ethical inventiveness brings only pain to those who have this inventiveness.

Which one of the following statements, if true, most strengthens the argument?

- (A) Those who offer new ways of justifying current political power often reap the benefits of their own inventions.
- (B) Politically powerful people tend to reward those whom they believe are useful to them and to punish those whom they believe are threats.
- (C) Ethical inventiveness and technical ingenuity are never possessed by the same individuals.
- (D) New technologies are often used by people who strive to defeat those who currently have political power.
- (E) Many people who possess ethical inventiveness conceal their novel ethical arguments for fear of retribution by the politically powerful.



64. Zebra mussels, a nuisance when they clog the intake pipes of nuclear power plants and water plants along the Great Lakes, have some redeeming qualities. Since the mussels feed voraciously on algae that they filter from the water that passes by them, bags of zebra mussels suspended in the discharge streams of chemical plants significantly improve water quality, even removing some hazardous wastes.

Which one of the following is most strongly supported on the basis of the statements above, if they are true?

- (A) Zebra mussels arrived in the Great Lakes on transatlantic freighters and, since they have no natural enemies there, are rapidly displacing the native species of clams.
- (B) If the mussels spread to areas of the Mississippi River where native clams provide the basis for a cultured-pearl industry, that industry will collapse because the mussels are unsuitable for such use and would displace the clams.
- (C) There is no mechanical means available for clearing intake pipes by scraping the mussels from them.
- (D) The algae on which the mussels feed would, if not consumed by the mussels, themselves clog the intake pipes of nuclear power plants and water plants.
- (E) Any hazardous waste the mussels remove from chemical-plant discharge will remain in the mussels, if they do not transform it, and they then must be regarded as hazardous waste.

65. During the recent economic downturn, banks contributed to the decline by loaning less money. Prior to the downturn, regulatory standards for making bank loans were tightened. Clearly, therefore, banks will lend more money if those standards are relaxed.

The argument assumes that...

- (A) the downturn did not cause a significant decrease in the total amount of money on deposit with banks, which is the source of funds for banks to lend.
- (B) the imposition of tighter regulatory standards was not a cause of the economic downturn.
- (C) the reason for tightening the regulatory standards was not arbitrary.
- (D) no economic downturn is accompanied by a significant decrease in the amount of money loaned out by banks to individual borrowers and businesses.
- (E) no relaxation of standards for bank loans would compensate for the effects of the downturn.



66. Birds need so much food energy to maintain their body temperatures that some of them spend most of their time eating. But a comparison of Mifune, a bird of a seed-eating species, to Rossi, a bird of a nectar-eating species that has the same overall energy requirement, would surely show that Mifune spends more time eating than does Rossi, since a given amount of nectar provides more energy than does the same amount of seeds.

The argument relies on which one of the following questionable assumptions?

- (A) Birds of different species generally do not have the same overall energy requirements as each other.
- (B) The nectar-eating bird does not sometimes also eat seeds.
- (C) The time it takes for the nectar-eating bird to eat a given amount of nectar is not longer than the time it takes the seed-eating bird to eat the same amount of seeds.
- (D) The seed-eating bird does not have a lower body temperature than does the nectar-eating bird.
- (E) The overall energy requirements of a given bird do not depend on factors such as the size of the bird, its nest-building habits, and the climate of the region in which it lives.

67. **Sylvia: Some psychologists attribute complex** reasoning ability to reptiles, claiming that simple stimulus-response explanations of some reptiles' behaviors, such as food gathering, cannot account for the complexity of such behavior. But since experiments show that reptiles are incapable of making major alterations in their behavior, for example, when faced with significant changes in their environment, these animals must be incapable of complex reasoning.

Which one of the following is an assumption required by Sylvia's argument?

- (A) Animals could make major changes in their behavior only if they were capable of complex reasoning.
- (B) Simple stimulus-response explanations can in principle account for all reptile behaviors.
- (C) Reptile behavior appears more complex in the field than laboratory experiments reveal it to be.
- (D) If reptiles were capable of complex reasoning, they would sometimes be able to make major changes in their behavior.
- (E) Complex reasoning and responses to stimuli cannot both contribute to the same behavior

**HOMEWORK**



**HOMEWORK**





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**ANSWER KEY**

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<b>LESSONS</b>		<b>HOMEWORK</b>			
1. B	10.D	18.A	34.E	50.C	66.C
2. B	11.D	19.A	35.C	51.E	67.D
3. A	12.E	20.C	36.A	52.B	
4. B	13.D	21.D	37.C	53.C	
5. B	14.B	22.D	38.A	54.C	
6. C	15.E	23.D	39.C	55.A	
7. A	16.B	24.B	40.C	56.D	
8. E	17.C	25.E	41.B	57.A	
9. B		26.D	42.D	58.E	
		27.C	43.C	59.E	
		28.B	44.B	60.D	
		29.C	45.D	61.D	
		30.E	46.B	62.B	
		31.D	47.C	63.B	
		32.B	48.A	64.E	
		33.C	49.B	65.A	



## **Homework Problem Solutions**

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**PROBLEM #18 (A)**

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This is a Weaken question, due to the phrase, “most seriously weakens the argument.” As we read through the problem, two potential holes in the logic quickly appear: first, the final conclusion assumes that other important subjects are being crowded out of the engineering curriculum, but there is no such evidence to be found in the premises. Second, there is a gap between the premise, “computer programs that provide solutions to mathematical problems in engineering are being produced,” and the intermediate conclusion “it is thus increasingly unnecessary for practicing engineers to have a thorough understanding of fundamental mathematical principles.” Even though programs may exist that take care of some mathematical solutions, it is possible that an understanding of mathematical principles is still necessary to use the programs (computers “providing mathematical solutions” and engineering “understanding mathematical principles” are two different things).

Of the five answer choices, three of them strengthen the argument (remember: a trick of the Testmaker is to include Strengthen options in a Weaken question), and one choice is irrelevant. Only one answer actually weakens the argument.

Answer choice “A” points out the logical gap between using the computer programs and somehow not needing to understand how they work. “A” tells us that understanding math is still a prerequisite for using the programs, thereby correctly undermining the argument.

Answer choice “B” points out another potential gap (*do engineers even use the programs?*), but then bridges the gap by telling us that not only are the computer programs being produced, they are being widely used – thus strengthening the argument.

Answer choice “C” also strengthens the argument: remember one of the logical gaps in the argument deals with the unstated assumption that important subjects might be crowded out of the engineering curriculum. Since “C” gives us one of those subjects, it strengthens the argument, and therefore can’t be the right answer.

“D” is very similar in function to “B”. It also points out a gap in the argument and then bridges that gap (*can engineers even use the programs?*). Since it shows that engineers’ computers can run the programs, it actually strengthens the argument.

Answer choice “E” is irrelevant. It doesn’t matter whether the curriculum requires the students to be familiar with certain computer programs. This does not affect whether the programs supplant the need for engineering students to understand math fundamentals. “E” could still be true and not have it affect the argument.

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**PROBLEM #19 (A)**

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This is a Weaken question, due to the phrase, “which of the following...casts the most doubt”. This particular problem highlights one of the sub-types of Weaken questions: notice that we are not necessarily looking at a logical argument, but instead at a proposed solution or plan. Whenever we hit these kinds of Weaken questions, we need to mind the gap between the proposed goal of the plan and the methods used to obtain that goal. The disconnect often lies between those two components. In the case of this particular problem, Company K’s plan is to increase market share by pumping

money into marketing the new product as the “new low-fat alternative to butter.” The question naturally arises: does marketing a product in a certain way increase market share? Any answer choice that undermines this would weaken the plan.

Answer choice “A” shows that there could be cultural causes unrelated to marketing that may be keeping the substitute from gaining market share across Europe. Naturally, if their marketing plan depends on calling the product “low-fat” – a phrase with negative connotations – market share would not necessarily increase. “A” shows how Company K’s plan might not work, and therefore is the correct answer.

“B” is an answer that uses statistical measures in a deceiving way. It focuses on the decreasing total size of the yellow fats market, but this is substantially different than the notion of market share. Market share (or a percentage of the total) could still proportionally increase, even if the total market is shrinking.

“C” is a classic misdirection answer. It gets us thinking about the sustainability of the market increase, when the original goal is simply to increase market share. “C” indicates that Company K could not maintain the proposed marketing campaign long-term, but the campaign could still be successful in meeting the goal of increasing market share before they are forced to scale back the campaign.

While “D” seems to strengthen the answer (and is therefore wrong!), there is a deeper issue at play here. Answer choice “D” tells us how Company K did something similar in a very different situation. Just because something works in one set of circumstances doesn’t mean it would necessarily work in a different set of circumstances. The Testmaker is trying to use this answer choice to lure novice test takers who are prone to either overgeneralizing or picking Strengthen answers when a Weaken answer is necessary.

Answer choice “E” is completely irrelevant. Showing an increase in market share without marketing in one location doesn’t mean marketing can’t help in another.

### **PROBLEM #20 (C)**

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This is an Inference question. In isolation, the phrase in the question stem, “most strongly supports”, could hint at either a Strengthen question or an Inference question. However, when we take the stem in its entirety, the structure of the problem begins to unfold. Remember: premises always support conclusions. Thus, if the information in the answer choices supports the argument above, the answer choices must be premises and the conclusion is found in the argument (leading us to believe the problem is a Strengthen question.) On the other hand, if the information in the body of the question supports the answer choices below, the argument’s conclusion must be found in the answer choices (leading us to believe the problem is an Inference question.) Since the question stem indicates that the information “above” is supporting answer choices below, the answer choices must be potential conclusions. This must be an Inference question.

Two primary insights can be gleaned reading the body of the question. First, since we are looking at an Inference question, our first line of defense is the “no new information” filter. Remember that valid conclusions must always (not just sometimes) be true, and therefore must be based entirely on the information found in the premises. Conclusions containing new information not found anywhere in the argument may or may not be true. The second insight is closely linked to the first. Throughout the entire body of the question, a lot of fuzzy, non-specific words are used: “most pain relievers”, “some

people”, and “many people.” They describe subgroups of the total, and are very nebulous, especially when you contrast such phrases with “all pain relievers” or “all people.” Therefore, valid conclusions that go beyond these vague categorizations may or may not be true. Believing you can conclude something about “all people” when you only know about “some people” is a logical error known as overgeneralization. Once we recognize this trick of the Testmaker, it becomes relatively easy to spot many of the wrong answer choices.

Answer choice “A” is a classic example of overgeneralization. Notice how this conclusion focuses on “any patient” taking “any pain reliever.” The body of the question only tells us about “most people” and “most pain relievers”. This conclusion goes beyond what we know, and therefore is not necessarily true.

Answer choice “B” includes new information not contained in the body of the question. The evidence in the top part of the question contains nothing about people being “sensitive” to one type of pain reliever. Therefore, we cannot make a conclusion about something we don’t have information on. Answer choice “B” is not necessarily true.

Answer choice “C” contains no new information, and remains within the fuzzy scope of the original statements. The body of the question tells us that “many people” who take painkillers for longer than 7 days experience side effects. The conclusion that “at least some people” will experience side effects is well within the information given. “C” is basically a restate of information already given, so we can clearly conclude it must be true. “C” is the right answer.

The conclusion in answer choice “D” also uses extreme scope limiters not justified by the original evidence. It refers to “any side effects” that “cannot” be the result of pain relievers. This goes well beyond the scope. The problem only tells us about side effects caused by a subset of pain relievers. It makes no mention of side effects not caused by pain relievers. Answer choice “D” fails the “no new information” filter. We cannot make a conclusion about something we don’t have information on. Answer choice “D” is not necessarily true.

Answer choice “E” contains all sorts of new information not contained in the original evidence. The body of the question makes no mention on how to “maximize your natural health and well-being”, nor does it give us any criteria for when we should avoid pain relievers. (For example, could it be possible that the advantages of taking pain relievers could outweigh the side effects, even if we had to deal with these negative consequences?) “E” cannot be a valid conclusion.

### **PROBLEM #21 (D)**

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This is a Method question, due to its focus on the “logical structure” of the argument. In particular, this question falls under the Mimic subtype. Mimic questions are very rare on the GMAT; they require us to apply the principles behind a Method question in order to recognize similar structure in other arguments or examples. The crucial first step is to be able to step back and look at the big picture of the original argument’s structure, independent of subject material. Remember that answer choices which mirror the original argument’s subject material should be treated with deep suspicion. They are likely sucker answers. In this problem, the original argument disproves a negative statement (intentionally using stacked negatives to confuse the novice test taker.) The argument tries to disprove a statement by showing that the relationship could happen through a related, intermediate cause. (In

essence, “since  $X$  can cause  $Y$ , and  $Y$  can cause  $Z$ , then saying  $X$  cannot cause  $Z$  is inaccurate.”) We now need to find the answer choice that mirrors this general structure.

Answer choice “A” begins well enough by disproving a statement, but this statement is positive (“can cause...” instead of “cannot cause...”) and then ends with the opposite of what it needs to (“warm...places” vs. “cold air”). “A” can be eliminated.

Answer choice “B” tries to prove a statement instead of disprove a statement (“it is accurate...” instead of “it is inaccurate...”). It can be immediately eliminated.

Answer choice “C” does something very similar to “B”: it proves a statement instead of disproves one (“it is correct...” instead of “it is incorrect...”). “C” can also be immediately eliminated.

Answer choice “D” begins correctly by disproving a statement (“it is incorrect...”), so let’s look further. It also attempts to disprove a negative statement, just like the original. Its method of disproving the initial statement is also identical: it shows that the relationship between inferior motor oil and gas mileage could happen through a related, intermediate cause (“engine valve deterioration”). “D” mirrors the original argumentative structure the closest.

While answer choice “E” begins by disproving a statement (“it is inaccurate...”), it fails to mirror the original argument in two key directions: (1) it does not disprove a negative statement (instead, it disproves a positive relationship), and (2) it does not link together two situations with an intermediate cause (instead, it describes a relationship separated by one degree – but certainly not causal.) The order of answer choice “E” seems close, but one can certainly not infer that a teacher’s pupil was also taught by the teacher’s own teacher. One condition does not cause the other condition. “E” can also be eliminated.

### **PROBLEM #22 (D)**

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This is a Weaken question, due to the phrase, “which of the following...indicates the plan...is ill-suited.” However, unlike other Weaken questions that focus on arguments containing premises and conclusions, this problem focuses on the steps and goals of a particular plan. Thus, instead of zeroing in on a conclusion (as we normally would if attempting to weaken a traditional argument), we pay special attention to the goal of the plan. The correct answer will show that the proposed solution would not meet the predefined goals. The primary goal of the environmental groups is found in the very first sentence of the question: they want to “protect the environment”. To reach this goal, their plan is to keep a decommissioned oil platform from sinking. Naturally, any answer choice that shows the plan does not “protect the environment” could potentially weaken the efficacy of the solution.

Answer choice “A” uses a fairly common trick of the Testmaker: luring test takers into accepting an “expert opinion” when the evaluatory criteria used by the expert are not explicitly stated. While the expert (in this case, the National Environmental Research Council) may give an official statement, this does not mean that the expert has the same goals or motives as the environmental groups have. “The best practicable environmental option” may or may not protect the environment. Answer choice “A” does not necessarily weaken the plan.

Answer choice “B” is a misdirection answer. Here the Testmaker introduces different criteria than those used by the environmental groups (in this case, the cost of different options.) As compelling as saving millions of dollars may be, the goal of the environmental groups is to “protect the environment” not

"save money". Our goal is to undermine the efficacy of the proposed plan in meeting the proposed goal; whether the plan saves money is irrelevant.

Answer choice "C" is also a misdirection answer. It tries to get novice test takers to focus on other sources of toxic materials irrelevant to the goals of the proposed plan: environmentalists could still protect the environment from the toxic materials released by sinking the oil platform, regardless of the amount of chemicals released by natural phenomena. (Now, if they could somehow plug an undersea volcano by sinking the oil platform, that would be another story entirely; however, such a possibility is not mentioned here!)

Answer choice "D" shows us how the potential effects of the environmentalists' plan could actually pose a greater risk to the environment, thus undermining the environmentalists' goal of "protecting the environment". Answer choice "D" weakens the plan.

Answer choice "E" is another variation on the "expert opinion" trap used by the Testmaker. Even if the disposal process were "internationally approved" (implying the "okay" of some governing body), this could still come in conflict with the environmentalists' goals.

### **PROBLEM #23 (D)**

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This is an Inference question, as demonstrated by the phrase, "Therefore, if... we can say that..." (The word, "therefore" is a massive conclusion tag.) The problem assumes the truthfulness of the anthropologists' theory, and then asks us to come up with a conclusion, based off of the existing evidence. The theory tells us that, prior to being conquered, great city-states exhibit internal conflict. Evidence exists that *Archaic C* was "sacked and occupied" in the first millennium BC. The terminology change here is an attempt by the Testmaker to hide the linkage between the theory and *Archaic C*. "Sacked and occupied" is, for all practical purposes, virtually synonymous with "conquered." While historians might argue subtle semantic differences between "sacked and occupied" and "conquered", both terms imply a military domination from an external force. The possible linkage provides us with a great jumping-off point. Once we see this linkage, we could even anticipate a potential conclusion: since we know that *Archaic C* was conquered, the anthropologists' theory tells us that *Archaic C* must have exhibited internal strife prior to its downfall.

Answer choice "A" concludes something about what happens after *Archaic C* fell, but this fails the "no new information" filter – the anthropologists' theory only tells us what happens in a city before it is conquered, not after. Answer choice "A" may or may not be true.

Answer choice "B" expressly contradicts what we know – the theory implies *Archaic C* must have had internal divisions. Naturally, conclusions cannot contradict the evidence.

Answer choice "C" also contradicts something that we were given in the problem. The body of the question explicitly states that *Archaic C* was a "great city-state" and gives us no criteria for evaluating whether a city-state could be "truly great". "C" contradicts the evidence.

Answer choice "D" matches our anticipated conclusion: since we know that *Archaic C* was conquered, the anthropologists' theory tells us that *Archaic C* must have exhibited internal strife prior to its downfall. "D" appears to be a strong answer.

Answer choice "E" contains new information with no justification in the original statement. Whether *Archaic C* was the first great city-state to be conquered is outside the scope of the question. We only know it was conquered, not when it was conquered in relation to other city-states meeting similar fates. Therefore, we cannot make a conclusion about something we don't have information on. Answer choice "A" fails the "no new information" filter.

#### **PROBLEM #24 (B)**

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At first glance, this seems to be an Inference question, based off of the phrase, "it can be properly inferred." However, upon closer examination, it should be easy to see that the problem asks us to evaluate a process and then determine a solution that would undermine that process. In this case, we are asked to find a premise that would undermine the process of how clear cutting leads to negative environmental problems. This sounds much more like a Weaken question focusing on a process. This problem demonstrates the importance of looking beyond individual keywords and focusing instead on the structure and wording of the entire question prompt. Just because a question stem includes the word "inferred" does not mean that we should necessarily treat the question using Inference strategies. The SWIM method is not a checklist with mutually exclusive options; it is a way of systematizing your thinking about Critical Reasoning questions.

Since this question asks us to undermine a process by reducing the environmental impacts associated with the process, we can treat it like a process-focused Weaken question. Thus, instead of concentrating on a conclusion, we focus on the results of the process. The correct answer will give us new information or practices that best mitigate the stated results.

Answer choice "A" does nothing to minimize the results. The problem explicitly states that the primary environmental impacts of clear cutting are erosion caused by hillside exposure and disease/insect infestation caused by homogenous tree mixes. How big the trees are when they are cut does not play a role in these effects.

Answer choice "B" suggests leaving some mature trees standing when harvesting an area. This method would mitigate the problems associated with erosion (since the hillsides wouldn't be as exposed) and with disease/insect infestation (since the area would have heterogeneous tree ages.) "B" weakens both effects of the process, and is the right answer.

Answer choice "C" also weakens the negative effects of clear cutting. With Weaken questions, the Testmaker will often include more than one answer that actually undermines the argument, plan, or process in question. When this happens, we need to evaluate which answer undermines the body of the question the most. The question clearly indicates that one of the problems associated with clear cutting is insect infestation. Insecticides would naturally mitigate this problem. However, insecticides would do nothing against erosion and disease. Since answer choice "B" reduces all of the negative effects – not just insect infestation – "B" weakens the process more than answer choice "C" does. "C" is an obvious alternative choice, but isn't as strong of an answer as "B" is.

Answer choice "D" is a classic misdirection answer. It focuses on where wood is harvested, not how it is harvested. While leaving trees uncut near roads or state parks might be aesthetically pleasing to the viewing public, this doesn't change the negative effects of clear cutting elsewhere.

Answer choice "E" would actually magnify the problems associated with clear cutting. The question tells us that disease/insect infestation occurs if all the trees in an area are the same age or species. Planting fast growing monocultures would only exacerbate the problem.

### **PROBLEM #25 (E)**

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As evidenced by the phrase, "illustrates a principle most similar," this is a "Mimic the Reasoning" question, a subtype of the Method of Reasoning category. The question stem also indicates that we are not trying to mimic an entire argument, but simply trying to mimic a "principle." Thus, we do not need to isolate or categorize individual premises or conclusions; we only need to find the underlying principle in the original prompt and then find the answer that illustrates that same principle. As we do so, remember that Method questions are best answered when we step backwards and divorce ourselves from the subject matter, looking instead for the "big picture." The original question prompt indicates that a good detective story writer works backward from the crime. Thus we are looking for an answer that proposes a strategy where the subject first determines the end, then the plans the means to that end. Diagramming the logic is completely unnecessary here.

Answer choice "A" seems to begin mimicking the principle of working backward, but it then detours midway through the sentence and recommends the opposite position. The Testmaker here is hoping that we failed to read the entire statement and only looked for confirming evidence.

Answer choice "B" clearly does not work backward from the end product. Instead, it recommends undertaking initial preparations prior to deciding what to plant. "B" suggests the exact opposite of the principle we are looking for.

Answer choice "C" is a trap answer written by the Testmaker to see if we identified the right principle in the first place. "C" suggests that, during the design process, architects must take into consideration how a building should be constructed. However, this does not focus on the end result, and then determine the means to that end. Instead, it focuses on an intermediate step – construction – when planning out the process. The "end product" of a designed building is the purpose or use of a building; constructing the building is actually another part in the process to achieve that end result. With this answer, the Testmaker is hoping that we missed this crucial distinction. This would certainly happen if we thought that the initial principle to be mimicked was something like, "think about stuff before you do it." Make sure that when you formulate the "big picture" in a Method question that you are specific. Divorcing ourselves from the subject matter is crucial, but we must be careful of making generalized, vague statements that could apply to multiple different answers.

Answer choice "D" certainly does not propose "working backward." Instead, it recommends a sort of "spaghetti on the wall" approach – just throw whatever you have at it and see what sticks. "D" cannot be right answer.

Answer choice "E" mimics the principle of working backward perfectly. It recommends that tennis players focus on the eventual destination of the shot, and then determine where they need to be to make that shot happen. Answer choice "E" is correct.

### **PROBLEM #26 (D)**

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This problem is a traditional Weaken question, as evidenced by the phrase, "which of the following... most seriously weakens." Our first item of business is therefore to identify the conclusion of the argument and then look for gaps between the conclusion and the premises. In the middle of the

argument we see the word, “since.” “Since” is a type of conclusion tag, but it attaches itself to a premise immediately next to the conclusion. Order is crucial. Thus, if we see the phrase “Since A, then B”, A is a premise supporting the conclusion, B. If we see the phrase “A, since B”, A is now the conclusion, and B is a premise undergirding that conclusion. In this particular problem, the phrase, “Since alcohol can be metabolized in the average person’s body at a rate of 0.015 BAC (or ‘blood alcohol content’) per hour” is a conclusion supporting the conclusion, “a severely intoxicated individual with a BAC of 0.15 should be symptom-free after 10 hours.” The gap between the premise and the conclusion is glaring. Notice that the premise talks about an “average person’s body”, and then the conclusion focusing on a specific, if unnamed, individual. Naturally, a specific individual is not necessarily “average.” The Testmaker is hoping that we miss this disconnect.

Answer choice “A” reinforces the last sentence in the body of the question, by stating that alcohol-like symptoms can be caused by other things, such as prescription drugs or drowsiness. In a small way, answer choice “A” actually strengthens the argument. Don’t be confused by Strengthen answers when dealing with Weaken questions.

Answer choice “B” is completely irrelevant. The question deals with the effects of certain levels of blood alcohol content, not with how those levels were reached. How many drinks a certain person consumed to reach a given level is not pertinent to the problem. Answer choice “B” attempts to hijack the question.

Answer choice “C” is equally irrelevant. The question focuses on the short-term effects of alcohol, not on long-term medical issues. (Notice the problem asserts that a severely intoxicated individual would not have symptoms “similar” to the ones mentioned in the opening sentence of the question. All of these symptoms are short-term. Other symptoms – while potentially egregious – are irrelevant to the question.) “C” fails to focus on the logical gap between an “average” individual and a specific individual.

Answer choice “D” tells us that the metabolism rate of alcohol varies from person to person, highlighting the gap between an “average” person and a specific individual. It indicates that there are factors which could allow alcohol to remain in the bloodstream for longer than “average.” Answer choice “D” weakens the conclusion and is correct.

Answer choice “E” is also irrelevant and outside the scope of the question. The problem focuses on whether a “severely intoxicated individual with a BAC of 0.15” could experience alcohol-caused symptoms after ten hours. The potential existence of individuals incapable of reaching this limit is outside the scope of the problem.

### **PROBLEM #27 (C)**

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As evidenced by the phrase, “most helps to resolve the apparent conflict”, this is an “Explain the Paradox” question, a subtype of the Strengthen category. Our mission is strategically similar to traditional Strengthen questions, but instead of minding the logical gap between a conclusion and its supporting premises, we must focus on the logical gap separating two contradictory statements. With this particular problem, we understand that gas and dust caused increased brightness, and when comets break up they emit gas and dust. The paradox lies in the fact that the scientists observed the increased brightness – caused by gas and dust – but didn’t observe the comet’s breakup until later. The paradox hinges on the timing of the observations. (Notice that the problem explicitly states the

scientists “correctly hypothesized that its increased brightness was a result of the comet’s breaking up” – we can rule out any answers which imply the brightness was caused by something else.)

Answer choice “A” actually intensifies the paradox, not fixes it. (Be careful of Weaken answers in Strengthen question types!) If the comet broke up first, then emitted gasses later, the increase in brightness caused by the gas and dust would actually come after the breakup, not before. The problem clearly states that the increased brightness preceded the observed breakup.

Answer choice “B” provides new information, but does nothing to bridge the gap between the two contradictory observations. While it explains the scientific mechanism behind why a disintegrating comet is brighter, it doesn’t explain why the Steinman-Arnett 3 comet was brighter before it was visibly breaking up.

Answer choice “C” bridges the gap and explains how gas and dust – which cause increased brightness – can be emitted before a comet completely disintegrates. This explains the timing of the contradictory observations and shows how scientists could note increased brightness before observing the comet’s complete dissolution. “C” is the correct answer.

Answer choice “D” seems to imply that more and more gas and dust were emitted by the comet throughout the timeframe in question, but it fails to resolve why the scientists observed a 1,000 times increase in brightness in September, but didn’t observe the breakup until November. The gap in timing is not explained.

Answer choice “E” is another answer that provides new background information without bridging the gap between the two contradictory observations. Explaining why the comet broke up is not the same as explaining why the scientists observed the brightness before the actual disintegration. With questions like these, we must focus on connecting both paradoxical pieces.

### **PROBLEM #28 (B)**

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The question stem, “The two portions in boldface play which of the following roles?”, clearly indicates this is a “Roles in Boldface” question, a subtype of the Method category. In order to successfully answer this question, we must analyze the “big picture” of the argument, focusing on structure, not topic. It appears that the main point of the argument (or conclusion) is found in the last sentence: Alexis must be accepted into a top MBA program because she fulfills two necessary requirements. The recommendation that Alexis be accepted is the conclusion; it answers the question “why do the other statements exist?” Successfully categorizing the second boldface portion as a conclusion allows us to eliminate answer choices “C”, “D”, and “E”. Answer choices “C” and “D” call the second boldface portion a piece of evidence, and “E” calls it a statement that supports the conclusion – not the conclusion itself. We can now focus on the differences in meaning between answer choices “A” and “B”.

Both “A” and “B” identify the first boldface portion as a “statement of evidence” – no conflict here. However, there is a profound difference in wording between the ways these two answer choices describe the second boldface portion. Answer choice “A” tells us that the second portion is a valid conclusion, while “B” tells us the conclusion is not necessarily true. Thus, our mission is to determine if the argument is valid.

Not confusing causal factors with correlational factors is crucial here. The problem states that, “to get into a top MBA program one must have five years of work experience and a 90th percentile GMAT score.” In other words, if you get into a top MBA program, you must have met those two requirements. This premise is one-directional. Getting into a top MBA program means you met those requirements, but meeting those requirements does not mean you got into a top MBA program. There may be other requirements. (For example, actually applying to a top school is an essential prerequisite to getting in!) While Alexis met two requirements, this does not imply she met them all. We have no way of knowing whether these two necessary conditions can be treated as sufficient, so the conclusion is not necessarily true. The answer is “B”.

### **PROBLEM #29 (C)**

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As evidenced by the phrase, “most helps to explain”, this is an “Explain the Paradox” question, a subtype of the Strengthen category. Several warning signs make it readily apparent that the Testmaker may be using statistics and ratios to hide the correct answer. The problem begins by defining unit labor costs as a ratio of two factors:

$$\text{Unit labor costs} = \frac{\text{Labor costs}}{\text{Units produced}}$$

The problem clearly states that the unit labor costs have stayed the same, but that labor costs have increased. Using the formula above, we can see that the only way for unit labor costs to remain constant in the face of increasing labor costs is to correspondingly increase the number of units produced, thus keeping the ratio the same. Once we cut through this mathematical trap set by the Testmaker, the answer is easy to find. We are looking for an explanation that shows us we have increased the number of units produced.

Answer choice “A” deals with the purchase prices of goods. This is a distraction unrelated to the ratio above, so we can eliminate it as a possible answer.

Answer choice “B” likewise focuses on information not included in the ratio above. The cost of raw materials can fluctuate without affecting the unit labor costs.

Answer choice “C” tells us that country Q produced more units – in fact, it tells us that the rate of increase in the units produced (per hour) is the same as the rate of increase in the labor costs (per hour). If we were to substitute in these two parts into the equation above, the “per hour” factor would disappear out of the top and bottom of the equation. “C” clearly shows us how we could increase labor costs while still maintaining unit labor costs.

Answer choice “D” is completely extraneous. The economy can shift from manufacturing to service without affecting unit labor costs.

Answer choice “E” is a subtle trap answer designed by the Testmaker to trick you into subconsciously assuming information that is not explicitly stated. “E” tells us that workers with greater skill levels may be hired as hourly compensation increases. However, “greater skill levels” does not necessarily translate to “faster manufacturing.” Workers with greater skill levels do not necessarily work faster, so answer choice “E” does not necessarily bridge the logic gap.

### **PROBLEM #30 (E)**

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This problem is a traditional Weaken question, as evidenced by the phrase, “which of the following... most seriously weakens.” Our first item of business is therefore to identify the conclusion of the argument and then look for gaps between the conclusion and the premises. The conclusion in this problem is clear in the last sentence (notice the “therefore, we should...”). This conclusion is a “call to action” or a “value judgment.” In many cases, such conclusions are based off of criteria that are not explicitly stated in the problem. (For example, why should we reserve large professional telescopes for other purposes? The problem hints that amateur astronomers can also do the work, but the reason for why we should change the use of professional telescopes is not clearly given. Could there be reasons why we should keep the professional telescopes looking for NEOs?) The correct answer to this question will address this gap.

Answer choice “A” actually strengthens the argument by showing amateur astronomers are comparatively more efficient than professional telescopes. (In other words, it supplies “efficiency” as a potential criterion for the value judgment.) Remember: you must be careful with Strengthen answers in a Weaken question. This answer is not correct because it does the opposite of what we need.

Answer choice “B” is completely irrelevant. It focuses on who controls the telescopes, not how the telescopes should be used. It is entirely possible that governments or institutions could still follow argument’s recommendation.

Answer choice “C” is a trick answer designed by the Testmaker to hijack the problem. Often, the Testmaker will lure novice test takers into placing undue emphasis on “expert” or “professional” opinion. Unless the problem explicitly states that “professional training” is the only way to secure the know-how to search for NEOs, it is entirely possible that amateurs – without such training – can still do their job.

Answer choice “D” does not contain any information that would weaken the argument, because it doesn’t give us any criteria for choosing professional telescopes over amateur telescopes. (Remember to “mind the gap!”) The logical gap created by the lack of explicit criteria for the conclusion is not fixed anything in this answer.

Answer choice “E” shows that larger telescopes are actually essential to the discovery and tracking of NEOs by showing such telescopes are needed to perform the initial observations. If this answer is true, the job of amateur astronomers would become largely ineffectual without the help of larger, professional telescopes. “E” gives us clear criteria for why we would chose professional telescopes, undermining the argument’s conclusion that such telescopes should be used for other purposes. “E” is the correct answer.

### **PROBLEM #31 (D)**

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This is an Inference question, as demonstrated by the phrase, “which of the following conclusions is best supported by...” Since the question is looking for a conclusion that must be true based off of the information given, our first line of attack for this problem is to evaluate whether each answer choice contains extra information not found in the premises.

Answer choice “A” contains extra information, and thus cannot be true. Proving that something is “causing” something else is a high standard, and there is nothing in the premises that explicitly shows the decrease in the United States crime rate caused the decrease in New York’s crime rate. Correlation does not mean causation.

The body of the question does not contain any information on law enforcement spending, so answer choice "B" fails the "no new information" filter. A conclusion that contains new information may or may not be true.

Answer choice "C" contains a prediction of the future, implying that the law enforcement techniques of one area could be successfully applied to another area. Such conclusions are also very difficult to prove. The Testmaker is hiding two fatal mistakes in answer choice "C". First, it assumes that the techniques of a subsample (New York City) can be successfully applied to a larger area (the United States.) This is an overgeneralization. Second, it predicts future effects based on present trends. Until the future is known, this can never be explicitly "proven." There is no information about the future.

The Testmaker tries to hide answer choice "D" by requiring a bit of math and hoping the novice test taker confuses percentage changes with actual values. The violent crime rate in the United States steadily dropped 28%, down to 500 violent crimes per 100,000 people. If we notice that 28% is approximately  $\frac{2}{7}$ , it is very easy to approximate what the crime rate was before the drop:

$$500 \approx V_i \cdot \left(1 - \frac{2}{7}\right) \approx V_i \cdot \left(\frac{5}{7}\right)$$

$$500 \cdot \left(\frac{7}{5}\right) \approx V_i$$

$$V_i \approx 700$$

Therefore, the violent crime rate in the United States steadily decreased from 700 to 500 (violent crimes per 100,000). Since the violent crime rate of New York City decreased from 1,861 to 851 (violent crimes per 100,000) during this same time period, New York City's rate was consistently higher than the national average. Answer choice "D" is true, and therefore is the correct conclusion.

Answer choice "E" contains another prediction of the future. As mentioned earlier, until the future is known, this can never be explicitly "proven." There is no information about the future in the problem, so "E" contains additional information. We cannot know what will "soon" be.

### **PROBLEM #32 (B)**

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This is a Weaken question, as demonstrated by the phrase, "which of the following...jeopardizes the validity of the explanation." The explanation is found in the last sentence: "doctors favor affluent people with health insurance." There is no data anywhere else in the problem that indicate this is true, so it is easy to "mind the logical gap." The answer choice will either show that the explanation is not necessarily true or give an alternate explanation for the argument.

Answer choice "A" is irrelevant to the logical gap. It focuses on hospitals and medical clinics (instead of on doctors) and makes no mention of poor or rich patients.

Answer choice "B" gives an alternative explanation for why poor people receive fewer free samples. It shows that associated costs keep low-income patients from seeing doctors in the first place; thus, doctors do not even have the chance to disperse drugs to these patients. Because it successfully undermines the explanation, "B" is the correct answer.

The Testmaker included answer choice "C" as an alternative answer to confuse novice test takers. It does focus on an alternative explanation for why poor people don't receive medical care: some medical offices refuse to treat such individuals for non-emergency conditions. This clearly weakens the argument. However, notice the distinction between answer choice "B" and answer choice "C". Answer choice "C" is very limited, using phrases such as "some medical offices." On the other hand, answer choice "B" is much more broad-ranging, making an overarching statement about low-income people in general. "B" is an answer that weakens the argument more.

Answer choice "D" is a distraction. It talks about what happens in a doctor's office after the free drug supply is gone. The problem, however, focuses on how the free drugs are distributed. Answer choice "D" cannot strengthen or weaken the argument, because it makes no mention of what happens to the free drug supply. It is irrelevant to the logical gap of the problem.

Answer choice "E" is also a distraction, making novice test takers focus on something other than the logical gap. Answer choice "E" focuses on the motivations of pharmaceutical manufacturers, not on the motivations of doctors. It tells us nothing to undermine the assertion that doctors favor affluent people in the way they distribute free drugs.

### **PROBLEM #33 (C)**

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As evidenced by the phrase, "contributes most to the explanation", this is an "Explain the Paradox" question, a subtype of the Strengthen category. Our mission is strategically similar to traditional Strengthen questions, but instead of minding the logical gap between a conclusion and its supporting premises, we must focus on the logical gap separating two contradictory ideas. With this particular problem, the logical disconnect is found between why ivory conservationists would support a complete ban on ivory sales in 1989 while also supporting a recent auction of ivory.

Answer choice "A" is irrelevant to this paradox. International demand for ivory cannot explicitly explain why ivory conservationists would support two seemingly contradictory actions.

Answer choice "B" is also irrelevant to this paradox. Where the rhinos and elephants live cannot explicitly explain why ivory conservationists would support two seemingly contradictory actions.

Answer choice "C" bridges the logical gap. It shows that the ivory auction could actually help the ivory conservationists by making it economically impractical for ivory poachers to exist. Thus, ivory conservationists would support the initial ban on ivory sales while at the same time supporting the auction of confiscated ivory. Both actions further the conservationists' goals.

Answer choice "D" is also irrelevant to this paradox. Whether confiscated ivory has a use cannot explicitly explain why ivory conservationists would support two seemingly contradictory actions.

Answer choice "E" is also irrelevant to this paradox. Even if rhino and elephant populations are increasing, this does not change the conservationists' goals. Answer choice "E" cannot explicitly explain why ivory conservationists would support two seemingly contradictory actions.

### **PROBLEM #34 (E)**

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This is a Strengthen question that focuses on the successful implementation of a plan, instead of on a traditional argument. The question stem shows considerable evidence of this. It asks for a reason that, if true, would help the line of cell phones be successful in regaining market share. The problem

indicates that Globaltech is losing market share because (1) its cell phones lack cutting-edge features and (2) those features are not demanded by consumers. Globaltech's plan is to introduce new features that allow its cell phones to synchronize household appliances. Strengthen questions that focus on the successful implementation of a plan require the test taker to find the answer that shows how the plan will successfully meet the goals of the plan. In this problem, Globaltech's goal appears to be to regain market share. The mechanism for doing so is also explicitly stated in the problem: its cell phones must have cutting-edge features that are demanded by consumers. The logical gap in this problem is also evident: there is no mention that the proposed innovations are demanded by consumers. We need to find the answer that bridges this gap.

Answer choice "A" indicates that the technology included in Globaltech's new phones is innovative, but it makes no mention of whether consumers demand such innovations. Answer "A" does not bridge the logical gap.

Answer choice "B" is completely irrelevant to the logical gap. The number of countries with a plethora of cell phones does not help us understand whether consumers would demand Globaltech's phones.

Answer choice "C" is an answer designed by the Testmaker to detour novice test takers. It shows that the number of appliances that can be remotely controlled has substantially increased. At first glance, this seems like it strengthens the argument. However, it does not address the primary issue of the logical gap: Globaltech cell phones need innovations that the customers demand. Answer choice "C" makes no mention of this.

Answer choice "D" simply reinforces one of the original premises in the argument: that Globaltech has lost market share. Answer choices that simply reiterate what we already know cannot strengthen the original argument.

Answer choice "E" provides evidence that not only is remote controlling appliances a new technology, but that this technology is demanded by consumers. "E" focuses completely on the logical gap.

### **PROBLEM #35 (C)**

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This is a Weaken question, as demonstrated by the phrase, "weaken the conclusion above." Our first item of business is therefore to identify the conclusion of the argument and then look for gaps between the conclusion and the premises. The conclusion in this problem is clear in the last sentence (notice the "people should..."). This conclusion is a "call to action" or a "value judgment." In many cases, such conclusions are based off of criteria that are not explicitly stated in the problem. In this problem, however, it gives a specific reason: the organisms found on lemon wedges have the potential to cause infectious diseases. The logical gap in this problem is hinted at with the phrase "potential to cause." Notice the problem does not say ingesting the lemon wedges do cause infectious diseases (for that matter, it doesn't even say that the taste of lemon isn't worth the risk.) If we can undermine the argument's reason for recommending that people not eat lemon wedges, we have successfully weakened the argument.

Answer choice "A" is a distraction. It says that the researchers don't know why the contamination occurs. However, for purposes of the argument, why the contamination occurs is relevant – it only matters that it does occur. The Testmaker here is trying to focus the attention of novice test takers on something other than the logical gap. The specific logical gap centers on why people should (or should not) order lemon wedges with their drink.

Answer choice "B" is completely outside of the scope of the question. The entire problem focuses on lemon wedges, so statements about lime wedges fail to address the logical gap.

Answer choice "C" shows that the argument's reason for why people should avoid lemon wedges is not necessarily valid. If ordering lemon wedges doesn't change the chance of contracting a disease, than the argument's conclusion cannot be linked to the premises. Answer choice "C" is the right answer.

Answer choice "D" is a potential distraction, too. It focuses on a breakdown of policy, but it doesn't address the logical gap. Novice test takers might even try to "read between the lines" of this statement – something you should never do on any question – by implying that waiters and waitresses cause the contamination on the lemon wedges, but this, too, is a distraction. For the purposes of this problem, why the contamination occurs is relevant – it only matter that it does occur.

Answer choice "E" is also a distraction away from the logical gap. "E" tells us that the chance of contracting a disease by coming into contact with bacteria varies by a lot of factors. However, answer choice "E" does not give an alternative explanation for the problem: people still contract diseases by contact with bacteria, and, according to the problem, bacteria are found on lemon wedges. Thus, the underlying mechanism of infection remains intact. (Note that if this problem explained that it wasn't lemon wedges that caused the disease, but something else, it would go much farther to weaken the argument. As it stands, "E" does not address the logical gap in the problem.)

### **PROBLEM #36 (A)**

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This is a Weaken question, as demonstrated by the phrase, "which of the following statements, if true, is the best basis for a criticism." Our first item of business is to identify the conclusion of the argument and then look for gaps between the conclusion and the premises. However, here the Testmaker throws a curveball. Question stems often contain much more than just clues to the problem's type. The conclusion in this argument is actually embedded in the question stem: "Central Valley's budgeting policy is an economically sound budgeting method for school districts." The logical gap is clear, since the conclusion mentions criteria about the policy being economically sound, but there is no demonstration of whether the policy meets this criterion (or even what "economically sound" means!).

Answer choice "A" gives us a strong example of a potential criterion for "economically sound" policies: if the original budget incorporated inefficient use of funds, then, these inefficiencies would be preserved if changes occur proportionately. Answer choice "A" tells us that the budget plan preserves inefficiencies, thus giving us reason to doubt that the plan is "economically sound." "A" is the correct answer.

Answer choice "B" fails to address the logical gap. It implies that the district's budget will not change much, but says nothing about the economic soundness of that budget.

Answer choice "C" also fails to address the logical gap by distracting the novice test taker into thinking about criteria other than economic soundness. "C" shows that the budget has an impact on students, but gives us no basis for evaluating the budgeting method's economic strength.

Answer choice "D" also fails to address the logical gap by distracting the novice test taker. While it implies criteria for judging economic soundness in general, it doesn't address the economic soundness of the budgeting policy. People may complain about high property taxes, but the school district is not in charge of property tax rates; it is only in charge of allocating the money obtained from property taxes collected by the government. Budgeting policy is the target of our analysis, here, not tax policy.

Answer choice "E" is completely irrelevant. Non-district funded classes have nothing to do with the school district's budget.

### **PROBLEM #37 (C)**

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This is a Method question, as demonstrated by the phrase, "argument...employs which one of the following strategies." In order to successfully answer this question, we must analyze the "big picture" of the argument, focusing on structure, not topic. As we look at the answer choices, we need to carefully dissect each word. Many times, incorrect answers can be eliminated by focusing on terms that are clearly not true.

Answer choice "A" cannot be correct, because the argument doesn't question the accuracy of statistical evidence. The statistics are never questioned – only their interpretation is questioned.

Answer choice "B" can be eliminated because the argument does not "detail historical changes."

Answer choice "C" accurately describes the method employed in the argument: the argument reinterprets the evidence to form a conclusion opposite of the opinion of the Smithville Herald. "C" is the right answer.

Answer choice "D" cannot be correct, because the argument does not mention or imply the motivations behind the newspaper article.

Answer choice "E" also cannot be correct. While the argument does connect the common interests of unions and "others in the labor market", it does not connect the common interests of unions and "management." The phrases, "management" and "others in the labor market," are not synonymous.

### **PROBLEM #38 (A)**

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This is a Weaken question, as evidenced by the phrase, "which of the following...argues most strongly against." This particular problem highlights one of the sub-types of Weaken questions: notice that we are not necessarily looking at a logical argument, but instead at a proposed solution or plan.

Whenever we encounter these kinds of Weaken questions, we need to mind the gap between the proposed goal of the plan and the methods used to obtain that goal. The disconnect often lies between those two components. In the case of this particular problem, the staff at a local daycare believes that parents would be incentivized to pick up their children if late fines were assessed. The question naturally arises: would late fines actually change the behavior of the perpetually late parents? Any answer choice that undermines this would weaken the plan.

Answer choice "A" does exactly that. "A" suggests that fines might actually exacerbate the behavior of parents to pick up their children late. This runs completely counter to the goals of the daycare staff, who hoped fines would reduce the propensity for parental lateness. "A" weakens the plan, and, therefore, is the correct answer.

Answer choice "B" is a distraction from the real issue. The entire question centers on the effectiveness of the plan to reduce parental lateness. Disagreements about whether the plan should be enacted are independent of any questions of effectiveness. The Testmaker is hoping that novice test takers "read between the lines" on this answer, imagining that such disagreements would lead to resistance and ineffectiveness. This is a dangerous trap. No such connection is explicitly made here. Reading between the lines generally gets the novice test taker into trouble.

Answer choice "C" is another distraction designed by the Testmaker to introduce additional (and irrelevant) criteria. The question stem asks us to consider situations that would reduce the "effectiveness" of the plan of using fines to incentivize parents to pick their children up on time. Answer choice "C" gives us other side-effects (loss of enrollment), but this is outside the scope of the question.

Answer choice "D" is completely irrelevant and is outside the scope of the problem. Since the question asks us to evaluate situations that would reduce the "effectiveness" of the current plan of using fines to incentivize parents to pick their children up on time, any suggestion that focuses on what happens after the plan is no longer in effect is irrelevant. We are only asked to evaluate what happens when the plan is in effect.

The Testmaker included answer choice "E" as an alternative answer to confuse novice test takers. "E" does tell us that some parents would still pick up their children late, regardless of the fines. This does weaken the argument by showing that the fine policy would not effective across the board. However, notice the distinction between answer choice "E" and answer choice "A". Answer choice "E" is very limited, using phrases such as "some parents might." On the other hand, answer choice "A" is much more broad-ranging, making an overarching statement about parents in general who might "frequently" choose to be late. "A" tells us that the policy could actually increase tardiness. Answer choice "E" implies that the policy simply has no effect on a subgroup of people. Because answer choice "E" is much softer than answer choice "A", we would eliminate "E" when comparing the two answers.

### **PROBLEM #39 (C)**

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This is a Strengthen question, as evidenced by the phrase, "which of the following...best supports the conclusion." Our first item of business is therefore to identify the conclusion of the argument and then look for gaps between the conclusion and the premises. However, here the Testmaker throws a curveball. Question stems given in problems often contain much more than just clues to the problem's type. The conclusion in this argument is actually embedded in the question stem: "the devaluation of the German mark was likely to continue." The logical gap lies in the difficulty of predicting the future. Naturally, because we don't know the possible decisions the Germans or the German government could make, we don't know what would be "likely to continue." The only clue we have for this logical gap is the start of a vicious cycle hinted at in the problem: according to the passage, printing money devalued the currency, which led to Germans depleting their savings, which in turn led to a depletion of monetary stores in domestic banks. In other words, we know that printing money devalued currency, but the problem gives us no information about whether the German government continued to print money. If we can find an answer that indicates they did continue printing money, we have our solution.

Answer choice "A" actually weakens the argument, for it provides a way for Germany to have paid their debts without needing money. (The only mechanism the problem gives us to devalue currency is to print money, and answer choice "A" shows us that Germany could meet the demands of their creditors by using something other than money.) Be very careful of confusing Weaken answers for Strengthen questions.

Answer choice "B" provides background information completely irrelevant to the logical gap. We are looking for evidence that the German government continued to print money, thus further devaluing their currency. Knowing the relative size of the war reparations does not help us to bridge the gap.

Answer choice "C" tells us that the German government had only two options for preventing economic collapse: print money or take out loans on domestic banks. However, the problem tells us that the monetary stores in domestic banks were depleted. (In other words, taking out loans would not be an option.) By combining answer choice "C" with the information in the passage, we discover that printing money was the only option for the German government. This bridges the logical gap, suggesting that the only available option for the German government was the very option that perpetuated the vicious cycle. "C" is the correct answer.

Answer choice "D" provides background information completely irrelevant to the logical gap. We are looking for evidence that the German government continued to print money, thus further devaluing their currency. However, "D" only tells us the mechanism behind the inflation, not whether Germany printed more currency in the future. The passage doesn't even contain information stating that Germany could (or could not) back its currency.

Answer choice "E" also provides background information completely irrelevant to the logical gap. We are looking for evidence that the German government continued to print money, thus further devaluing their currency. "E" contains no evidence of this.

#### **PROBLEM #40 (C)**

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Because this problem asks the test taker to describe one person's response in terms of another person's argument, this is a Method question. In order to successfully answer this question, we must analyze the "big picture" of the argument, focusing on structure, not topic. As we look at the answer choices, we need to carefully dissect each word. Many times, incorrect answers can be eliminated by focusing on terms that are clearly not true.

Answer choice "A" is not correct, because it argues Felipe called into question "the truth of the premises" used by Sam. Looking closely at Sam's argument, Felipe doesn't argue about the truth of the premises – in fact, Felipe uses the same premises in his argument. It is Sam's conclusion with which Felipe disagrees. Sam's conclusion, "Thus, air pollution due to automobile exhaust decreases during a recession" is what Felipe believes is false. The truth of the premises is never contested.

Answer choice "B" contains an extreme scope limiting phrase, "can only be true." While we cannot discount this answer simply because of that phrase, "only be true" carries a very high burden of proof and can easily be challenged. The first sentence in Felipe's argument is a question, and therefore not an explicit claim. The only claims that Felipe makes are that (1) recessions cause people to buy fewer cars and (2) older cars emit more pollutants. Sam's conclusion that "automobile exhaust decreases during a recession" can still be true, even with these facts. (For example, if the decrease of exhaust due to non-use of cars is greater than the increase of exhaust due to older vehicles, the net change would

still be a decrease.) Because we can come up with an example that challenges the “only be true” phrase, answer choice “B” cannot be correct.

Answer choice “C” is exactly what Felipe did. Felipe doesn’t try to entirely disprove Sam’s assertion; he simply undermines the strength of Sam’s conclusion by presenting a mitigating factor.

Answer choice “D” is completely false. Felipe does not argue that Sam’s conclusion is true; instead, he indicates Sam’s conclusion has some logical flaws.

Answer choice “E” can be eliminated for one word: “absurd.” There is no evidence that Felipe felt Sam’s argument was “absurd.” Instead, Felipe provided additional factors that could undermine Sam’s initial conclusion.

#### **PROBLEM #41 (B)**

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This is a Strengthen question, as evidenced by the phrase, “which of the following...most strengthens the argument.” Our first item of business is to identify the conclusion of the argument and then look for gaps between the conclusion and the premises. However, here the Testmaker throws a curveball. Question stems given in problems often contain much more than just clues to the problem’s type. The conclusion in this argument is actually embedded in the question stem: “there is a fifth universal force.” The link between this conclusion and the evidence is tenuous, based off of the interpretation of data in a set of experiments, whose results imply an additional force heretofore unknown. We must look for an answer that strengthens this logical link.

Answer choice “A” is completely irrelevant to the logical gap. The majority of the problem focuses on the experimental evidence accrued after 1986. Whether scientists had sophisticated equipment prior to the 1970’s sheds no additional light on the existence of a fifth universal force.

The Testmaker intentionally disguised answer choice “B” with a double negative. Cancelling out the double negative may make the statement easier to understand: instead of saying, “no previously established scientific results are incompatible with the notion of a fifth universal force,” we could say, “previously established scientific results are compatible with the notion of a fifth universal force.” While this is a very weak statement – it demonstrates the lack of disconfirming evidence more than it provides new evidence – this is the only answer that nudges us in the right direction. Remember: “Strengthen” questions are not “Prove” questions – we are looking for the answer that “most strengthens” the existing argument.

Another way to think about the question of whether a statement is required by an argument is to think about what happens to that argument if the assumption turns out to be false. If the argument cannot possibly succeed when the assumption is false, then the assumption is required by the argument. This is the fundamental idea behind the Assumption Negation Technique, which we can also apply to answer choice “B”. If we were to negate answer choice “B”, it would tell us that experimental results exist that are incompatible with a fifth force. This directly undermines the conclusion. Negating other answer choices does not do this. “B” is the correct answer.

Answer choice “C” gives a possible alternative explanation to the evidence in the original experiments. In other words, it suggests there may be another way of interpreting the same results without relying on the existence of a fifth universal force. As a result, “C” actually weakens the argument. Since we are trying to strengthen the argument, “C” cannot be the correct answer.

Answer choice "D" also weakens the argument by suggesting a profound lack of precision with respect to the experiments noted in the argument. If the experiments were not precise, this implies their interpretation may be incorrect. However, we are looking for statements that confirm the possibility of the fifth universal force. "D" simply undermines the existing experiments.

Answer choice "E" is completely irrelevant to the logical gap. Whether other "exciting ideas" were being developed at the same time sheds no additional light on the possible existence of a fifth universal force.

#### **PROBLEM #42 (D)**

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This is an Inference question. In isolation, the phrase in the question stem, "mostly strongly supported", could hint at either a Strengthen question or an Inference question. However, when we take the stem in its entirety, the structure of the problem begins to unfold. Remember: premises always support conclusions. Thus, if the information in the answer choices supports the argument above, the answer choices must be premises and the conclusion is found in the argument (leading us to believe the problem is a Strengthen question.) On the other hand, if the information in the body of the question supports the answer choices below, the argument's conclusion must be found in the answer choices (leading us to believe the problem is an Inference question.) Since the question stem indicates that the information "above" is supporting answer choices below, the answer choices must be potential conclusions. This must be an Inference question.

Since this is an Inference question, our first line of defense is the "no new information" filter. Remember that valid conclusions must always (not just sometimes) be true, and therefore must be based entirely on the information found in the premises. Conclusions containing new information not found anywhere in the argument may or may not be true.

Answer choice "A" talks about the metabolism rate of alcohol. This is not found anywhere in the premises, so we have new information. Therefore, we cannot make a conclusion about something we don't have information on. Answer choice "A" is not necessarily true.

Answer choice "B" talks about the "general population." While this is a common tendency of researchers to infer characteristics about a general population using an experiment on a subsample, such methods can never lead to "must-always-be-true" conclusions. We should always be cautious about generalizing. Answer choice "B" is not necessarily true based off of the given information.

Ironically, our argument for eliminating answer choice "C" is the same as the wording of answer choice "C". Answer choice "C" talks about "weight gain." While the problem talks about "gaining body fat", this is not necessarily the same thing as "weight gain." The phrase "weight gain" is not found anywhere in the premises, so answer choice "C" contains new information. Therefore, we cannot make a conclusion about something we don't have information on. Answer choice "C" is not necessarily true.

Answer choice "D" contains no new information. We can see from the problem that the body fat gain was the same for both groups, regardless of if the group replaced calories with alcohol or supplemented their caloric intake with additional alcohol. (In other words, "different number of calories, same body fat gain.") If anything, the body fat gain seemed to be dependent more on the number of calories from alcohol than the total number of calories. Thus, body fat gain cannot be

dependent solely on the number of calories one consumes. The premises tell us that “D” must always be true.

Answer choice “E” actually is the opposite of any conclusion that can be made using the information above. The experiment tells us that the body fat gain was the same for both groups, regardless of if the group replaced calories with alcohol or supplemented their caloric intake with additional alcohol. (In other words, “different number of calories, same body fat gain.”) If anything, the body fat gain seemed to be dependent more on the number of calories from alcohol than the total number of calories. This is opposite of answer choice “E”. (Though, for the sake of discussion, subgroup experiments can never truly prove explicit causation for a general populace. Any way you look at it, “E” cannot be the correct answer!)

### **PROBLEM #43 (C)**

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This is a Strengthen question, as evidenced by the phrase, “most helps to justify the...claim.” Our first item of business is therefore to identify the conclusion of the investigator’s claim and then look for gaps between the conclusion and the premises. The claim includes laying blame on the journalists who reported the story, in essence attempting to show the journalists were at fault. This is new information not explicitly stated elsewhere in the argument, so this points to the primary logical gap in the problem. Valid conclusions should be based entirely off of existing premises, and there is no existing premise explaining how the journalists’ naïve acceptance of the director’s statements meant those journalists were “as much to blame as the director.” The conclusion equates the seriousness of naïve acceptance with the seriousness of deception, without giving any evidence for why those two ideas should be equal. The correct answer should bridge that logical gap.

Answer choice “A” actually undermines the conclusion, since it demonstrates that, due to social convention, the journalists could expect the director of the charitable organization to be honest. This reinforces the idea that the journalists were not to blame for their general acceptance of the information given to them. But, if we wanted to strengthen the argument, we would try to show that the journalists were to blame. Answer choice “A” cannot be the correct answer.

Answer choice “B” is irrelevant because there is no evidence that the journalists “knowingly” aided the liar. This statement cannot bridge the logical gap. The journalists were accused of unknowingly aiding the director of a local charity to perpetuate a lie.

Answer choice “C” very clearly states that people who fail to verify the truth of a story are partially responsible for the consequences of that story. Since the problem states that the journalists failed to verify the truth, this answer choice plugs the logical gap perfectly by linking what the journalists did to the notion that they are partially to blame for what happened. Answer choice “C” is the correct answer.

Answer choice “D” is irrelevant because there is no evidence that the journalists lied and no evidence of the director’s motivations for lying. This statement cannot bridge the logical gap.

Answer choice “E” was written by the Testmaker to superficially link the answer to specific statements in the argument. (Contrast this with answer choice “D”, where nothing really links to the argument.) While “E” mentions the notion of relative blame, as well as the idea of accepting responsibility, this answer cannot be correct because it doesn’t bridge the logical gap. The hole in the initial argument deals with attaching blame to the journalists. But there is no evidence in the argument that the

journalists tried to conceal their wrongdoing. While answer choice “E” tries to lay less blame on the director of the charity, it cannot plug the crucial logical gap because it doesn’t refer at all to the journalists.

#### **PROBLEM #44 (B)**

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The question stem, “The two portions in boldface play which of the following roles?”, clearly indicates this is a “Roles in Boldface” question, a subtype of the Method category. In order to successfully answer this question, we must analyze the “big picture” of the argument, focusing on structure, not topic. The correct answer will describe the function of the two bolded statements within the argument.

Stepping back to look at the entire argument independent of its contextual context provides an insight into what role each piece plays. In essence, the argument states: “Some people believe X. Other people believe Y. The reason they disagree is Z. Some people believe X; the other people believe Y.”

Because “Roles in Boldface” questions often contain overlapping answers, these questions are susceptible to process-of-elimination techniques. By correctly categorizing one of the two bolded statements, we can often eliminate more than one answer choice. The second bolded statement (“The reason they disagree is Z”) is likely the easier one to evaluate because it is distinctly different from the rest. Looking down at the answer choices, “A” and “E” both call the second bolded statement “a position” of one of the two groups. “C” and “D” call it “evidence in support” of a position. Only “B” correctly identifies the second portion as the underlying reason for why the two groups disagree. We can actually eliminate four of the five answers without needing to evaluate the first bolded statement. The answer must be “B”.

Just to check ourselves, we can evaluate the first statement to see if it fits (“Some people believe X.”) The first statement is clearly a statement of one of two positions, so it matches perfectly with “B”. We have our answer.

#### **PROBLEM #45 (D)**

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This is a Strengthen question, as evidenced by the phrase, “which of the following... most helps to justify.” Our first item of business is therefore to identify the conclusion of the author and then look for gaps between the conclusion and the premises. The conclusion in this problem is clear in the last sentence (notice the “therefore, one should...”). This type of conclusion is a “call to action” or a “value judgment.” In many cases, such conclusions are based off of criteria that are not explicitly stated in the problem. (For example, why should we not always purchase high-tech education tools?) The problem hints that in two cases, low-tech tools were no worse than high-tech (though not necessarily better.) However, could there be reasons why high-tech tools are advantageous? Are there other criteria for choosing? The correct answer to this question will address this gap.

Answer choice “A” focuses on information unrelated to the logical gap. We are looking for criteria that help us understand why we should purchase certain educational tools. Answer choice “A” merely tells us that different tools are necessary in different situations. This does not give us purchasing criteria.

Answer choice “B” is a distraction. Here, the Testmaker is attempting to give us additional criteria for evaluating (or using) high-tech solutions, but the criteria cannot be connected back to the original argument – no mention is made in the body of the question of whether the users are “knowledgeable.” Answer choice “B” cannot link together the logical gap.

Answer choice "C" actually undermines the initial argument, by stating that spending large amounts of money on educational tools is "justified" in certain cases. However, the conclusion of the initial argument emphasizes that spending large amounts of money is not necessarily justified. Answer choice "C" weakens instead of strengthens the argument.

Answer choice "D" outlines very specific criteria for investing in education tools: it calls for similar results and less cost. These criteria can be easily linked to information in the problem. The body of the question talks a great deal about how each low-tech solution "did no worse" or "performed no better" than their high-tech counterparts. In other words, they had similar results for less cost. Answer choice "D" matches perfectly and successfully bridges the logic gap.

Answer choice "E" recommends that one should always use a variety of educational materials. The phrase "should always" is worth noting here: "always" is an extreme scope limiter that can easily be disproven. In this case, "always" also contradicts the conclusion of the argument, since the conclusion states one "should not always" purchase high-end educational materials. Answer choice "E" cannot be correct.

#### **PROBLEM #46 (B)**

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This is a Method question, as demonstrated by the phrase, "which of the following identifies a discrepancy in the proposal." However, because we are asked to look for a flaw in the argument, this sounds a lot like a Weaken question focusing on a process. This demonstrates the importance of looking beyond individual keywords and focusing instead on the structure and wording of the entire question prompt. The SWIM method is not a checklist with mutually exclusive options; it is a way of systematizing your thinking about Critical Reasoning questions.

Since this question asks us to look for a logical discrepancy in a proposed plan, we can treat it like a process-focused Weaken question. Thus, instead of concentrating on a conclusion, we focus on the goals of the process. Once we find the logical gap (using Weaken methods), we can then look at the "big picture" of the argument in order to describe the general error (similar to a Method question.) As we look at the answer choices, we need to carefully dissect each word. Many times, incorrect answers can be eliminated by focusing on terms that are clearly not true.

Our initial focus must be on the goals of the proposed plan. The plan recommends genetically altering mosquitoes to create a harmless variety of mosquito, with the goal of having this harmless variety supplanting disease-causing strains. The logical gap is clear: do the genetic alterations allow the harmless variety to supplant disease-causing mosquitoes? There is no explicit evidence that the plan will work. We need to look at the answer choices and determine which one exposes and describes this gap.

Answer choice "A" can be eliminated because the argument makes no mention of the relative ease of isolating and inserting genes into mosquitoes. Saying that the argument presupposes this process would be "equally easy" is not justifiable.

Answer choice "B" demonstrates the disconnect between the goal of supplanting disease-causing mosquitoes with harmless mosquitoes using genetic alteration. A careful reading of the problem shows that two proposed genetic alterations would keep the new, harmless strain from ever supplanting the original species. If you can't mate (or if you die early), it is arguably much harder to

reproduce in the wild. These two genetic mutations would actually be a barrier to the stated goal. Answer "B" is the correct answer.

The Testmaker designed answer choice "C" to distract novice test takers from the stated goal of the proposed plan by introducing additional evaluative criteria that are irrelevant. Since the goal of the ecological intervention is to supplant a harmful mosquito species with a harmless one, criticizing the proposal for something not related to the goal is a mere distraction. The goal has nothing to do with feeding fish.

The Testmaker also designed answer choice "D" to distract novice test takers from the stated goal of the proposed plan by introducing additional evaluative criteria that are irrelevant. Since the goal of the ecological intervention is to supplant a harmful mosquito species with a harmless one, criticizing the proposal for something not related to the goal is a mere distraction. The goal has nothing to do with reducing mosquito populations.

Answer choice "E" is also a complete distraction, using a hypothetical "better plan" as bait. We do not need to show evidence for the wide-scale testing of every possible alternative solution. We are only asked to identify a "discrepancy in the proposal." (In other words, we are only asked to determine in what way the proposal cannot adequately meet its stated objectives.) The discovery of a "better plan" does not mean the original plan can't work. This is a common trap of the Testmaker.

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#### **PROBLEM #47 (C)**

This is an Inference question, as evidenced by the phrase "which of the following conclusions is best supported." The information in the body of the question supports the conclusions below. Since we are looking at an Inference question, our first line of defense is to apply the "no new information" filter to the conclusions. Conclusions with new information not found in the body of the question are not necessarily true.

Answer choice "A" mentions that the Neanderthals were not native to this region, but there is no information in the body of the question that supports this. Neanderthals moving in from another region is clearly new information. We cannot make a conclusion about something we don't have information on. As a result, we do not know that answer choice "A" is true.

Answer choice "B" also contains new information: the body of the question does not mention how long the Gigantopithecus species lived. Therefore, we cannot make a conclusion about something we don't have information on. Answer choice "B" is not necessarily true.

Answer choice "C" combines two given premises: if Gigantopithecus is known to have gone extinct before Neanderthal man came into existence and the bottom of the middle layer contains some Neanderthal bones, then the middle layer could not represent the period in which Gigantopithecus lived. (Notice that Gigantopithecus must have lived before the Neanderthal bones could have been deposited.) The evidence strongly supports answer choice "C".

Answer choice "D" contains a prediction of the future – "Zoologists will not find any evidence..." This is a common trap of the Testmaker. Predictions imply that the same conditions that exist for a small sample will be the same for another sample. This is a type of overgeneralization and is very hard to prove. There is no support either way of what will happen, either way. It is possible that the zoologists

will not find any evidence of Gigantopithecus, but it is also possible that they will find some. After all, they are not done digging!

Answer choice "E" contains information not supported in the passage. We know that Neanderthal bones were found in the middle layer, but the problem explicitly states that no Neanderthal bones were found in the lower layer. Thus, we do not know if the lower layer represents a period during which Neanderthal man lived. We cannot make a conclusion about something we don't have information on. Answer choice "E" is not necessarily true.

#### **PROBLEM #48 (A)**

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Many students struggle with the categorization of this problem based solely off of the question stem. This is intentional on the part of the Testmaker: by making the problem difficult to categorize, it stymies many novice test takers. This problem demonstrates the importance of looking beyond individual keywords and focusing instead on the structure and wording of the entire question prompt, picking and choosing the methods most appropriate to the task at hand. The SWIM method is not a checklist with mutually exclusive options; it is a way of systematizing your thinking about Critical Reasoning questions.

Looking closer at the problem, we realize that we are looking for an answer that McBride and Leggett disagree about. The preposition, "about," is crucial and illustrates the importance of reading each question very carefully. If McBride and Leggett both disagree with a statement, they actually are on the same side of the argument – it is McBride and Leggett versus the statement. If McBride and Leggett disagree about a statement, they are on opposite sides – McBride believes the statement and Leggett disagrees (or vice versa.) In order to determine if McBride and Leggett agree (or disagree) about a statement, we must be able to find facts in the statement and compare them to what McBride and Leggett said. Obviously, if the statement contains new information not contained in what we know about McBride, we can't determine if McBride agrees or disagrees with the information. The same is true of Leggett. In other words, using the "no new information" filter helps us see which answers work. This problem is, in essence, an Inference question. We need to find a statement where there is information within the problem sufficient to show that one person agrees with it, and the other person disagrees with it.

Answer choice "A" contains enough information to evaluate both the stance of both Leggett and McBride. McBride feels that full-size cars are safer to ride in than subcompacts. Thus, McBride would not discourage the manufacture of full-size cars – he would disagree with answer choice "A". On the other hand, Leggett feels that full-size cars are dangerous to others. Leggett would agree with answer choice "A". Since one disagrees and one agrees with the statement, McBride and Leggett would disagree about the statement. Answer choice "A" is correct.

Answer choice "B" could only be true if there were evidence that one person felt that safety was more important than fuel conservation and the other felt that safety were less important. However, both McBride and Leggett seem to place a strong emphasis in safety: in fact, safety is the reason both of them advocate their positions for fuel efficiency. However, the idea that safety is "more important" than fuel efficiency is not explicitly stated in either McBride's or Leggett's argument. This is new information. There is no evidence in the problem that they disagree about answer choice "B", so we have no grounds for this inference. This answer can be eliminated.

McBride's comments clearly indicate his agreement with answer choice "C" – the wording of the answer choice is similar to McBride's comments. However, Leggett's comments do not draw a comparison between subcompact and full-size cars – Leggett focuses exclusively on the danger of full-size cars. Leggett says only that it is more likely that someone will be seriously injured in a collision if one or more of the cars is full-size, without specifying which car the injured person came from. There is "new information" in answer choice "C" about which Leggett has not specifically commented. Therefore, we cannot infer Leggett's opinion on the matter. This answer can be eliminated.

Answer choice "D" contains information that neither McBride nor Leggett talk about – neither refers to "frequency of collisions". Thus, we cannot infer whether they agree or disagree on answer choice "D". This answer can be eliminated.

Neither McBride nor Leggett talk about whether the fuel efficiency standard would encourage the manufacture of subcompact cars (as opposed to either some third kind of car or reducing total manufacturing.) We cannot infer the opinion of either McBride or Leggett regarding answer choice "E". Even if the reduction in full-size cars were to cause an increase in the manufacture of subcompact cars, both McBride and Leggett would explicitly agree on answer choice "E". We are looking for an answer choice about which they would disagree. Both McBride and Leggett claim that the fuel-efficiency standards would discourage the manufacture of full-size cars. Either way you look at this answer choice, it is incorrect.

#### **PROBLEM #49 (B)**

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This is a Method question, as demonstrated by the phrase, "the argument proceeds by." In order to successfully answer this question, we must analyze the "big picture" of the argument, focusing on structure, not topic. Looking closely at the argument reveals the overarching structure: the author notes two reasons why recordings of poems were made, and then eliminates one of those options in order to conclude the other option must be true. As we evaluate the answer choices, we need to carefully dissect each word. Many times, incorrect answers can be eliminated by focusing on terms that are clearly not true.

Answer choice "A" cannot be correct, because of the phrase "each...points to the same conclusion." The author actually undermines one of the possibilities, so all the evidence certainly does not point to the same conclusion.

Answer choice "B" perfectly fits our preconceived notion of what the answer should look like. This is the correct answer. It is also worth noting here the word, "phenomenon." Some test takers incorrectly eliminate answer choice "B" because of this word. "Phenomenon" has two meanings: (1) a wondrous, unusual or unique event or person; or (2) an event or circumstance. Modern parlance has often focused more on the first definition, and this is the reason why novice test takers might eliminate this answer – obviously, the audio recording of a poem is not necessarily wondrous or unique. However, we must remember that the Testmaker often uses the word "phenomenon" to describe a commonplace event or circumstance (the second definition.) This is how the word is used in this problem.

Answer choice "C" is a trick answer designed to trap novice test takers who do not read the problem carefully nor come up with a general description of the argument before looking at the answer choices. The author does suggest a "general principle", but the principle concludes with two possible options: nineteenth-century recordings of poems were either recordings of the poet or were

recordings of actors reciting famous published poems. The author does not show this principle is “violated”, the author assumes this principle is true, eliminating one of the two options in order to conclude the other option must be true.

Answer choice “D” is incorrect because the author doesn’t show that “two mutually exclusive alternatives are actually compatible.” In fact, the author assumes the alternatives are not compatible, eliminating one option in favor of the other.

Answer choice “E” is incorrect because it states that each of the two possible scenarios “is as likely as the other.” This is incorrect. The author uses evidence to minimize the likelihood of one of the two possible scenarios, thereby arguing that the other scenario must be true.

### **PROBLEM #50 (C)**

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This is a Method question, as demonstrated by the phrase, “the argument is most vulnerable to criticism on which of the following grounds.” At first glance, the wording of the question stem could also hint the problem is a “flaw in the logic” Weaken question. However, as soon as we glance down at the answer choices, we realize it must be a Method question, since all of the answers focus on the argument’s methodology and structure. “Flaw in the logic” Weaken questions would have answers that contain new premises and facts.

Because this is a Method question, we must analyze the “big picture” of the argument, focusing on structure, not topic. Looking closely at the argument reveals the overarching structure: the author’s only real argumentative technique to prove the conclusion is using the conclusion itself to undermine disconfirming evidence. (In other words, “X is Y. We know about Z, but Z can’t be true, because X is Y.”) The correct answer will show this faulty logic. As we evaluate the answer choices, we need to carefully dissect each word. Many times, incorrect answers can be eliminated by focusing on terms that are clearly not true.

Answer choice “A” is wrong because the author does not “ignore the existence” of potential counterevidence. In fact, the author calls attention to the counterevidence, calling it, ironically, “the most compelling pieces of evidence.”

Answer choice “B” is incorrect, because the author does not “generalize from atypical occurrences.” The opposite is true: the only atypical occurrences mentioned in the passage are the few superior articles written by Maas. The author completely discredits these atypical occurrences.

Answer choice “C” nicely captures the essence of the stimulus. The author attempts to prove the conclusion, but presupposes the conclusion in order to undermine disconfirming evidence.

Answer choice “D” is incorrect, because the author makes no mention of “the judgment of experts”.

Answer choice “E” is also wrong, because the author claims that the great majority of Maas’s articles are not superior – this is considerably different from the “few isolated lapses” described in answer choice “E”.

### **PROBLEM #51 (E)**

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As evidenced by the phrase, “resolve the apparent discrepancy”, this is an “Explain the Paradox” question, a subtype of the Strengthen category. However, the Testmaker threw a little curveball at the

very end of the question stem, by asking the test taker to select the only answer choice that does not explain or resolve the paradox. Thus, instead of looking for the one answer that bridges the logical gap, we look for the one answer that doesn't bridge the logical gap – all others will. Our mission is strategically similar to traditional Strengthen questions, but instead of minding the logical gap between a conclusion and its supporting premises, we must focus on the logical gap separating two contradictory statements. With this particular problem, the paradox lies in the fact cars with antilock brakes – designed to make driving safer – have more accidents.

Answer choice "A" helps resolve the discrepancy, so "A" cannot be the correct answer. "A" gives an alternative explanation for the safety paradox: the drivers of cars equipped with antilock brakes are more careless than those who drive cars without antilock brakes.

Answer choice "B" helps resolve the discrepancy, so "B" cannot be the correct answer. "B" gives another alternative explanation for the safety paradox: antilock brakes malfunction more often than regular brakes do. This would explain the higher incidence of accidents.

Answer choice "C" is a very popular wrong choice. "C" states that antilock brakes require expensive specialized maintenance to be even as effective as regular brakes. Many test takers rightfully argue that it is possible that everyone driving cars equipped with antilock brakes maintain their brakes, even though it is expensive. If this were true, than answer choice "C" would not help resolve the paradox. However, answer choice "C" opens the door to a possibility: if drivers do not maintain their antilock brakes, their brakes will not be as effective as regular brakes, and this would explain why those vehicles were involved in more accidents. The Testmaker included answer choice "C" as a very weak option. Assiduous test takers would put answer choice "C" on the back burner while they analyze the other answer choices. If another answer choice presents itself that clearly does not resolve the discrepancy, good test takers would chose the other answer choice.

Answer choice "D" helps resolve the discrepancy, so "D" cannot be the correct answer. "D" gives another alternative explanation for the safety paradox: the drivers of cars equipped with antilock brakes do not know how to properly use the brakes. This would explain the higher incidence of accidents.

Answer choice "E" is beautifully concealed by the Testmaker, by substituting alternative (but similarly sounding) criteria for what "safe driving" means. Answer choice "E" focuses exclusively on the severity of accidents. The argument in the body of the question, on the other hand, focuses on the number of accidents, not their severity. A statement about the severity of accidents – no matter how true the statement may be – cannot resolve the paradox of why cars with antilock brakes have more accidents. Answer choice "E" fails to focus on the logical gap, and, therefore, is the only answer that doesn't help to resolve the apparent discrepancy. "E" is the correct answer.

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### **PROBLEM #52 (B)**

This is a Strengthen question, as evidenced by the phrase, "which of the following... most strengthens the argument." Our first item of business is therefore to identify the conclusion of the author and then look for gaps between the conclusion and the premises. However, the Testmaker has made it difficult to identify the conclusion of the argument. Using the "why?" test to evaluate pieces of the argument help you to determine what the actual conclusion is. Normally, the last sentence in an argument is a prime candidate for the location of the conclusion (in fact, this is what the Testmaker wants you to believe for this particular problem.) However, looking closer at the argument, it is obvious that the

"why" of the last statement is to show that moral broadsides were not evidence most seventeenth-century people were serious about moral values. This is the logical gap: while the assumption exists that most seventeenth-century people purchased broadsides because the broadsides were moralizing, we actually don't know why they were purchased. The answer choice should plug this logical gap.

Answer choice "A" is a distraction that fails to focus on the logical gap. Regardless of if the broadsides were of low quality, the body of the question indicates they were popular. Answer choice "A" still does not tell us why most seventeenth-century people purchased broadsides.

Answer choice "B" gives us an alternative reason for why most seventeenth-century people purchased broadsides: the moralizing aspect of the broadsides was rather minimal, and they actually "sensationalized" crime and adultery. This helps the author of the argument prove that we can't assume most people purchased broadsides because the broadsides were moralizing. "B" helps strengthen the argument.

Answer choice "C" is at best irrelevant to the argument (since the original argument focuses on broadsides, not on pamphlet sermons.) At worst, answer choice "C" actually weakens the argument, since buying printed sermons would seem on its face to be evidence that the populace was serious about moral values.

Answer choice "D" focuses on the interests of the clergy, but fails to mind the logical gap. The argument in the body of the question makes a conclusion about "most seventeenth-century people." Answer choice "D" makes no comment on "most seventeenth-century people," and concentrates on a small group of people "occasionally" posting moral broadsides on alehouse doors. This cannot help explain the popularity of broadsides sold by street peddlers.

In like manner to answer choice "D", answer choice "E" also focuses on the interests of a subgroup while failing to mind the logical gap. The argument in the body of the question makes a conclusion about "most seventeenth-century people." Answer choice "E" makes no comment on "most seventeenth-century people," and concentrates on only "well-educated people" who steered clear of both broadsides and street peddlers. Naturally, this cannot help explain the popularity of broadsides sold by street peddlers.

### **PROBLEM #53 (C)**

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This is an Inference question, as demonstrated by the phrase, "which of the following... can be properly inferred." Since the question is looking for a conclusion that must be true based off of the information given, our first line of attack for this problem is to evaluate whether each answer choice contains extra information not found in the premises.

Answer choice "A" explicitly contradicts the first sentence of the argument by telling us that all bad writers can improve. The first sentence of the passage tells us that there are some bad writers who cannot become better writers.

Answer choice "B" could be true, since the last sentence of the passage implies that "being taught" may be a factor in the evolution of a great writer. However, answer choice "B" steps beyond the bounds the passage. There is no place in the passage that explicitly states that "being taught" is a necessary step for a great writer. In fact, the passage implies that one can't just be taught how to be a

great writer. Answer choice "B" contains information that cannot be linked to the premises. We cannot make a conclusion about something we have no information on. Answer choice "B" is not necessarily true.

The passage states (in the first sentence) that there are some bad writers who will never improve. Thus, answer choice "C" must always be true: if there are some bad writers that can never improve, then there are naturally some bad writers that will never become great writers. Answer choice "C" can be inferred directly from the passage, and contains no new information. "C" is the correct answer.

Answer choice "D" contains new information that may or may not be true. The passage implies that some bad writers can improve their writing, but it stops short of saying those writers can become "great." However, the passage does not say that such writers cannot become great, either. Since either of these options is possible, we cannot conclude whether answer choice "D" is correct. (Whenever the possibility exists of having both a statement and its opposite be consistent with the passage, we can certainly never infer the statement is unequivocally true!)

Answer choice "E" also contains new information not found anywhere in the passage. The body of the question contains no information on how great writers could become even greater, so answer choice "E" cannot be inferred from the passage.

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#### PROBLEM #54 (C)

This is a Strengthen question, as evidenced by the phrase, "which of the following... is an assumption required by the argument." Our first item of business is therefore to identify the conclusion of the argument and then look for gaps between the conclusion and the premises. The conclusion in this argument is easy to spot (notice the "Therefore..." at the beginning of the last sentence.) Looking closely at the argument, it is easy to see that logical gap deals with the phrase, "more likely to succeed." The likelihood of success is found in the conclusion, but nowhere else in the passage. Our answer will somehow need to link an increased likelihood of success to companies founded by groups. Before even looking at the answer choices, we can anticipate what this link might look like: the passage focuses on the unlikelihood that an individual can possess expertise in multiple different areas, but that founders contribute in multiple different ways to their company. The correct answer will likely bridge "increased success" with a need for these skills.

Answer choice "A" fails to focus on the logical gap. How much of the funding each founder provides is not at issue in the passage.

Answer choice "B" mentions that some founders can provide both funding and expertise in "marketing, management, or technical matters", but this is not really new information. The passage already stated that founders contribute funding and skills, so this is fairly consistent with what we already know. The only thing the passage mentions is that individuals are unlikely to both contribute funding and be skilled in marketing, management, and technical matters. Apparently, one person likely can't do everything, but there is nothing in the problem that says one person can't do two things (funding and marketing, for example.) "B" contains virtually no new information, and fails to focus on the logical gap connecting the increased likelihood of success with group-founded companies.

Answer choice "C" correctly bridges the logical gap connecting the increased likelihood of success with group-founded companies. It explicitly mentions that companies are "more likely to succeed" if their founders can provide funding in addition to providing expertise in all of the skills mentioned in

the passage. Since the passage states that it is unlikely for one person to have all of the skills, groups of founders would naturally have an easier time of possessing all of the necessary knowledge. "C" states that such expertise can be obtained from nonfounders – implying that companies can still be successful if their founders are not skilled in marketing, management, and technical matters, but this part is irrelevant. Because answer choice "C" bridges the logical gap, showing how group-founded companies are "more likely to succeed", it is our correct answer.

Answer choice "D" ignores the logical gap and makes no mention of the way a company could be "more likely to succeed" – the crucial, new phrase found only in the argument's conclusion. Answer choice "D" cannot be correct.

Answer choice "E" does mention the increased likelihood of success for a company, though it ties this increased chance of success to knowledgeable "technical experts." The logical gap contained in the problem is between increased rates of success and the characteristics of a company's founders, not its technical experts. Answer choice "E" is irrelevant to strengthening the argument.

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#### **PROBLEM #55 (A)**

This is an Inference question, as demonstrated by the phrase, "which of the following conclusions." Since the question is looking for a conclusion that must be true based off of the information given, our first line of attack for this problem is to evaluate whether each answer choice contains extra information not found in the premises.

Answer choice "A" highlights the logical link found in the passage: rotting logs help voles, voles deposit fungus spores, fungus spores grow fungi, and fungi help living trees. Thus, rotting logs can benefit trees. Answer choice "A" is correct.

Answer choice "B" contains new information. There is no statement in the passage that explains if voles get nutrients from the spores. The passage only talks about how the voles subsist on the fungi – not on the spores, per se. We cannot make a conclusion about something we have no information on. Answer choice "B" is not necessarily true.

Answer choice "C" oversteps the bounds of the passage and contains new information. The passage tells us that living trees indirectly benefit from the voles' activity, but it makes no claim about the trees' ability to survive without the voles. We cannot make a conclusion about something we have no information on. Answer choice "C" is not necessarily true.

Answer choice "D" contains new information. There is no statement in the passage that mentions the viability of fungus spores above ground, and we cannot make a conclusion about something we have no information on. Answer choice "D" is not necessarily true.

Answer choice "E" contains new information. There is no statement in the passage that mentions the "ideal environment" for fungi growth – we know fungi grow in dead and decaying logs, but whether this is the "ideal" place for fungi to grow is unknown. We cannot make a conclusion about something we have no information on. Answer choice "D" is not necessarily true.

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#### **PROBLEM #56 (D)**

This is a Strengthen question, as evidenced by the phrase, "an assumption on which the argument relies." Our first item of business is therefore to identify the conclusion of the author and then look for

gaps between the conclusion and the premises. The conclusion in this argument is easy to spot (notice the “Therefore...” at the beginning of the last sentence.) The conclusion contains a great deal of new information we can use to highlight the logical gap. First, the conclusion mentions the phrase, “lower their costs.” While this partially links to the energy savings mentioned in the passage, “lower their costs” is a much broader umbrella that can include all of the operational costs of the company, not just energy savings. Second, the conclusion mentions, “benefit[ting] the environment.” While this is implied because of the use of recycled glass, benefits to the environment are not explicitly stated in the passage. (For example, what if the process of recycling glass dumped toxic sludge all over the countryside? If this were true, we would be recycling glass, but hardly benefitting the environment!) These two pieces of additional information found in the conclusion (but not found in the rest of the passage) draw attention to the logical gap. The correct answer will need to address one (or both) of these problems.

Answer choice “A” is irrelevant to the logical gap. Whether plastic bottles are cheaper to recycle than glass bottles is unrelated to the problem at hand. The problem focuses on whether recycling glass bottles saves money and the environment.

Answer choice “B” is equally irrelevant to the logical gap. While answer choice “B” states that the amount of glass that is currently recycled each year is enough to supply the major soft drink bottlers, this is unrelated to the original argument: can we save money and the environment by using recycled glass? Even if there was not a large supply of recycled glass, it would still be possible to save money and the environment with the existing supply. Answer choice “B” does not affect the argument.

Answer choice “C” is completely irrelevant. Again, we need to focus on the logical gap. Whether most consumers even notice the difference between bottles made from recycled or raw glass is unrelated to the question of whether recycling glass bottles saves money and the environment.

Answer choice “D” addresses one of our logical holes: the notion of reducing costs. As mentioned above, the conclusion that recycled glass can lower a company’s costs is potentially much broader than the conclusion that recycled glass can lower a company’s energy costs. Answer choice “D” highlights this distinction, by stating that other costs might exist. “D” says that other additional costs incurred by the recycling program would not outweigh the energy savings. In other words, recycling would lower the total operational costs for a bottling company. Answer choice “D” correctly strengthens the argument.

Answer choice “E” is a distraction. The number of steps in the recycling process is not synonymous with cost. Answer choice “E” fails to focus on the logical gap between recycling, saving the environment, and saving money.

### **PROBLEM #57 (A)**

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This is an Inference question, as demonstrated by the entire question stem: “If all of the statements above are true, which one of the following must also be true?” The question stem outlines the structure of the problem. Our job is to combine the statements up above to create a conclusion that must be true. Since the question is looking for a conclusion, our first line of attack for this problem is to evaluate whether each answer choice contains extra information not found in the premises.

Answer choice “A” beautifully links together existing facts in the argument to form a conclusion. Since the passage tells us that (1) some biodegradable plastics leave behind toxic residues and (2) all

biodegradable plastics are potentially useful packaging materials, then we know that a specific subgroup of potentially useful packaging materials (i.e., some biodegradable plastics) must leave behind toxic residues. This illustrates the relationship between a universal statement about an entire group and the characteristics of a subgroup. "A" is the correct answer.

Answer choice "B" contains information we cannot prove. While the passage tells us that some biodegradable plastics break down with sunlight, others breakdown with soil, and others breakdown with water, there is no statement that suggests if (or how) these categories overlap. We don't know if some biodegradable plastics "need both sunlight and submersion." Therefore, we cannot make a conclusion about something we don't have information on. Answer choice "B" is not necessarily true.

Answer choice "C" also contains information we cannot prove. The passage tells us that some biodegradable plastics break down with sunlight. In other words, "biodegradable plastics" is a subgroup of the umbrella category, "all things that break down with sunlight." There may be other things besides biodegradable plastics in this category. However, the passage only talks about biodegradable plastics, so we have no information about anything else in the "all things that break down with sunlight" category. Therefore, we cannot make a conclusion about something we don't have information on. Answer choice "C" is not necessarily true.

Answer choice "D" contains an error very similar to answer choice "C". The passage only talks about biodegradable plastics, so we have no information about things that aren't biodegradable plastics. Therefore, we cannot make a conclusion about something we don't have information on. Answer choice "D" is not necessarily true.

Answer choice "E" contains a subtle trap imbedded by the Testmaker. Answer choice "E" may be true, but we are not sure. We know that some biodegradable plastics break down in soil and some biodegradable plastics leave behind toxic residues, but we don't know if these groups are the same, if they overlap, or if they are totally separate. (For example, is it possible that only the "melt-in-the-sun" plastics leave behind toxicity? This would make the "disappear-in-the-dirt" plastics safe. Or, is it possible that the "disappear-in-the-dirt" subgroup is responsible for the toxicity?) We just don't know. Therefore, we cannot make a conclusion about something we don't have information on. Answer choice "E" is not necessarily true.

### **PROBLEM #58 (E)**

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This is a Strengthen question, as evidenced by the phrase, "which of the following principles...would help to justify." In the case of this problem, we are not necessarily looking at a traditional argument, but instead, we must focus on Saskia's position. The logical gaps are huge: Saskia makes no attempt to logically bridge the gap between (1) whether the retailer was morally obligated to honor the mislabeled price and (2) why trying to take advantage of that mistake means the retailer was not under moral obligation. The answer choice we find will need to add information that connects these dots.

Answer choice "A" completely weakens Saskia's position. (Remember to be cautious about Weaken answers for Strengthen questions!) Answer choice "A" argues that the retailer was morally obligated to honor the price, regardless of whether Gerrit knew about it.

Answer choice "B" also completely weakens Saskia's position. (Remember to be cautious about Weaken answers for Strengthen questions!) Saskia is arguing that Gerrit did not have a right to demand the mislabeled price, while answer choice "B" says that Gerrit did have such a right.

Answer choice "C" is irrelevant to the logical gap. "C" focuses on the need for retailers to update their prices to reflect manufacturers' suggested prices. Since the argument has nothing to do with manufacturers' suggested prices, this does not help or hinder Saskia's position in any way.

Answer choice "D" is incorrect because of one word: "intentionally." There is no indication in the passage that the retailer intentionally misled Gerrit by changing the price. (In fact, the passage states the mislabeling was a mistake.) Therefore, this cannot help Saskia's position, because it describes a situation completely dissimilar to what happened.

Answer choice "E" presents the criteria for when a retailer is morally obligated to honor a mislabeled price. It states that such a moral obligation is "only" necessary if the customer was "genuinely misled" about the price. This perfectly bridges the logical gap found in the passage, connecting the dots between (1) whether the retailer was morally obligated to honor the mislabeled price and (2) why trying to take advantage of that mistake means the retailer was not under moral obligation. Because Gerrit was not genuinely misled, this justifies Saskia's position that there is no moral obligation for the retailer to honor the wrong price. "E" is the correct answer.

#### **PROBLEM #59 (E)**

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This is a Strengthen question, as demonstrated by the phrase, "assuming which one of the following." Our first item of business is therefore to identify the conclusion of the author and then look for gaps between the conclusion and the premises. The conclusion in this argument is easy to spot (notice the "Therefore..." at the beginning of the last sentence.) New phrases or facts in the conclusion highlight the logical gap in the argument. However, here is where the Testmaker embeds a subtle trap for test takers who skim over the material without reading it carefully. The conclusion talks about the "greater cost of providing decaffeinated coffee." On the other hand, the premises leading up to the conclusion only talk about the costs of the "process by which coffee beans are decaffeinated." There is a fine, but crucial, distinction between the two costs. The costs of "providing decaffeinated coffee" to the consumer is a broad umbrella category that could include all of the operational costs of the company, including (but certainly not limited to) the costs associated with the decaffeination process. Once we see the source of the logical gap, the rest is easy. We just need to find the answer that helps us understand the distinction between these two costs.

Answer choice "A" actually undermines the conclusion. (Remember to be cautious about Weaken answers for Strengthen questions!) If the processing costs of regular coffee exceeded the processing costs for decaffeinated coffee, then, all things being equal, the costs of providing regular coffee could actually be higher than the costs of providing decaffeinated coffee.

Answer choice "B" is a trap designed by the Testmaker. Answer "B" contains a broad statement about how price differences between products can be "generally" accounted for by other factors, such as the law of supply and demand. While answer choice "B" reinforces the idea that, in general, product pricing is dependent upon other possible factors, it does not strengthen the specific conclusion with regards to caffeinated and decaffeinated coffee. Vague, overarching statements that leave room for exceptions – again, notice the phrase, "generally" in the answer – do not contribute a great deal of

strength to arguments. While answer choice "B" may reinforce what we already know, the argument certainly does not "rely" on answer choice "B".

Answer choice "C" is irrelevant. The logical gap in the problem focuses on the difference between the costs of processing coffee and the costs of providing coffee. Some novice test takers might feel answer choice "C" helps explain the difference in cost, since economic theory tells us that if there is little competition in a market, monopolistic effects can take place and companies can charge whatever they want – thus creating differences in price. However, this highlights a crucial key to questions on the GMAT: you can only use information that is explicitly stated in the problem. Using additional information from your own background, schooling, or previous college coursework can actually get you into trouble. Because answer choice "C" makes no mention of how lack of competition could actually lead to changes in prices, we cannot assume it.

Answer choice "D" actually weakens the conclusion. If retail coffee-sellers felt that consumers would not pay more for decaffeinated coffee, then the price of decaffeinated coffee would not be considerably higher than that of regular coffee.

By giving us information about the material costs of the coffee beans (even prior to their processing), answer choice "E" gives us information that helps fill in the logical gap. "E" tells us that the differential cost of decaffeinated and regular coffee beans is negligible. Since these costs would be part of the providing the coffee, answer choice "E" reinforces the idea that the production costs of the two types of coffee are very close to the same. This reinforces the conclusion that something else must be causing the price difference. While there still may be other production costs we are not aware of, this at least nudges the conclusion in the right direction. Remember: "Strengthen" questions are not "Prove" questions – we are looking for the answer that "most strengthens" the existing argument, not necessarily the answer that plugs the logical hole so perfectly that Aristotle rises from the grave and gives you a round of applause.

### **PROBLEM #60 (D)**

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This is a Weaken question, due to the phrase, "which of the following...would cast the most doubt." This particular problem highlights one of the sub-types of Weaken questions: notice that we are not necessarily looking at a logical argument, but instead at a proposed solution or plan. Whenever we encounter these kinds of Weaken questions, we need to mind the gap between the proposed goal of the plan and the methods used to obtain that goal. The logical disconnect often lies between those two components. In the case of this particular problem, the goal is to "reduce greenhouse gases." The plan is to give financial incentives to companies to make the switch to cleaner-burning biofuel technology. The answer to our question will highlight the idea that the financial incentives don't lead to a reduction in greenhouse gases.

Answer choice "A" provides irrelevant background information that does not focus on the logical gap. "A" says nothing about whether the plan will be able to reduce greenhouse gases. What it takes to get the plan through Congress is not related to the effectiveness of the plan, once the plan is enacted.

Answer choice "B" likewise provides irrelevant background information that does not focus on the logical gap. "B" says nothing about whether the plan will be able to reduce greenhouse gases. How much corn is used in the production of ethanol is extraneous information, at least when it comes to evaluating the effectiveness of the plan outlined in the problem.

Answer choice "C" is a classic trap written by the Testmaker. It creates a distraction by outlining potential negative side effects that could be used to criticize the plan. However, the problem doesn't ask us to criticize the plan. The question stem specifically asks us to evaluate the "effectiveness of the plan to reduce greenhouse gas emissions." Any criteria not related to this are extraneous, regardless of the negative consequences.

Answer choice "D" shows the disconnect between the methods of the plan and the goal of the plan. The goal is to reduce greenhouse gas emissions. However, according to answer choice "D", cultivating the biofuel used by the plan could actually increase greenhouse gas emissions. "D" highlights a weakness of the plan.

Answer choice "E" is another Testmaker trap. This answer tries to cast doubt on the motives of the people doing the study. However, it would be a logical jump requiring information outside of the text of the original question to infer that the study was therefore flawed.

#### **PROBLEM #61 (D)**

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This is an Inference question. In isolation, the phrase in the question stem, "most strongly support", could hint at either a Strengthen question or an Inference question. However, when we take the stem in its entirety, the structure of the problem begins to unfold. Remember: premises always support conclusions. Thus, if the information in the answer choices supports the argument above, the answer choices must be premises and the conclusion is found in the argument (leading us to believe the problem is a Strengthen question.) On the other hand, if the information in the body of the question supports the answer choices below, the argument's conclusion must be found in the answer choices (leading us to believe the problem is an Inference question.) Since the question stem indicates that the information "above" is supporting answer choices below, the answer choices must be potential conclusions. Since we are looking at an Inference question, our first line of defense is the "no new information" filter. Remember that valid conclusions must always (not just sometimes) be true, and therefore must be based entirely on the information found in the premises. Conclusions containing new information not found anywhere in the argument may or may not be true.

Answer choice "A" contains information we cannot prove. While the passage tells us pre-modern general theories of art "primarily" focus on painting and sculpture, there is no evidence that any general theory of art that explains painting must also explain sculpture. Therefore, we cannot make a conclusion about something we don't have information on. Answer choice "A" is not necessarily true.

Answer choice "B" contains information we cannot prove. "B" tells us that a general theory of art that explains every aesthetic feature of music will achieve its purpose. According to the passage, the purpose of a general theory of art is to "explain every aesthetic feature that is found in any of the arts" – not just music. Therefore, choice "B" is not necessarily true.

Answer choice "C" is a subgroup trap designed by the Testmaker to trick those who skim over the problem, not reading carefully enough. We know from the last sentence of the passage that pre-modern general theories of art fail to explain some aesthetic feature of music. However, answer choice "C" talks about "any theory of art" – a much broader and inclusive group than "pre-modern general theories of art." The passage does not talk about whether all theories of art fail to explain music; it only talks about pre-modern general theories of art. Therefore, we cannot make a conclusion about something we don't have information on. Answer choice "C" is not necessarily true.

Answer choice "D" claims that no pre-modern general theory of art achieves its purpose unless music is not art. This combines several of the premises together. Remember from the passage that the purpose of a general theory of art is to "explain every aesthetic feature that is found in any of the arts." The passage also tells us that pre-modern general theories of art fail to explain music. If music is considered an art, these theories fail their stated purpose. If music is not considered an art, these theories can achieve the purpose in the passage. Answer choice "D" is true. Note the subtle trap hidden in the answer designed to throw off novice test takers: many people would justifiably argue that music is an art, and therefore answer choice "D" contains a false idea. However, such an assumption requires the test taker to use information outside of the text of the problem to answer the question. This propensity is often exploited by the Testmaker. Using additional information from your own background, schooling, or previous college coursework can actually get you into trouble.

Answer choice "E" contains information we cannot prove. While the passage tells us pre-modern general theories of art fail to explain some aesthetic feature of music, we don't know what features those are, nor how they might relate to painting or sculpture. Therefore, we cannot make a conclusion about something we don't have information on. Answer choice "E" is not necessarily true.

### **PROBLEM #62 (B)**

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This is a Strengthen question, as demonstrated by the phrase, "which of the following... helps to justify." Our first item of business is therefore to identify Raymond's conclusion and then look for gaps between the conclusion and the premises. However, the Testmaker has made it difficult to identify the conclusion of the argument. Using the "why?" test to evaluate pieces of the argument help you to determine what the actual conclusion is. Normally, the last sentence in an argument is a prime candidate for the location of the conclusion (in fact, this is what the Testmaker wants you to believe for this particular problem.) However, looking closer at the argument, it is obvious that the "why" of the last statement is to show potential evidence for Raymond's argument of "consistency." Technically, Raymond's conclusion must be piecemealed from the first part of the passage: "it is not inconsistent to support both freedom of speech and legislation limiting TV violence." This can be simplified to get rid of the double negative: "it is consistent to support both freedom of speech and legislation limiting TV violence." The notion of consistency in support two conflicting ideas is new to the argument; the concept is not found elsewhere. Thus, we need to find an answer choice that bridges this logical gap. The correct answer will show how he can be consistent.

Answer choice "A" fails to bridge the logical gap because it focuses on the consequences of not passing legislation. Raymond never discusses this.

Answer choice "B" sets up a system of priorities, whereby one can support the freedom of speech while at the same time recognizing other interests. This hits on the notion of consistency in supporting two conflicting ideas and bridges the logical gap perfectly. "B" is the right answer.

Answer choice "C" forces an "either-or" choice, depending on what would make the greatest number of people the happiest. This runs contrary to the notion of consistency in simultaneously supporting two conflicting ideas. Such an all-or-nothing approach based on a "happiness" rule would actually lead to inconsistently supporting freedom of speech. This answer is inconsistent with the scope of Raymond's conclusion and does not bridge the logical gap.

Answer choice "D" also fails to bridge the logical gap. "D" is the most popular wrong answer, but it runs contrary to the notion of consistency in simultaneously supporting two conflicting ideas.

Raymond is not contending that if a freedom leads to any harm it must be restricted – in fact, one could argue that broadly restricting a freedom would show you no longer support the freedom. Raymond's argument is much tamer: he believes that in this particular instance, the harm done from violent TV should justify a modest reduction on one's right to free speech.

Answer choice "E" goes beyond the scope of the conclusion. Raymond is focused solely on a small limitation on free speech, while answer choice "E" applies to any "basic freedom", not just freedom of speech.

### **PROBLEM #63 (B)**

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This is a Strengthen question, as demonstrated by the phrase, "which of the following... most strengthens the argument." Our first item of business is therefore to identify the argument's conclusion and then look for gaps between the conclusion and the premises. The conclusion in this particular problem is fairly easy to spot (the last sentence starts with "therefore..."). The conclusion contains a couple of ideas not mentioned anywhere else in the argument: the notion of "benefits" associated with ingenuity and the notion of "pain" associated with ethical inventiveness. These highlight the logical gap.

At first glance, answer choice "A" might appear to focus on the logical gap because it mentions the word "benefits." However, these benefits cannot be bridged to the argument. The argument mentions benefits associated with technical ingenuity, whereas answer choice "A" concentrates on benefits associated with "ways of justifying current political power." This is outside the scope of the question.

Answer choice "B" focuses perfectly on the logical gap. It describes how politically powerful people reward people they feel are useful and punish people they feel are a threat. According to the passage, people with technical ingenuity are considered useful and people with ethical inventiveness are considered a threat. Thus, answer choice "B" attaches the notion of rewards and punishments ("benefits" and "pain") to technical ingenuity and ethical inventiveness, respectively.

Answer choice "C" ignores the logical gap. It does not give us any information about the ideas of "benefits" and "pain" found in the conclusion. Therefore, "C" cannot be the right answer.

Answer choice "D" also ignores the logical gap. It does not give us any information about the ideas of "benefits" and "pain" found in the conclusion. If anything, answer choice "D" may even weaken the conclusion, by showing that technical ingenuity could actually produce threats to political power.

Answer choice "E" hints at the logical gap, but it doesn't bridge the gap directly. "E" tells us that people with novel ethical arguments censor themselves for fear of retribution. However, "fear" of retribution is not the same thing as "retribution." Without being given any additional information, we don't know if such retribution would actually happen. Answer choice "E" also does not mention anything about the "benefits" associated with technical ingenuity, so it fails to address both issues associated with the logical gap.

### **PROBLEM #64 (E)**

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This is an Inference question. In isolation, the phrase in the question stem, "most strongly supported", could hint at either a Strengthen question or an Inference question. However, when we take the stem in its entirety, the structure of the problem begins to unfold. Remember: premises always support

conclusions. Thus, if the information in the answer choices supports the argument above, the answer choices must be premises and the conclusion is found in the argument (leading us to believe the problem is a Strengthen question.) On the other hand, if the information in the body of the question supports the answer choices below, the argument's conclusion must be found in the answer choices (leading us to believe the problem is an Inference question.) Since the question stem indicates that the information "above" is supporting answer choices below, the answer choices must be potential conclusions. Since we are looking at an Inference question, our first line of defense is the "no new information" filter. Remember that valid conclusions must always (not just sometimes) be true, and therefore must be based entirely on the information found in the premises. Conclusions containing new information not found anywhere in the argument may or may not be true.

Answer choice "A" contains information we cannot prove. It tells us about how the zebra mussels came to be in the Great Lakes, as well as explains how the zebra mussels are supplanting native species. However, there is no information about either of these facts in the premises. Therefore, we cannot make a conclusion about something we don't have information on. Answer choice "A" is not necessarily true.

Answer choice "B" contains information we cannot prove. It postulates what would happen to the cultured-pearl industry if the zebra mussels expanded into the Mississippi River and supplanted native species. However, there is no information about any of these facts in the premises. Therefore, we cannot make a conclusion about something we don't have information on. Answer choice "B" is not necessarily true.

Answer choice "C" contains information we cannot prove. While the body of the question calls the zebra mussels a "nuisance" in the intake pipes of nuclear power plants and water plants, this does not mean that there is no mechanical way to remove the zebra mussels. (The zebra mussels could be a "nuisance" with or without a means of removing them.) The premises contain no information on the existence (or lack) of means for removing the mussels. Therefore, we cannot make a conclusion about something we don't have information on. Answer choice "C" is not necessarily true.

Answer choice "D" contains information we cannot prove. While the premises talk about how zebra mussels feed on algae, the conclusion in "D" goes beyond what we know. It postulates that, in the absence of zebra mussels, the existing algae would clog the intake pipes of nuclear power plants and water plants. However, there is no information about any of these facts in the premises. Therefore, we cannot make a conclusion about something we don't have information on. Answer choice "D" is not necessarily true.

Answer choice "E" correctly combines existing premises to provide a conclusion based solely on the given facts. We know from the problem that mussels remove hazardous waste from the water. If they remove the waste but do not transform it, the waste can be nowhere else but in the mussels. Therefore, the mussels contain hazardous waste. Some novice test takers might take exception with answer choice "E" because they feel the problem contains no information about whether the mussels transform hazardous waste – this seems like new information not contained in the premises. This is a subtle trap of the Testmaker. In difficult Inference questions, the Testmaker will often include conditional premises (for example, "if this is true...", "if this happens...", "if this condition is met..."). While we naturally should be wary of these statements because it seems like they are part of the conclusion – in fact, if we can find an answer that does not contain such conditional premises, such an answer may be even a stronger conclusion – adding conditional premises is a trick designed by the Testmaker to potentially hide the correct answer. We can treat such conditional premises as part of the

facts leading up to the conclusion. The conclusion still needs to stand on its own; in other words, it cannot contain information about topics or facts not mentioned in the rest of the argument, but it can rely on the conditional premises hidden in the answer choice.

### **PROBLEM #65 (A)**

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This is a Strengthen question, as demonstrated by the question stem, “the argument assumes.” While this short phrase could possibly hint at a Method question, a quick check of the answers shows us that the choices contain additional premises with new facts. Method questions focus exclusively on the “big picture” structure of the argument. Strengthen questions ask for additional facts that support the argument. We are definitely dealing with a Strengthen question here. Therefore, our first item of business is therefore to identify the argument’s conclusion and then look for gaps between the conclusion and the premises. The conclusion in this particular problem is fairly easy to spot (the last sentence starts with a “Clearly, therefore...”). Within the conclusion we can see one issue not mentioned anywhere else in the argument: the notion of banks lending more (not less) money. This highlights the logical gap. The correct answer will need to bridge the logical gap by providing evidence the banks could lend more money than they did during the downturn.

Answer choice “A” helps bridge the logical gap. Choice “A” tells us the source of the funds for banks to lend – namely, the total money deposited in the banks – was not adversely affected. In other words, the downturn did not reduce the banks’ capacity to loan money. This is arguably a weak answer, because it doesn’t explicitly tell us the banks will lend more money, it just tells us that they have the capacity to do so. However, as we will come to see, this is the only answer that nudges us in the right direction. Remember: “Strengthen” questions are not “Prove” questions – we are looking for the answer that “most strengthens” the existing argument. Answer choice “A” can also be discovered using the Assumption Negation Technique. If we were to logically negate answer choice “A”, it would read: “the downturn caused a significant decrease in the total amount of money on deposit with banks, which is the source of funds for banks to lend.” If this were true, this would certainly limit the ability of the banks to lend money. The conclusion would be severely undermined if answer choice “A” were negated. Thus, “A” is a strong candidate for strengthening the conclusion.

Answer choice “B” fails to address the logical gap. While it tells us that the tighter standards were not the cause of the downturn, “B” says nothing of the capacity of banks to lend money. The conclusion that banks will lend more money is not helped or hindered by this answer choice.

Answer choice “C” also fails to address the logical gap. While it tells us that there was an intentional, non-arbitrary reason for the tighter standards, “C” says nothing of the capacity of banks to lend money. (In fact, it doesn’t even tell us what the reason was for the increased standards!) The conclusion that banks will lend more money is not helped or hindered by this answer choice.

Answer choice “D” directly contradicts the argument. The argument states that banks loaned less money during the downturn, but “D” tells us that no downturn is accompanied with decreased lending. This contradiction means choice “D” cannot be correct.

Answer choice “E” fails to bridge the logical gap. Looking carefully at the argument, we can discern that the banks loaning less money was not an “effect” of the downturn; in fact, if anything, it was a contributing cause. This fails to address the specific conclusion regarding whether banks would lend more money. Additionally, even if decreased lending were an effect of the downturn, answer choice

"E" would actually weaken the argument, by saying that any act of relaxing standards could not compensate for the effects of the downturn. Answer choice "E" is wrong on multiple levels.

### **PROBLEM #66 (C)**

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This is a Strengthen question, as demonstrated by the question stem, "the argument relies on which... assumptions." While the question stem calls these assumptions "questionable," the strategy is the same. We are still looking for assumptions that would strengthen the argument. Therefore, our first item of business is therefore to identify the argument's conclusion and then look for gaps between the conclusion and the premises. The conclusion for this particular argument is hidden in the middle of the passage: "Mifune spends more time eating than does Rossi." There are two clear, textual reasons why this statement is the conclusion. First, the statement begins that a particular study would "clearly show" that Mifune spends more time eating than does Rossi. This is a value judgment, one of the signs we may be dealing with a conclusion. Another reason we can pick out this conclusion in the midst of everything else is the word "since." "Since" is a type of conclusion tag, but it attaches itself to a premise immediately next to the conclusion. Order is crucial. Thus, if we see the phrase "Since A, then B", A is a premise supporting the conclusion, B. If we see the phrase "A, since B", A is now the conclusion, and B is a premise undergirding that conclusion. The last sentence in the passage uses this latter structure ("A, since B"). Therefore, the phrase immediately preceding "since" is a great candidate for the conclusion.

Once we can see this, the logical gap becomes readily apparent. The conclusion talks about how Mifune spends more time eating than does Rossi. However, the time spent eating is not contained anywhere in the remaining premises. Our correct answer must fix this logical gap, tying the concept of time spent eating to another pre-existing fact.

Answer choice "A" not only fails to focus on the logical gap, it also describes a situation completely irrelevant to the question. Choice "A" tells us that different bird species generally do not have the same energy requirements. However, the passage explicitly tells us that Mifune and Rossi do have the same energy needs. Answer choice "A" is extraneous and unrelated.

Answer choice "B" also fails to address the logical gap. What type of food the birds eat is not the same thing as how long it takes to eat such food. We are looking for an answer choice that ties the concept of time spent eating to another pre-existing fact. "B" does not do this.

Answer choice "C" explicitly tells us about the time it takes to consume nectar and seeds and connects it to what we already know. If a given amount of nectar contains more energy than a given amount of seeds, then, all things being equal, more seeds must be consumed to supply the same amount of energy as nectar does. "C" adds into this idea the element of time. If the birds consumed the seeds/nectar at the same rate (but had to consume the same amount of energy), the bird that ate seeds would take longer. "C" confirms this.

Answer choice "D" fails to address the logical gap. Knowing about the body temperature of a bird does not help us to understand how fast it eats. We are looking for an answer choice that ties the concept of time spent eating to another pre-existing fact. "D" does not do this.

Answer choice "E" also fails to address the logical gap. While "E" gives us background information explaining how the energy requirements of a bird are independent of size, climate, and habits, the question stem tells us that Mifune and Rossi have the same energy requirements. We are looking for

an answer choice that ties the concept of time spent eating to another pre-existing fact. "E" does not do this.

#### **PROBLEM #67 (D)**

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This is a Strengthen question, as demonstrated by the phrase, "which one of the following is an assumption." Therefore, our first item of business is therefore to identify the argument's conclusion and then look for gaps between the conclusion and the premises. The conclusion for this particular argument is at the end of the passage: "[reptiles] must be incapable of complex reasoning." There are two clear, textual reasons why this statement is the conclusion. First, this statement uses the phrase, "must be." This is a value judgment, one of the signs we may be dealing with a conclusion. Another reason we can pick out this conclusion in the midst of everything else is the word "since." "Since" is a type of conclusion tag, but it attaches itself to a premise immediately next to the conclusion. Order is crucial. Thus, if we see the phrase "Since A, then B", A is a premise supporting the conclusion, B. If we see the phrase "A, since B", A is now the conclusion, and B is a premise undergirding that conclusion. The last sentence in the passage uses the structure, "Since A, then B." Thus, the ending statement, "these animals must be incapable of complex reasoning," must be the conclusion.

The logical gap for this argument is not solely found in the conclusion, but in the "since" statement preceding the conclusion. As mentioned above, "since" is attached to a statement of fact required for the conclusion to be valid. However, the notion of animals being incapable of changing their behavior is not found anywhere else in the argument. The experiment supposedly implies that if an animal could demonstrate the capacity of making major behavioral changes, this would be "proof" of complex reasoning, but it leaves a large hole: could there be other possible evidences of complex reasoning besides the capacity for behavioral change? Just because there is no evidence of reptiles' ability to make major behavioral changes doesn't mean they can't demonstrate complex reasoning in another manner. This is our logical gap. The correct answer must help us bridge this hole in the argument.

Answer choice "A" is a popular answer choice, but it actually fails to address the logical gap. The reason behind this is subtle, but can easily be discerned by comparing answer choice "A" to answer choice "D". "A" tells us that the "only" possible way that an animal could have the capacity of making major changes in behavior is if the animal had a capacity for complex reasoning. In essence, major changes in behavior are "proof" of complex reasoning. However, notice that this still leaves open the possibility for other possible "evidences" of complex reasoning, without the need for demonstrating the capacity of making major changes in behavior. (Yes, demonstrating major changes in behavior is "proof" of complex reasoning, but is it the only proof? "Writing a sonnet" could be proof of complex reasoning, even if the creature never demonstrates major changes in behavior.) Thus, answer choice "A" actually reinforces the same faulty logic as that found in the experiment: "A" leaves open the possibility that reptiles could have complex reasoning in spite of not being able to show the capacity for major behavioral changes. It contains the same logical gap as the original.

Answer choice "B" is another clever trap by the Testmaker. In this case, "B" undermines the argument made by the psychologists quoted the beginning. However, undermining someone else's argument is not the same as strengthening your own argument. The question explicitly asks us to identify the assumption in Sylvia's argument – in other words, find the statement of evidence that plugs the logical hole. Because answer choice "B" does not focus on the problem with Sylvia's argument (in other words, it doesn't help us bridge the gap between the capacity to make major changes and the capacity for complex reasoning), "B" cannot be the right answer.

Answer choice "C" actually undermines Sylvia's argument. The basis for her argument is the evidence collected by a series of experiments. Because "C" claims that the results of such experiments fail to capture what is actually going on in terms of behavior, this would make any conclusions based off these experiments less solid.

Answer choice "D" successfully bridges the logical gap, though the Testmaker tries to conceal the correct answer by including the fuzzy, non-specific word "sometimes." While this is a very weak statement – "sometimes" is certainly weaker than "always" – answer choice "D" is the only answer that nudges us in the right direction. Remember: "Strengthen" questions are not "Prove" questions – we are looking for the answer that "most strengthens" the existing argument. The hole in Sylvia's argument is the lack of linkage between the capacity to make major behavioral changes and the capacity for complex reasoning. Answer choice "D" states that if reptiles had complex reasoning, they would sometimes demonstrate the capacity for major behavioral changes. In essence, the capacity for complex reasoning "causes" the capacity to make major changes in behavior. While other causes of major changes in behavior could still exist independently of complex reasoning, if the capacity for major changes in behavior is absent, then there cannot be complex reasoning. To draw an analogy here, take the statement, "MBA grads must have taken the GMAT." For the sake of argument, let us say this statement is true. Yes, other people might take the GMAT. But if you didn't take the GMAT, this means, at bare minimum, you definitely did not get an MBA (since a necessary part of the "MBA-achieving" process is taking the GMAT.) In like manner, answer choice "D" tells us that if an animal has the capacity for complex reasoning, it must be able to change its behavior. Yes, there may be other reasons why the animal could change behavior. But if it can't change behavior, this means, at bare minimum, the animal does not have the capacity for complex reasoning (since complex reasoning would "cause" a creature to be able to make major behavioral changes.) Answer choice "D" plugs the gap.

Lastly, answer choice "E" also fails to address the logical gap. The hole in Sylvia's argument is the lack of linkage between the capacity to make major behavioral changes and the capacity for complex reasoning. Answer choice "E" does not bridge this gap, but instead focuses on "responses to stimuli" – something found in the argument made by some psychologists (quoted by Sylvia at the beginning.) However, the question explicitly asks us to identify the assumption in Sylvia's argument – in other words, we must find the statement of evidence that plugs the logical hole. Because answer choice "E" does not focus on the problem with Sylvia's argument, "E" cannot be the right answer. It doesn't help us bridge the gap between the capacity to make major changes and the capacity for complex reasoning.