

4.0 Critical Reasoning

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Critical reasoning questions are designed to test the reasoning skills involved in:

1. constructing an argument
2. evaluating an argument, and
3. formulating or evaluating a plan of action.

The materials on which questions are based are drawn from a variety of sources. The GMAT exam does not assume any familiarity with the subject matter of those materials beyond what is generally known.

Critical reasoning questions are based on passages that are typically fewer than 100 words in length, and—unlike reading comprehension passages—each critical reasoning passage has just one question associated with it. On the exam, you will see only one passage and question at a time.

Answering critical reasoning questions requires no specialized knowledge. You don't need to know the terminology or conventions of formal logic. You do need to be familiar with such generally known logical terms as “premise,” “conclusion,” and “assumption.” The sample critical reasoning questions in this chapter illustrate the variety of topics the test may cover, the kinds of questions it may ask, and the level of analysis they require.

4.1 What Is Measured

A set of critical reasoning questions provides one measure of your ability to reason.

For the purposes of the GMAT, reasoning can be thought of as any series of statements of which at least one is given as logical support (evidence) for some other statement. Some examples include reasoning for the purpose of justifying a belief in some statement, justifying some plan of action, or explaining why a certain phenomenon occurs.

Many of the passages in critical reasoning questions contain or report reasoning. Some passages display no reasoning and simply present information. Every critical reasoning question, however, will require you to engage in reasoning based on the passage. You may, for example, be asked to draw a conclusion from the given information, i.e., to identify among the answer choices the one statement that is logically supported by the information. Or you may be asked to identify the one statement that most plausibly explains why a phenomenon described in the passage occurred, or to evaluate whether a particular plan of action is likely to achieve the intended goal.

Many different skills are involved in the analysis and evaluation of reasoning. The following table lists the major skills that critical reasoning questions measure.

Question type	Skill	Examples
Analyzing reasoning structure	Ability to identify premises, conclusions, explanations, plan rationales, or background information in passages that contain reasoning	<ul style="list-style-type: none"> • [in a dialogue] “Ming uses which of the following techniques in responding to Wei?” • Which of the following most accurately describes the functions of each boldfaced part of the passage?
Drawing conclusions (inference)	Ability to infer a statement (draw a conclusion) from given information	<ul style="list-style-type: none"> • Which of the following is most strongly supported by the information provided? Which of the following follows logically from the information provided?
Identifying sufficient or required assumptions	Ability to recognize an assumption that can help to complete a logical gap in a piece of reasoning associated with an explanation or the rationale for a policy or plan	<ul style="list-style-type: none"> • Which of the following is an assumption that Fang’s reasoning requires? [or “on which Fang’s reasoning depends?”] • The conclusion follows logically if which of the following is assumed? • The plan will fail unless which of the following occurs?
Evaluating hypotheses	Ability to identify a hypothesis that most plausibly explains the occurrence of a phenomenon or event	<ul style="list-style-type: none"> • Which of the following, if true, most helps to explain the failure to achieve the plan’s objective? • Which of the following is most likely to contribute to the occurrence of the phenomenon observed? • In order to evaluate the force of the archaeologists’ evidence, it would be most useful to determine which of the following?
Resolving apparent inconsistency	Ability to reconcile two apparently conflicting states of affairs	<ul style="list-style-type: none"> • Which of the following most helps to resolve the discrepancy between the reported level of rainfall and the occurrence of flooding in City X?
Identifying information that strengthens or weakens reasoning	Ability to identify information that either provides additional support or undermines reasoning	<ul style="list-style-type: none"> • Which of the following, if discovered, would cast the most doubt on the engineer’s reasoning? • Which of the following, if true, would most strengthen the support for the physician’s diagnosis?

Question type	Skill	Examples
Recognizing and describing logical flaws	Ability to identify errors in reasoning such as confusing correlation with causation or confusing a sufficient condition with a necessary one	<ul style="list-style-type: none"> Which of the following, if true, most strongly indicates the existence of a flaw in the reasoning? The reasoning attributed to the executive is most vulnerable to which of the following criticisms?
Identifying a point of disagreement	Ability to precisely identify the key issue on which two parties disagree, based on the statements they have made	<ul style="list-style-type: none"> Which of the following is the main point of disagreement between Mandeep and Saumya?
Finding a solution to a practical problem	Ability to recognize a strategy for solving a practical problem	<ul style="list-style-type: none"> Which of the following would most help the polling specialists overcome the difficulty they encountered in surveying a sample of likely voters?

4.2 Test-Taking Strategies

To answer critical reasoning questions, you must analyze and logically evaluate the passage on which each question is based, and then select the answer choice that most appropriately answers the question. Begin by carefully reading the passage and the question asked about the passage, then reading the five answer choices. If the correct answer is not immediately obvious to you, see whether you can eliminate some of the wrong answers. Reading the passage a second time may help illuminate subtleties not evident on first reading.

1. Decide whether you benefit most from reading the passage or the question first.

Some test-takers may want to read the passage very carefully first and then read the question. But it can be advantageous to read the question first. Doing so can orient you toward noticing the content or structural features of the passage that are relevant for answering the question. Working through the practice questions in this guide should help you get a good feel for the approach that suits you best.

Be careful to respond to the question asked. For example, here are two questions that, in a hurried reading, could easily be confused:

(A) Which of the following is valued by most citizens of Nation X?

(B) Which of the following is most valued by the citizens of Nation X?

Something that is valued by most citizens of Nation X may not be the same as what is generally most valued by the citizens of Nation X. For example, the most justified answer to (A) could be “wealth” and the most justified answer to (B) could be “good community relations.”

2. Determine whether the passage contains reasoning or merely provides information.

To determine whether the passage contains reasoning, consider whether one or more of the statements are intended to support the truth of any other statement provided, or to justify a plan of action, or to explain some phenomenon. To help determine this, look for certain sorts of words or phrases, sometimes

called “inference indicators,” that authors may provide when they are presenting a piece of reasoning. For instance, the word *therefore* is frequently used to indicate a conclusion, and the word *because* is frequently used to indicate a premise or reason. Here are other examples (the list is not exhaustive):

- Conclusion indicators: consequently, it follows that, so, hence
- Premise indicators: since, as, for, as is shown by, follows from

Some of these words have other uses; for example, *since* can signify time or can signify causation. Also, keep in mind that a passage may contain reasoning even if no such indicators are present. Ask yourself whether any of the statements support the truth of another statement, help explain a phenomenon described in the passage, or help support a plan proposed in the passage.

3. Identify the purpose and structure of any reasoning given in a passage.

A good first step in analyzing passages that contain reasoning is to determine the purpose of the reasoning. Does the reasoning aim to provide logical support for a conclusion? If so, then identifying that conclusion will help. Or perhaps the reasoning aims to explain a phenomenon, i.e., to indicate what has caused the phenomenon to occur. If so, identifying the statement that predicts or hypothesizes the occurrence of the phenomenon will help. A third possibility is that the reasoning provides a rationale for a plan or policy. If so, identifying a statement that indicates the goal of the plan or policy will help.

Once you have identified the purpose of the reasoning, then you can look at the structure of the reasoning (i.e., *how* the author makes the argument). Pay attention to how sentences relate to one another. For example, the passage may begin with a conclusion followed by a premise that supports that conclusion—or the premise may come first. An intermediate conclusion may, in turn, be used as a premise to support a larger, final conclusion. Consider the following:

Among people currently employed, those who wish to retire early will probably not be able to afford to do so. Most people these days are spending almost all their income, and therefore few people are saving enough for early retirement.

In this argument, “Few people are saving enough for early retirement” is an intermediate conclusion, because it is both a conclusion (for which “Most people these days are spending almost all of their income” is a premise) and a premise for the argument’s main conclusion (“Among people currently employed, those who wish to retire early will probably not be able to afford to do so”).

4. To test reasoning, try to imagine scenarios in which the premises are true and the conclusion false.

Many critical reasoning questions will require you to evaluate the soundness of the reasoning presented in a passage. To evaluate reasoning, you do not need to decide whether premises or conclusions are actually true. Determining actual truth is beyond the scope of the test: no test-taker could determine the truth or falsity of every assertion present in critical reasoning passages. Moreover, many critical reasoning passages refer to fictional scenarios. Normally, in evaluating a piece of reasoning, you should try to *imagine* a situation in which the premises would all be true but the conclusion false. If such a situation would be very unlikely to occur, then the reasoning is strong. On the other hand, if such a situation could quite likely occur, then the reasoning is poor.

This does not mean that considerations of what you know to be true about the real world will not at times be helpful in evaluating reasoning. Consider the following:

Medical procedure A is as effective and cost-efficient as medical procedure B but has fewer unwanted side-effects than B. Therefore, medical procedure A should be preferred over medical procedure B.

In evaluating this reasoning, you can use the obvious fact that, all else being equal, the procedure with fewer unwanted side-effects is preferable.

There are degrees of logical support. A piece of reasoning can be very weak, moderately weak, moderately strong, or even absolutely certain. Even if you are not directly asked to do so, it is good practice to evaluate any reasoning in a passage, including the plausibility of an explanation or the persuasiveness of the rationale for a plan's success. Also, note that reasoning can be strengthened by adding new information that, along with the information already given, increases the likelihood that the conclusion inferred would be true provided all the supporting information is true. Similarly, reasoning can be weakened by adding information that increases the likelihood of the conclusion's being false provided the supporting information is true.

4.3 Reasoning Concepts to Know for the GMAT

The following is intended to provide some pointers to help you analyze the critical reasoning issues you may encounter on the GMAT.

1. Be alert to any unstated assumption on which the reasoning may depend.

A statement that helps fill a “gap” in the information offered to support the conclusion is an unstated assumption. If the reasoning depends on such an assumption and the assumption is highly implausible, the reasoning would be subject to criticism on that basis. Note that assumptions can be of two kinds:

- **Necessary assumptions:** unstated facts or opinions that must be assumed if the reasoning is to succeed logically. The GMAT question will often contain phrases like *an assumption that the argument (reasoning) requires, an assumption on which the argument depends (relies)*.

Mario has booked a flight scheduled to arrive at 5:00 pm—which should allow him to get here around 6:30. So it will be about 7:00 pm when we will be going out to dinner with Mario.

Assumption: The plane Mario is booked on will arrive not significantly later than the scheduled time. This assumption, though necessary, is not sufficient; for example, we also need to assume that Mario managed to catch his flight.

- **Sufficient assumptions:** unstated facts or opinions that, if assumed, allow reasoning to succeed logically. One GMAT question form for sufficient assumptions is: *Which of the following, if assumed, would allow the conclusion to follow logically.*

The study of poetry is entirely without value, since poetry has no practical use.

Assumption: The study of what has no practical use is entirely without value. This assumption, along with the premise given, provides sufficient support for the conclusion: if both the premise and the assumption are true, then the conclusion must also be true. But the following, more complex, assumption would also be sufficient:

Anything with no practical use is entirely without value, and the study of anything that is entirely without value is also entirely without value.

This shows that two distinct assumptions can each be sufficient, neither of them being necessary.

2. Understand the logic of *if-then* statements and associated inferences.

A conditional statement is a compound statement consisting of the part that expresses a condition (the “if” portion) and a part that expresses a supposed consequence: for example, “If it has rained today, then the ground is wet.” (The order can be reversed, and the word *then* omitted: “The ground is wet if it has rained today.”)

There are certain errors that people often make in drawing inferences from conditional (*if-then*) statements. Consider the following:

Attorney: If the jury finds the executive guilty of embezzlement, he will receive a prison sentence. But the jury will not find him guilty of embezzlement. So the executive is unlikely to receive a prison sentence. (Pattern: if A occurs, then B occurs. A does not occur. Therefore, B does not occur.)

A little consideration will indicate that, in the absence of additional information (e.g., that the executive will not be found guilty of any other crime), the inference is faulty. Similarly, the following argument is in error:

Attorney: If the jury finds the executive guilty of embezzlement, he will receive a prison sentence. He will, I believe, receive a prison sentence. Therefore, the jury will find him guilty of embezzlement. (Pattern: If A occurs, then B occurs. B occurs. Therefore, A occurs.)

On the other hand, the following argument is logically correct (i.e., if both premises are true, then the conclusion must be true):

Attorney: If the jury finds the executive guilty of embezzlement, he will receive a prison sentence. But he will not, I believe, receive a prison sentence. Therefore, the jury will not find him guilty of embezzlement. (Pattern: If A occurs, then B occurs. B does not occur. Therefore, A does not occur.)

The following argument is also logically correct:

Attorney: If the jury finds the executive guilty of embezzlement, he will receive a prison sentence. And the jury will find him guilty of embezzlement, I believe. So he will receive a prison sentence. (Pattern: If A occurs, then B occurs. A occurs. Therefore, B occurs.)

In each of these cases, the second premise in the pattern is crucial: for correct reasoning, that premise should either affirm the *if*-clause, or deny the *then*-clause.

To thoroughly understand the logic of *if-then* statements, it is useful to note the structural equivalence displayed in the following simple pair of examples:

In daytime, if the sky is entirely clear, then there is sunshine.

In daytime, if there is no sunshine, the sky is not entirely clear.

Note, however, that we can easily imagine a situation when the each of these statements is true but the following statement false:

In daytime, if the sky is not entirely clear, then there is no sunshine.

Therefore, this third statement does not follow logically from either of the others.

Conditional Statements: Correct and Incorrect Inference Patterns	
Premise(s)	Conclusion
If A occurs, B occurs. A does occur.	B occurs (correct)
If A occurs, B occurs. B does not occur.	A does not occur (correct)
If A occurs, B occurs. B does occur.	A occurs (incorrect)
If A occurs, B occurs. A does not occur.	B does not occur (incorrect)

3. Pay attention to statements that indicate a necessary condition or a sufficient condition.

There are many ways to indicate that something is necessary or sufficient for the occurrence of another event or phenomenon. Here is an example:

Unless you sleep well tonight, you will not compete well in tomorrow's track events.

This indicates that sleeping well tonight is a necessary condition of competing well in tomorrow's track events. This could be expressed by "Sleeping well tonight is necessary in order that you compete well in tomorrow's track events" or by "You will compete well in tomorrow's track events only if you sleep well tonight." *If-then* statements are sometimes used to indicate that something is a necessary condition or a sufficient condition, with the *if*-clause indicating a sufficient condition or the *then*-clause indicating a necessary condition. The statement "If you sleep well tonight, then you will compete well in tomorrow's track event" indicates that sleeping well tonight is a sufficient condition of competing well in tomorrow's track event—in the sense that, given the truth of the *if-then* statement, the situation in which you sleep well tonight but do not compete well in tomorrow's track event will not occur.

Fulfillment of an accurately expressed sufficient condition "guarantees" that something else will occur, but the fulfillment of a necessary condition is no guarantee that something else will occur. Suppose sleeping well tonight is a necessary (but not a sufficient) condition of competing well tomorrow in the track events. Then even if you do sleep well tonight (and therefore fulfill the condition said to be necessary), you may still not compete well tomorrow; there may be one or more other necessary conditions that have not been fulfilled (e.g., that you will be in fine form, with adequate energy).

4. Be careful with negatives applied to AND statements and OR statements.

When someone denies an *and*-statement or denies an *or*-statement, it is quite easy to make an incorrect inference from a mistaken understanding of what the denial implies. Consider the following dialogue:

John: Humidity is high today and the temperature is high today.

Joanna: I believe that's not correct.

Is Joanna committed to the claim that humidity is not high today? Is she committed to the claim that the temperature is not high today? No. She is committed to the claim that humidity and temperature are *not both* high today—but not to the claim that neither is high today. Instead, her

position can be paraphrased as: “At least one of the two, humidity and temperature, is not high today.” To affirm the negation of an *and*-statement is, in effect, to affirm an *or*-statement—a principle that we could represent as follows:

“It is false that both statement 1 AND statement 2 are true” is equivalent to “Statement 1 is false OR statement 2 is false, OR both are false.”

A related point—in reverse—can be made about *or*-statements. Consider the following dialogue:

Economist 1: Inflation will rise next year or equities will decline.

Economist 2: I believe that’s incorrect.

Economist 2 denies the statement made by Economist 1. Economist 2 is committed to the view that there will *neither* be increased inflation *nor* a decline in equities—or equivalently, to the view that inflation will not rise and equities will not decline. If Economist 1 had said “Either inflation will rise next year or equities will decline,” the meaning would be that one but not both effects will occur. Since the statement was not an *either-or* statement, just a simple *or*-statement, it asserts that at least one of the effects will occur, i.e., it leaves open the possibility that both effects could occur.

5. Be aware of issues concerning general statements.

Statements about *all* or *some* members of a class are called “general statements.” Some tempting inferences are incorrect—and sometimes obviously so, as in: “All primes are odd numbers. Therefore, all odd numbers are primes.” The premise tells us that the subject class (primes) is entirely contained in the predicate class (odd numbers)—but there are odd numbers that are not primes, such as the number fifteen. So the premise is correct but the conclusion is false, and the following inference, which has an identical logical structure, is also incorrect: “All geniuses are exceptionally creative thinkers, so all exceptionally creative thinkers are geniuses.”

A similar point can be made regarding certain statements of the form *some As are not Bs*. From the premise “Some citizens of India are not residents of Mumbai,” can it be correctly inferred that “Some residents of Mumbai are not citizens of India?” No—this inference is incorrect, since it has a true premise and a false conclusion, just as in “Some odd numbers are not primes, so some primes are not odd numbers.” Compare with the following: “Some biologists are not researchers, so some researchers are not biologists.” Based on common knowledge, both the premise and conclusion are true—but the structure of the argument is the same as in the preceding two examples.

Even though “some” can sometimes be read, depending on the context, as meaning “some but not all,” it should often be read as meaning “at least one”—even if a plural noun follows “some.” If I say “Some voters are critical thinkers,” that claim will be true whether all, or only one or two voters are critical thinkers.

Some confusion can arise in cases where general statements are negated or denied. Consider the following dialogue:

Jana: Some voters in modern democracies are critical thinkers.

Julio: I wonder about that—in fact I think it’s not true at all.

Julio’s statement commits him to the claim that no voters in modern democracies are critical thinkers—not just to the weaker claim that some voters in modern democracies are not critical thinkers. And consider the following:

Jana: Every voter in modern democracies is a critical thinker.

Julio: I wonder about that—in fact I think that’s not true at all.

Julio's statement commits him to the claim that some voters—one or more—in modern democracies are not critical thinkers—but not to the more sweeping claim that no such voters are (his claim will be true, of course, if no such voters are).

Not every general statement carries an implication that the subject class is not empty, i.e., contains members. Consider the following:

Every *life-form native only to planets other than Earth* is carbon-based.

For all we know, the subject class—designated by the italicized phrase—may in reality be an “empty” class (equivalent to the null set), so we cannot correctly infer from this statement the following:

Some life-forms native only to planets other than Earth are carbon-based.

A *some*-statement always carries the implication that the subject-class is non-empty, i.e., has at least one member.

Some general statements can easily be misread. Learn to distinguish carefully the following statements:

Some food is the favorite of every adult in Nation X.

Every adult in Nation X has some favorite food.

These statements are not equivalent. The first says something that is unlikely to be true: that there is a particular food that is a *universal* favorite among adults in Nation X. The second says only that each adult in Nation X has some food that is his or her favorite—which may well be true.

6. Note ways in which definitions can be defective.

Definitions serve various purposes, but all have the goal of making things adequately clear. A definition can simply give a conventional dictionary meaning—but many ordinary words have more than one meaning, and a definition may be needed if the meaning is not clear enough from context. Sometimes a new term needs to be introduced or an existing term needs to have a precise definition for a special (perhaps technical) purpose. Definitions are flawed if they are too vague for the intended purpose—when it is not sufficiently clear whether a given entity would fall inside or outside the class of things apparently targeted by the defined term. Also, a definition can be too broad or too narrow—when the definition incorrectly includes or excludes one or more items. Consider the following: “An athlete is a fast runner or a high jumper.” This is both too narrow and too imprecise—and perhaps too broad (depending on context): for example, does it include racehorses? A definition can be circular: “Atmospheric pressure is the air pressure in the earth’s atmosphere.” This is both circular and vague—and useless for scientific purposes.

7. Understand how hypotheses are confirmed.

A hypothesis is a proposed explanation that serves as a starting point for further investigation. On the GMAT exam, you may be asked to identify or evaluate a hypothesis that most plausibly explains a phenomenon or event. To do so, you should look for evidence that either supports or goes against the hypothesis.

Imagine the following research study designed to test the efficacy of a new teaching method for ten-year-old girls and boys. Sixty ten-year-old children are divided into two groups “matched” relative to gender distribution, measured performance in mathematics achievement, and all other factors presumed relevant. A new instructional method M for a set of designated mathematical skills is applied to one of the groups, and an established method, Method E, for the same skills is applied to

the other. Performance on the skills after ten weeks of instruction is measured for both groups, and a comparison made between the two data sets, appropriately processed. The goal is to discover whether the data confirms the following hypothesis (in the form of a prediction):

If Method M is applied to groups of children like these, there will be a significantly larger gain in mathematical performance than if Method E is applied.

Suppose the data shows that the group subjected to Method M has a significantly larger gain in performance than the other group (the “control group”). This information provides some support for the hypothesis, provided adequate scientific controls and statistical processing have been correctly executed (ensuring these two conditions are met is not always easy). The confirmatory evidence supports the superior efficacy of Method M, but it is not conclusive. What the evidence shows is that the experimental results for these children are *consistent with* the hypothesis that Method M generally has superior efficacy for such children. The *if*-clause is true of one of these groups of children—presumed typical of a larger population of ten-year-old children—and so is the *then*-clause. It is one piece of evidence that the hypothetical statement given above has not been falsified—and therefore is quite possibly correct. If the *then*-clause turned out false, this would be evidence against the hypothesis. Accumulation of confirmatory evidence through replicated experiments will greatly strengthen the confirmation of the hypothesis.

The finding of Method M’s efficacy can be validly generalized only to groups of children that resemble in relevant respects the children featured in the study. In other words, the groups of children must be typical, i.e., *representative*, of the large population of ten-year-old children to whom Method M may be applied if it is scientifically validated. A similar principle of representativeness must govern sample selection in any study that aims to establish scientific results generalizable to a larger group or population.

4.4 Section Instructions

Go to www.mba.com/tutorial to view instructions for the section and get a feel for what the test center screens will look at on the actual GMAT exam.

4.5 Sample Questions

Each of the **critical reasoning** questions is based on a short argument, a set of statements, or a plan of action. For each question, select the best answer of the choices given.

*CR14249

102. PhishCo runs a number of farms in the arid province of Nufa, depending largely on irrigation. Now, as part of a plan to efficiently increase the farms' total production, it plans to drill down to an aquifer containing warm, slightly salty water that will be used to raise fish in ponds. The water from the ponds will later be used to supplement piped-in irrigation water for PhishCo's vegetable fields, and the ponds and accompanying vegetation should help reduce the heat in the area of the farms.

Which of the following would, if true, most strongly suggest that the plan, if implemented, would increase the overall efficiency of PhishCo's farms?

- (A) Most of the vegetation to be placed around the ponds is native to Nufa.
- (B) Fish raised on PhishCo's farms are likely to be saleable in the nearest urban areas.
- (C) Organic waste from fish in the pond water will help to fertilize fields where it is used for irrigation.
- (D) The government of Nufa will help to arrange loan financing to partially cover the costs of drilling.
- (E) Ponds will be located on low-lying land now partially occupied by grain crops.

CR07612

103. The sustained massive use of pesticides in farming has two effects that are especially pernicious. First, it often kills off the pests' natural enemies in the area. Second, it often unintentionally gives rise to insecticide-resistant pests, since those insects that survive a particular insecticide will be the ones most resistant to it, and they are the ones left to breed.

From the passage above, it can be properly inferred that the effectiveness of the sustained massive use of pesticides can be extended by doing which of the following, assuming that each is a realistic possibility?

- (A) Using only chemically stable insecticides
- (B) Periodically switching the type of insecticide used
- (C) Gradually increasing the quantities of pesticides used
- (D) Leaving a few fields fallow every year
- (E) Breeding higher-yielding varieties of crop plants

*These numbers correlate with the online test bank question number. See the GMAT Verbal Review Online Index in the back of this book.

CR00701

104. Which of the following, if true, most logically completes the argument below?

Manufacturers are now required to make all cigarette lighters child-resistant by equipping them with safety levers. But this change is unlikely to result in a significant reduction in the number of fires caused by children playing with lighters, because children given the opportunity can figure out how to work the safety levers and _____.

- (A) the addition of the safety levers has made lighters more expensive than they were before the requirement was instituted
- (B) adults are more likely to leave child-resistant lighters than non-child-resistant lighters in places that are accessible to children
- (C) many of the fires started by young children are quickly detected and extinguished by their parents
- (D) unlike child-resistant lighters, lighters that are not child-resistant can be operated by children as young as two years old
- (E) approximately 5,000 fires per year have been attributed to children playing with lighters before the safety levers were required

CR04192

105. Which of the following most logically completes the passage?

A business analysis of the Appenian railroad system divided its long-distance passenger routes into two categories: rural routes and interurban routes. The analysis found that, unlike the interurban routes, few rural routes carried a high enough passenger volume to be profitable. Closing unprofitable rural routes, however, will not necessarily enhance the profitability of the whole system, since _____.

- (A) a large part of the passenger volume on interurban routes is accounted for by passengers who begin or end their journeys on rural routes
- (B) within the last two decades several of the least used rural routes have been closed and their passenger services have been replaced by buses
- (C) the rural routes were all originally constructed at least one hundred years ago, whereas some of the interurban routes were constructed recently for new high-speed express trains
- (D) not all of Appenia's large cities are equally well served by interurban railroad services
- (E) the greatest passenger volume, relative to the routes' capacity, is not on either category of long-distance routes but is on suburban commuter routes

CR52441.01

106. In its search for new technologies for solar energy that can produce lower-cost electricity, Smith-Diatom is developing a new way to make dye-sensitive solar cells, in which photons strike light-sensitive dyes. The process uses diatoms, which are unicellular algae that have silicon shells with a complex structure. First, the organic material is removed, and then the shells are coated with a titanium dioxide film that acts as a semiconductor. The diatoms' structure results in more photon activity and thus more efficient production of electricity than with current dye-sensitized solar cells, which in turn lowers the cost.

Which of the following considerations would, if true, most strongly support the hypothesis that the plan, if implemented, will produce low-cost electricity from dye-sensitive solar cells?

- (A) Diatoms are an important link in oceanic food chains and help cycle carbon dioxide from the atmosphere.
- (B) The current cost of electricity produced by dye-sensitive solar cells is roughly three times that of non-solar electricity.
- (C) Because diatoms occur naturally, no special engineering processes are needed to produce the basic dye-sensitive solar cell structures.
- (D) Dye-sensitive solar cells work somewhat more efficiently in lower light than previous solar cell technologies.
- (E) The production of dye-sensitive solar cells primarily uses materials that do not harm the environment.

CR03129

107. Although Ackerburg's subway system is currently operating at a deficit, the transit authority will lower subway fares next year. The authority projects that the lower fares will result in a ten percent increase in the number of subway riders. Since the additional income from the larger ridership will more than offset the decrease due to lower fares, the transit authority actually expects the fare reduction to reduce or eliminate the subway system's operating deficit for next year.

Which of the following, if true, provides the most support for the transit authority's expectation of reducing the subway system's operating deficit?

- (A) Throughout the years that the subway system has operated, fares have never before been reduced.
- (B) The planned fare reduction will not apply to students, who can already ride the subway for a reduced fare.
- (C) Next year, the transit authority will have to undertake several large-scale track maintenance projects.
- (D) The subway system can accommodate a ten percent increase in ridership without increasing the number of trains it runs each day.
- (E) The current subway fares in Ackerburg are higher than subway fares in other cities in the region.

CR20531.01

108. Sparrow Airlines is planning to reduce its costs by cleaning its planes' engines once a month, rather than the industry standard of every six months. With cleaner engines, Sparrow can postpone engine overhauls, which take planes out of service for up to 18 months. Furthermore, cleaning an engine reduces its fuel consumption by roughly 1.2 percent.

The airline's plan assumes that

- (A) fuel prices are likely to rise in the near future and therefore cutting fuel consumption is an important goal
- (B) the cost of monthly cleaning of an airplane's engines is not significantly greater in the long run than is the cost of an engine overhaul
- (C) engine cleaning does not remove an airplane from service
- (D) Sparrow Airlines has had greater problems with engine overhauls and fuel consumption than other airlines have
- (E) cleaning engines once a month will give Sparrow Airlines a competitive advantage over other airlines

CR00828

109. Patrick usually provides child care for six children. Parents leave their children at Patrick's house in the morning and pick them up after work. At the end of each workweek, the parents pay Patrick at an hourly rate for the child care provided that week. The weekly income Patrick receives is usually adequate but not always uniform, particularly in the winter, when children are likely to get sick and be unpredictably absent.

Which of the following plans, if put into effect, has the best prospect of making Patrick's weekly income both uniform and adequate?

- (A) Pool resources with a neighbor who provides child care under similar arrangements, so that the two of them cooperate in caring for twice as many children as Patrick currently does.
- (B) Replace payment by actual hours of child care provided with a fixed weekly fee based upon the number of hours of child care that Patrick would typically be expected to provide.
- (C) Hire a full-time helper and invest in facilities for providing child care to sick children.
- (D) Increase the hourly rate to a level that would provide adequate income even in a week when half of the children Patrick usually cares for are absent.
- (E) Increase the number of hours made available for child care each day, so that parents can leave their children in Patrick's care for a longer period each day at the current hourly rate.

CR10639

110. Editorial: Consumers in North America think that by drinking frozen concentrated orange juice, they are saving energy, because it takes fewer truckloads to transport it than it takes to transport an equivalent amount of not-from-concentrate juice. But they are mistaken, for the amount of energy required to concentrate the juice is far greater than the energy difference in the juices' transport.

Which of the following, if true, would provide the greatest additional support for the editorial's conclusion?

- (A) Freezer trucks use substantially more energy per mile driven than do any other types of trucks.
- (B) Frozen juice can be stored for several years, while not-from-concentrate juice lasts a much shorter time.
- (C) Oranges grown in Brazil make up an increasing percentage of the fruit used in not-from-concentrate juice production.
- (D) A serving of not-from-concentrate juice takes up to six times more space than a serving of frozen concentrated juice.
- (E) Though frozen concentrated juice must be kept at a lower temperature, not-from-concentrate juice is far more sensitive to small temperature fluctuations.

CR07618

111. A computer equipped with signature-recognition software, which restricts access to a computer to those people whose signatures are on file, identifies a person's signature by analyzing not only the form of the signature but also such characteristics as pen pressure and signing speed. Even the most adept forgers cannot duplicate all of the characteristics the program analyzes.

Which of the following can be logically concluded from the passage above?

- (A) The time it takes to record and analyze a signature makes the software impractical for everyday use.
- (B) Computers equipped with the software will soon be installed in most banks.
- (C) Nobody can gain access to a computer equipped with the software solely by virtue of skill at forging signatures.
- (D) Signature-recognition software has taken many years to develop and perfect.
- (E) In many cases even authorized users are denied legitimate access to computers equipped with the software.

CR02958

112. The rate at which a road wears depends on various factors, including climate, amount of traffic, and the size and weight of the vehicles using it. The only land transportation to Rittland's seaport is via a divided highway, one side carrying traffic to the seaport and one carrying traffic away from it. The side leading to the seaport has worn faster, even though each side has carried virtually the same amount of traffic, consisting mainly of large trucks.

Which of the following, if true, most helps to explain the difference in the rate of wear?

- (A) The volume of traffic to and from Rittland's seaport has increased beyond the intended capacity of the highway that serves it.
- (B) Wear on the highway that serves Rittland's seaport is considerably greater during the cold winter months.
- (C) Wear on the side of the highway that leads to Rittland's seaport has encouraged people to take buses to the seaport rather than driving there in their own automobiles.
- (D) A greater tonnage of goods is exported from Rittland's seaport than is imported through it.
- (E) All of Rittland's automobiles are imported by ship.

CR75231.01

113. Ythex has developed a small diesel engine that produces 30 percent less particulate pollution than the engine made by its main rival, Onez, now widely used in Marania; Ythex's engine is well-suited for use in the thriving warehousing businesses in Marania, though it costs more than the Onez engine. The Maranian government plans to ban within the next two years the use of diesel engines with more than 80 percent of current diesel engine particulate emissions in Marania, and Onez will probably not be able to retool its engine to reduce emissions to reach this target. So if the ban is passed, the Ythex engine ought to sell well in Marania after that time.

Which of the following is an assumption on which the argument above depends?

- (A) Marania's warehousing and transshipment business buys more diesel engines of any size than other types of engines.
- (B) Ythex is likely to be able to reduce the cost of its small diesel engine within the next two years.
- (C) The Maranian government is generally favorable to anti-pollution regulations.
- (D) The government's ban on high levels of pollution caused by diesel engines, if passed, will not be difficult to enforce.
- (E) The other manufacturers of small diesel engines in Marania, if there are any, have not produced an engine as popular and clean running as Ythex's new engine.

CR04073

114. In parts of South America, vitamin-A deficiency is a serious health problem, especially among children. In one region, agriculturists are attempting to improve nutrition by encouraging farmers to plant a new variety of sweet potato called SPK004 that is rich in beta-carotene, which the body converts into vitamin A. The plan has good chances of success, since sweet potato is a staple of the region's diet and agriculture, and the varieties currently grown contain little beta-carotene.

Which of the following, if true, most strongly supports the prediction that the plan will succeed?

- (A) The growing conditions required by the varieties of sweet potato currently cultivated in the region are conditions in which SPK004 can flourish.
- (B) The flesh of SPK004 differs from that of the currently cultivated sweet potatoes in color and texture, so traditional foods would look somewhat different when prepared from SPK004.
- (C) There are no other varieties of sweet potato that are significantly richer in beta-carotene than SPK004 is.
- (D) The varieties of sweet potato currently cultivated in the region contain some important nutrients that are lacking in SPK004.
- (E) There are other vegetables currently grown in the region that contain more beta-carotene than the currently cultivated varieties of sweet potato do.

CR06018

115. Which of the following most logically completes the argument?

The last members of a now-extinct species of a European wild deer called the giant deer lived in Ireland about 16,000 years ago. Prehistoric cave paintings in France depict this animal as having a large hump on its back. Fossils of this animal, however, do not show any hump. Nevertheless, there is no reason to conclude that the cave paintings are therefore inaccurate in this regard, since _____.

- (A) some prehistoric cave paintings in France also depict other animals as having a hump
- (B) fossils of the giant deer are much more common in Ireland than in France
- (C) animal humps are composed of fatty tissue, which does not fossilize
- (D) the cave paintings of the giant deer were painted well before 16,000 years ago
- (E) only one currently existing species of deer has any anatomical feature that even remotely resembles a hump

CR28931.01

116. Super Express Shipping Company has implemented a new distribution system that can get almost every package to its destination the day after it is sent. The company worries that this more efficient system will result in lower sales of its premium next-day delivery service, because its two-day service will usually arrive the following day anyway. The company plans to encourage sales of its next-day service by intentionally delaying delivery of its two-day packages so that they will not be delivered the following day, even if the package arrives at its destination city in time for next-day delivery.

The company's plan assumes that

- (A) deliberate delay of packages will not affect the company's image in a way that significantly reduces its ability to attract and retain customers
- (B) most people do not have a preference for either two-day or next-day delivery
- (C) if the plan is not implemented, the company would lose more money in lost sales of overnight deliveries than it would save with its new efficient distribution system
- (D) the overnight service is too expensive to be attractive to most customers currently
- (E) competing companies' delivery services rarely deliver packages to their destination earlier than their promised time

CR04738

117. Cocoa grown organically on trees within the shade of the rain forest canopy commands a premium price. However, acquiring and maintaining the certification that allows the crop to be sold as organically grown is very time-consuming and laborious. Meanwhile, the price premium for the grower is about 30 percent, whereas cocoa trees grown in full sun using standard techniques can have twice the yield of organic, shade-grown trees. Financially, therefore, standard techniques are the better choice for the farmer.

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

- (A) Cocoa can be grown only in a climate that has the temperature and moisture characteristics of a tropical rain forest.
- (B) Cocoa trees grown using standard techniques require costly applications of fertilizer and pesticides, unlike shade-grown trees.
- (C) Although organically grown cocoa has long commanded a price premium over cocoa grown using standard techniques, its price has fluctuated considerably during that period.
- (D) Cocoa is not the only cash crop that can be raised on plots that leave the rain forest canopy overhead essentially intact.
- (E) Governments and international conservation organizations are working to streamline organic certification so as to relieve farmers of unnecessary work.

CR07547

118. High levels of fertilizer and pesticides, needed when farmers try to produce high yields of the same crop year after year, pollute water supplies. Experts therefore urge farmers to diversify their crops and to rotate their plantings yearly.

To receive governmental price-support benefits for a crop, farmers must have produced that same crop for the past several years.

The statements above, if true, best support which of the following conclusions?

- (A) The rules for governmental support of farm prices work against efforts to reduce water pollution.
- (B) The only solution to the problem of water pollution from fertilizers and pesticides is to take farmland out of production.
- (C) Farmers can continue to make a profit by rotating diverse crops, thus reducing costs for chemicals, but not by planting the same crop each year.
- (D) New farming techniques will be developed to make it possible for farmers to reduce the application of fertilizers and pesticides.
- (E) Governmental price supports for farm products are set at levels that are not high enough to allow farmers to get out of debt.

CR02270

119. Ten years ago the number of taxpayers in Greenspace County was slightly greater than the number of registered voters. The number of taxpayers has doubled over the last ten years, while the number of registered voters has increased, but at a lower rate than has the number of taxpayers.

Which of the following must be true in Greenspace County if the statements above are true?

- (A) The number of taxpayers is now smaller than the number of registered voters.
- (B) Everyone who is a registered voter is also a taxpayer.
- (C) The proportion of registered voters to taxpayers has increased over the last ten years.
- (D) The proportion of registered voters to taxpayers has decreased over the last ten years.
- (E) The proportion of registered voters to taxpayers has remained unchanged over the last ten years.

CR01298

120. From 1900 until the 1930s, pellagra, a disease later discovered to result from a deficiency of the vitamin niacin, was common among poor cotton farmers in the United States whose diet consisted mostly of corn, the least costly food they could buy. Corn does not contain niacin in usable form. Curiously, during the Depression of the early 1930s, when cotton's price collapsed and cotton farmers' income declined, the incidence of pellagra among those farmers also declined.

Which of the following, if true, most helps to explain the decline in the incidence of pellagra?

- (A) When growing a cash crop could not generate adequate income, poor farmers in the United States responded by planting their land with vegetables and fruits for their own consumption.
- (B) People whose diets consist largely of corn often suffer from protein deficiency as well as niacin deficiency.
- (C) Until the discovery of pellagra's link with niacin, it was widely believed that the disease was an infection that could be transmitted from person to person.
- (D) Effective treatment for pellagra became available once its link with niacin was established.
- (E) In parts of Mexico, where people subsisted on corn but pellagra was uncommon, corn was typically processed with alkaline substances, which make the niacin in the corn absorbable.

CR07589

121. The interview is an essential part of a successful hiring program because, with it, job applicants who have personalities that are unsuited to the requirements of the job will be eliminated from consideration.

The argument above logically depends on which of the following assumptions?

- (A) A hiring program will be successful if it includes interviews.
- (B) The interview is a more important part of a successful hiring program than is the development of a job description.
- (C) Interviewers can accurately identify applicants whose personalities are unsuited to the requirements of the job.
- (D) The only purpose of an interview is to evaluate whether job applicants' personalities are suited to the requirements of the job.
- (E) The fit of job applicants' personalities to the requirements of the job was once the most important factor in making hiring decisions.

CR07785

122. Many leadership theories have provided evidence that leaders affect group success rather than the success of particular individuals. So it is irrelevant to analyze the effects of supervisor traits on the attitudes of individuals whom they supervise. Instead, assessment of leadership effectiveness should occur only at the group level.

Which of the following would it be most useful to establish in order to evaluate the argument?

- (A) Whether supervisors' documentation of individual supervisees' attitudes toward them is usually accurate
- (B) Whether it is possible to assess individual supervisees' attitudes toward their supervisors without thereby changing those attitudes
- (C) Whether any of the leadership theories in question hold that leaders should assess other leaders' attitudes
- (D) Whether some types of groups do not need supervision in order to be successful in their endeavors
- (E) Whether individuals' attitudes toward supervisors affect group success

CR03535

123. A major health insurance company in Lagolia pays for special procedures prescribed by physicians only if the procedure is first approved as “medically necessary” by a company-appointed review panel. The rule is intended to save the company the money it might otherwise spend on medically unnecessary procedures. The company has recently announced that in order to reduce its costs, it will abandon this rule.

Which of the following, if true, provides the strongest justification for the company’s decision?

- (A) Patients often register dissatisfaction with physicians who prescribe nothing for their ailments.
- (B) Physicians often prescribe special procedures that are helpful but not altogether necessary for the health of the patient.
- (C) The review process is expensive and practically always results in approval of the prescribed procedure.
- (D) The company’s review process does not interfere with the prerogative of physicians, in cases where more than one effective procedure is available, to select the one they personally prefer.
- (E) The number of members of the company-appointed review panel who review a given procedure depends on the cost of the procedure.

CR03826

124. Automobile ownership was rare in Sabresia as recently as 30 years ago, but with continuing growth of personal income there, automobile ownership has become steadily more common. Consequently, there are now far more automobiles on Sabresia’s roads than there were 30 years ago, and the annual number of automobile accidents has increased significantly. Yet the annual number of deaths and injuries resulting from automobile accidents has not increased significantly.

Which of the following, if true, most helps to explain why deaths and injuries resulting from automobile accidents have not increased significantly?

- (A) Virtually all of the improvements in Sabresia’s roads that were required to accommodate increased traffic were completed more than ten years ago.
- (B) With more and more people owning cars, the average number of passengers in a car on the road has dropped dramatically.
- (C) The increases in traffic volume have been most dramatic on Sabresia’s highways, where speeds are well above those of other roads.
- (D) Because of a vigorous market in used cars, the average age of cars on the road has actually increased throughout the years of steady growth in automobile ownership.
- (E) Automobile ownership is still much less common in Sabresia than it is in other countries.

CR01430

125. To evaluate a plan to save money on office-space expenditures by having its employees work at home, XYZ Company asked volunteers from its staff to try the arrangement for six months. During this period, the productivity of these employees was as high as or higher than before.

Which of the following, if true, would argue most strongly against deciding, on the basis of the trial results, to implement the company's plan?

- (A) The employees who agreed to participate in the test of the plan were among the company's most self-motivated and independent workers.
- (B) The savings that would accrue from reduced office-space expenditures alone would be sufficient to justify the arrangement for the company, apart from any productivity increases.
- (C) Other companies that have achieved successful results from work-at-home plans have workforces that are substantially larger than that of XYZ.
- (D) The volunteers who worked at home were able to communicate with other employees as necessary for performing the work.
- (E) Minor changes in the way office work is organized at XYZ would yield increases in employee productivity similar to those achieved in the trial.

CR04180

126. A child learning to play the piano will not succeed unless the child has an instrument at home on which to practice. However, good-quality pianos, whether new or secondhand, are costly. Buying one is justified only if the child has the necessary talent and perseverance, which is precisely what one cannot know in advance. Consequently, parents should buy an inexpensive secondhand instrument at first and upgrade if and when the child's ability and inclination are proven.

Which of the following, if true, casts the most serious doubt on the course of action recommended for parents?

- (A) Learners, particularly those with genuine musical talent, are apt to lose interest in the instrument if they have to play on a piano that fails to produce a pleasing sound.
- (B) Reputable piano teachers do not accept children as pupils unless they know that the children can practice on a piano at home.
- (C) Ideally, the piano on which a child practices at home should be located in a room away from family activities going on at the same time.
- (D) Very young beginners often make remarkable progress at playing the piano at first, but then appear to stand still for a considerable period of time.
- (E) In some parents, spending increasing amounts of money on having their children learn to play the piano produces increasing anxiety to hear immediate results.

CR05096

127. Nutritionists are advising people to eat more fish, since the omega-3 fatty acids in fish help combat many diseases. If everyone took this advice, however, there would not be enough fish in oceans, rivers, and lakes to supply the demand; the oceans are already being overfished. The obvious method to ease the pressure on wild fish populations is for people to increase their consumption of farmed fish.

Which of the following, if true, raises the most serious doubt concerning the prospects for success of the solution proposed above?

- (A) Aquaculture, or fish farming, raises more fish in a given volume of water than are generally present in the wild.
- (B) Some fish farming, particularly of shrimp and other shellfish, takes place in enclosures in the ocean.
- (C) There are large expanses of ocean waters that do not contain enough nutrients to support substantial fish populations.
- (D) The feed for farmed ocean fish is largely made from small wild-caught fish, including the young of many popular food species.
- (E) Some of the species that are now farmed extensively were not commonly eaten when they were only available in the wild.

CR02851

128. Which of the following most logically completes the market forecaster's argument?

Market forecaster: The price of pecans is high when pecans are comparatively scarce but drops sharply when pecans are abundant. Thus, in high-yield years, growers often store part of their crop in refrigerated warehouses until after the next year's harvest, hoping for higher prices then. Because of bad weather, this year's pecan crop will be very small. Nevertheless, pecan prices this year will not be significantly higher than last year, since _____.

- (A) the last time the pecan crop was as small as it was this year, the practice of holding back part of one year's crop had not yet become widely established
- (B) last year's pecan harvest was the largest in the last 40 years
- (C) pecan prices have remained relatively stable in recent years
- (D) pecan yields for some farmers were as high this year as they had been last year
- (E) the quality of this year's pecan crop is as high as the quality of any pecan crop in the previous five years

CR06331

129. It is often said that high rates of inflation tend to diminish people's incentive to save and invest. This view must be incorrect, however, because people generally saved and invested more of their income in the 1970's when inflation rates were high than they did in the 1980's when inflation rates were low.

Of the following, the best criticism of the argument above is that it overlooks the possibility that

- (A) all people do not respond in the same way to a given economic stimulus
- (B) certain factors operating in the 1980's but not in the 1970's diminished people's incentive to save and invest
- (C) the population was larger in the 1980's than it was in the 1970's
- (D) the proponents of the view cited would stand to gain if inflation rates become lower
- (E) a factor that affects people's savings behavior in a certain way could affect people's investment behavior quite differently

CR02704

130. Which of the following most logically completes the argument below?

Within the earth's core, which is iron, pressure increases with depth. Because the temperature at which iron melts increases with pressure, the inner core is solid and the outer core is molten. Physicists can determine the melting temperature of iron at any given pressure and the pressure for any given depth in the earth. Therefore, the actual temperature at the boundary of the earth's outer and inner cores—the melting temperature of iron there—can be determined, since _____.

- (A) the depth beneath the earth's surface of the boundary between the outer and inner cores is known
- (B) some of the heat from the earth's core flows to the surface of the earth
- (C) pressures within the earth's outer core are much greater than pressures above the outer core
- (D) nowhere in the earth's core can the temperature be measured directly
- (E) the temperatures within the earth's inner core are higher than in the outer core

CR03659

131. Which of the following most logically completes the reasoning?

Either food scarcity or excessive hunting can threaten a population of animals. If the group faces food scarcity, individuals in the group will reach reproductive maturity later than otherwise. If the group faces excessive hunting, individuals that reach reproductive maturity earlier will come to predominate. Therefore, it should be possible to determine whether prehistoric mastodons became extinct because of food scarcity or human hunting, since there are fossilized mastodon remains from both before and after mastodon populations declined, and _____.

- (A) there are more fossilized mastodon remains from the period before mastodon populations began to decline than from after that period
- (B) the average age at which mastodons from a given period reached reproductive maturity can be established from their fossilized remains
- (C) it can be accurately estimated from fossilized remains when mastodons became extinct
- (D) it is not known when humans first began hunting mastodons
- (E) climate changes may have gradually reduced the food available to mastodons

CR02518

132. Many office buildings designed to prevent outside air from entering have been shown to have elevated levels of various toxic substances circulating through the air inside, a phenomenon known as sick building syndrome. Yet the air in other office buildings does not have elevated levels of these substances, even though those buildings are the same age as the “sick” buildings and have similar designs and ventilation systems.

Which of the following, if true, most helps to explain why not all office buildings designed to prevent outside air from entering have air that contains elevated levels of toxic substances?

- (A) Certain adhesives and drying agents used in particular types of furniture, carpets, and paint contribute the bulk of the toxic substances that circulate in the air of office buildings.
- (B) Most office buildings with sick building syndrome were built between 1950 and 1990.
- (C) Among buildings designed to prevent outside air from entering, houses are no less likely than office buildings to have air that contains elevated levels of toxic substances.
- (D) The toxic substances that are found in the air of “sick” office buildings are substances that are found in at least small quantities in nearly every building.
- (E) Office buildings with windows that can readily be opened are unlikely to suffer from sick building syndrome.

CR08756

133. Newsletter: **A condominium generally offers more value for its cost than an individual house because of economies of scale.** The homeowners in a condominium association can collectively buy products and services that they could not afford on their own. And since a professional management company handles maintenance of common areas, **condominium owners spend less time and money on maintenance than individual homeowners do.**

The two portions in boldface play which of the following roles in the newsletter’s argument?

- (A) The first is the argument’s main conclusion; the second is another conclusion supporting the first.
- (B) The first is a premise, for which no evidence is provided; the second is the argument’s only conclusion.
- (C) The first is a conclusion supporting the second; the second is the argument’s main conclusion.
- (D) The first is the argument’s only conclusion; the second is a premise, for which no evidence is provided.
- (E) Both are premises, for which no evidence is provided, and both support the argument’s only conclusion.

CR00780

134. Which of the following most logically completes the argument?

When officials in Tannersburg released their plan to widen the city's main roads, environmentalists protested that widened roads would attract more traffic and lead to increased air pollution. In response, city officials pointed out that today's pollution-control devices are at their most effective in vehicles traveling at higher speeds and that widening roads would increase the average speed of traffic. However, this effect can hardly be expected to offset the effect pointed out by environmentalists, since _____.

- (A) increases in traffic volume generally produce decreases in the average speed of traffic unless roads are widened
- (B) several of the roads that are slated for widening will have to be closed temporarily while construction is underway
- (C) most of the air pollution generated by urban traffic comes from vehicles that do not have functioning pollution-control devices
- (D) the newly widened roads will not have increased traffic volume if the roads that must be used to reach them are inadequate
- (E) a vehicle traveling on a route that goes through Tannersburg will spend less time on Tannersburg's roads once the roads are widened

CR70661.01

135. Platinum is a relatively rare metal vital to a wide variety of industries. Xagor Corporation, a major producer of platinum, has its production plant in a country that will soon begin imposing an export tax on platinum sold and shipped to customers abroad. As a consequence, the price of platinum on the world market is bound to rise.

Which of the following, if true, tends to confirm the conclusion above?

- (A) An inexpensive substitute for platinum has been developed and will be available to industry for the first time this month.
- (B) The largest of the industries that depend on platinum reported a drop in sales last month.
- (C) The producers of platinum in other countries taken together cannot supply enough platinum to meet worldwide demand.
- (D) Xagor produced more platinum last month than in any previous month.
- (E) New deposits of platinum have been found in the country in which Xagor has its production plant.

CR80661.01

136. From 1973 to 1986, growth in the United States economy was over 33 percent, while the percent growth in United States energy consumption was zero. The number of barrels of oil being saved per day by energy-efficiency improvements made since 1973 is now 13 million.

If the information above is correct, which of the following conclusions can properly be drawn on the basis of it?

- (A) It is more difficult to find new sources of oil than to institute new energy-conservation measures.
- (B) Oil imports cannot be reduced unless energy consumption does not grow at all.
- (C) A reduction in the consumption of gasoline was the reason overall energy consumption remained steady.
- (D) It is possible for an economy to grow without consuming additional energy.
- (E) The development of nontraditional energy sources will make it possible for the United States economy to grow even faster.

CR01661.01

137. Although many customers do not make a sufficient effort to conserve water, water companies must also be held responsible for wasteful consumption. Their own policies, in fact, encourage excessive water use, and attempts at conservation will succeed only if the water companies change their practices.

Which of the following, if true, would most strongly support the view above?

- (A) Most water companies reduce the cost per unit of water as the amount of water used by a customer increases.
- (B) Most water companies keep detailed records of the quantity of water used by different customers.
- (C) Most water companies severely curtail the use of water during periods of drought.
- (D) Federal authorities limit the range of policies that can be enforced by the water companies.
- (E) The price per unit of water charged by the water companies has risen steadily in the last 10 years.

CR11661.01

138. Despite legislation designed to stem the accumulation of plastic waste, the plastics industry continued to grow rapidly last year, as can be seen from the fact that sales of the resin that is the raw material for manufacturing plastics grew by 10 percent to \$28 billion.

In assessing the support provided by the evidence cited above for the statement that the plastics industry continued to grow, in addition to the information above it would be most useful to know

- (A) whether the resin has other uses besides the manufacture of plastics
- (B) the dollar amount of resin sales the year before last
- (C) the plastics industry's attitude toward the legislation concerning plastic waste
- (D) whether sales of all goods and services in the economy as a whole were increasing last year
- (E) what proportion of the plastics industry's output eventually contributes to the accumulation of plastic waste

CR41661.01

139. Studies of the political orientations of 1,055 college students revealed that the plurality of students in an eastern, big-city, private university was liberal, whereas in a state-supported, southern college, the plurality was conservative. Orientations were independent of the student's region of origin, and the trends were much more pronounced in seniors than in beginning students.

Which of the following hypotheses is best supported by the observations stated above?

- (A) The political orientations of college students are more similar to the political orientations of their parents when the students start college than when the students are seniors.
- (B) The political orientations of college seniors depend significantly on experiences they have had while in college.
- (C) A college senior originally from the South is more likely to be politically conservative than is a college senior originally from the East.
- (D) Whether their college is state-supported or private is the determining factor in college students' political orientations.
- (E) College students tend to become more conservative politically as they become older and are confronted with pressures for financial success.

CR90661.01

140. Donations of imported food will be distributed to children in famine-stricken countries in the form of free school meals. The process is efficient because the children are easy to reach at the schools and cooking facilities are often available on site.

Which of the following, if true, casts the most serious doubt on the efficiency of the proposed process?

- (A) The emphasis on food will detract from the major function of the schools, which is to educate the children.
- (B) A massive influx of donated food will tend to lower the price of food in the areas near the schools.
- (C) Supplies of fuel needed for cooking at the schools arrive there only intermittently and in inadequate quantities.
- (D) The reduction in farm surpluses in donor countries benefits the donor countries to a greater extent than the recipient countries are benefited by the donations.
- (E) The donation of food tends to strengthen the standing of the political party that happens to be in power when the donation is made.

CR21661.01

141. *John:* You told me once that no United States citizen who supports union labor should buy an imported car. Yet you are buying an Alma. Since Alma is one of the biggest makers of imports, I infer that you no longer support unions.

Harry: I still support labor unions. Even though Alma is a foreign car company, the car I am buying, the Alma Deluxe, is designed, engineered, and manufactured in the United States.

Harry's method of defending his purchase of an Alma is to

- (A) disown the principle he formerly held
- (B) show that John's argument involves a false unstated assumption
- (C) contradict John's conclusion without challenging John's reasoning in drawing that conclusion
- (D) point out that one of the statements John makes in support of his argument is false
- (E) claim that his is a special case in which the rule need not apply

CR31661.01

142. Public-sector (government-owned) companies are often unprofitable and a drain on the taxpayer. Such enterprises should be sold to the private sector, where competition will force them either to be efficient and profitable or else to close.

Which of the following, if true, identifies a flaw in the policy proposed above?

- (A) The revenue gained from the sale of public-sector companies is likely to be negligible compared to the cost of maintaining them.
- (B) By buying a public-sector company and then closing the company and selling its assets, a buyer can often make a profit.
- (C) The services provided by many public-sector companies must be made available to citizens, even when a price that covers costs cannot be charged.
- (D) Some unprofitable private-sector companies have become profitable after being taken over by the government to prevent their closing.
- (E) The costs of environmental protection, contributions to social programs, and job-safety measures are the same in the public and private sectors.

CR91661.01

143. After receiving numerous complaints from residents about loud, highly amplified music played at local clubs, Middletown is considering a law that would prohibit clubs located in residential areas from employing musical groups that consist of more than three people.

The likelihood that the law would be effective in reducing noise would be most seriously diminished if which of the following were true?

- (A) Groups that consist of more than three musicians are usually more expensive for clubs to hire than are groups that consist of fewer than three musicians.
- (B) In towns that have passed similar laws, many clubs in residential areas have relocated to nonresidential areas.
- (C) Most of the complaints about the music have come from people who do not regularly attend the clubs.
- (D) Much of the music popular at the local clubs can be played only by groups of at least four musicians.
- (E) Amplified music played by fewer than three musicians generally is as loud as amplified music played by more than three musicians.

CR02661.01

144. From enlargements that are commonly found on the ulna bones of the forearms of Ice Age human skeletons, anthropologists have drawn the conclusion that the Ice Age humans represented by those skeletons frequently hunted by throwing spears. The bone enlargements, the anthropologists believe, resulted from the stresses of habitual throwing.

Which of the following, if true, would be the LEAST appropriate to use as support for the conclusion drawn by the anthropologists?

- (A) Humans typically favor one arm over the other when throwing, and most Ice Age human skeletons have enlargements on the ulna bone of only one arm.
- (B) Such enlargements on the ulna bone do not appear on skeletons from other human cultures of the same time period whose diets are believed to have been mainly vegetarian.
- (C) Cave paintings dating from approximately the same time period and located not far from where the skeletons were found show hunters carrying and throwing spears.
- (D) Damaged bones in the skeletons show evidence of diseases that are believed to have afflicted most people living during the Ice Age.
- (E) Twentieth-century athletes who use a throwing motion similar to that of a hunter throwing a spear often develop enlargements on the ulna bone similar to those detected on the Ice Age skeletons.

CR12661.01

145. The town council of North Tarrytown favored changing the name of the town to Sleepy Hollow. Council members argued that making the town's association with Washington Irving and his famous "legend" more obvious would increase tourism and result immediately in financial benefits for the town's inhabitants.

The council members' argument requires the assumption that

- (A) most of the inhabitants would favor a change in the name of the town
- (B) many inhabitants would be ready to supply tourists with information about Washington Irving and his "legend"
- (C) the town can accomplish, at a very low cost per capita, the improvements in tourist facilities that an increase in tourism would require
- (D) other towns in the region have changed their names to reflect historical associations and have, as a result, experienced a rise in tourism
- (E) the immediate per capita cost to inhabitants of changing the name of the town would be less than the immediate per capita revenue they would receive from the change

CR06795

146. Premature babies who receive regular massages are more active than premature babies who do not. Even when all the babies drink the same amount of milk, the massaged babies gain more weight than do the unmassaged babies. This is puzzling because a more active person generally requires a greater food intake to maintain or gain weight.

Which of the following, if true, best reconciles the apparent discrepancy described above?

- (A) Increased activity leads to increased levels of hunger, especially when food intake is not also increased.
- (B) Massage increases premature babies' curiosity about their environment, and curiosity leads to increased activity.
- (C) Increased activity causes the intestines of premature babies to mature more quickly, enabling the babies to digest and absorb more of the nutrients in the milk they drink.
- (D) Massage does not increase the growth rate of babies over one year old, if the babies had not been previously massaged.
- (E) Premature babies require a daily intake of nutrients that is significantly higher than that required by babies who were not born prematurely.

CR02865

147. In Australia, in years with below-average rainfall, less water goes into rivers and more water is extracted from rivers for drinking and irrigation. Consequently, in such years, water levels drop considerably and the rivers flow more slowly. Because algae grow better the more slowly the water in which they are growing moves, such years are generally beneficial to populations of algae. But, by contrast, populations of algae drop in periods of extreme drought.

Which of the following, if true, does most to explain the contrast?

- (A) Algae grow better in ponds and lakes than in rivers.
- (B) The more slowly water moves, the more conducive its temperature is to the growth of algae.
- (C) Algae cannot survive in the absence of water.
- (D) Algae must be filtered out of water before it can be used for drinking.
- (E) The larger the population of algae in a body of water, the less sunlight reaches below the surface of the water.

CR00693

148. Which of the following, if true, most logically completes the politician's argument?

United States politician: Although the amount of United States goods shipped to Mexico doubled in the year after tariffs on trade between the two countries were reduced, it does not follow that the reduction in tariffs caused the sales of United States goods to companies and consumers in Mexico to double that year, because _____.

- (A) many of the United States companies that produced goods that year had competitors based in Mexico that had long produced the same kind of goods
- (B) most of the increase in goods shipped by United States companies to Mexico was in parts shipped to the companies' newly relocated subsidiaries for assembly and subsequent shipment back to the United States
- (C) marketing goods to a previously unavailable group of consumers is most successful when advertising specifically targets those consumers, but developing such advertising often takes longer than a year
- (D) the amount of Mexican goods shipped to the United States remained the same as it had been before the tariff reductions
- (E) there was no significant change in the employment rate in either of the countries that year

CR06845

149. Budget constraints have made police officials consider reassigning a considerable number of officers from traffic enforcement to work on higher-priority, serious crimes. Reducing traffic enforcement for this reason would be counterproductive, however, in light of the tendency of criminals to use cars when engaged in the commission of serious crimes. An officer stopping a car for a traffic violation can make a search that turns up evidence of serious crime.

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

- (A) An officer who stops a car containing evidence of the commission of a serious crime risks a violent confrontation, even if the vehicle was stopped only for a traffic violation.
- (B) When the public becomes aware that traffic enforcement has lessened, it typically becomes lax in obeying traffic rules.
- (C) Those willing to break the law to commit serious crimes are often in committing such crimes unwilling to observe what they regard as the lesser constraints of traffic law.
- (D) The offenders committing serious crimes who would be caught because of traffic violations are not the same group of individuals as those who would be caught if the arresting officers were reassigned from traffic enforcement.
- (E) The great majority of persons who are stopped by officers for traffic violations are not guilty of any serious crimes.

CR10106

150. Conventional wisdom suggests vaccinating elderly people first in flu season, because they are at greatest risk of dying if they contract the virus. This year's flu virus poses particular risk to elderly people and almost none at all to younger people, particularly children. Nevertheless, health professionals are recommending vaccinating children first against the virus rather than elderly people.

Which of the following, if true, provides the strongest reason for the health professionals' recommendation?

- (A) Children are vulnerable to dangerous infections when their immune systems are severely weakened by other diseases.
- (B) Children are particularly unconcerned with hygiene and therefore are the group most responsible for spreading the flu virus to others.
- (C) The vaccinations received last year will confer no immunity to this year's flu virus.
- (D) Children who catch one strain of the flu virus and then recover are likely to develop immunity to at least some strains with which they have not yet come in contact.
- (E) Children are no more likely than adults to have immunity to a particular flu virus if they have never lived through a previous epidemic of the same virus.

CR01392

151. Pro-Tect Insurance Company has recently been paying out more on car-theft claims than it expected. Cars with special antitheft devices or alarm systems are much less likely to be stolen than are other cars. Consequently Pro-Tect, as part of an effort to reduce its annual payouts, will offer a discount to holders of car-theft policies if their cars have antitheft devices or alarm systems.

Which of the following, if true, provides the strongest indication that the plan is likely to achieve its goal?

- (A) The decrease in the risk of car theft conferred by having a car alarm is greatest when only a few cars have such alarms.
- (B) The number of policyholders who have filed a claim in the past year is higher for Pro-Tect than for other insurance companies.
- (C) In one or two years, the discount that Pro-Tect is offering will amount to more than the cost of buying certain highly effective antitheft devices.
- (D) Currently, Pro-Tect cannot legally raise the premiums it charges for a given amount of insurance against car theft.
- (E) The amount Pro-Tect has been paying out on car-theft claims has been greater for some models of car than for others.

CR00783

152. While the total enrollment of public elementary and secondary schools in Sondland is one percent higher this academic year than last academic year, the number of teachers there increased by three percent. Thus, the Sondland Education Commission's prediction of a teacher shortage as early as next academic year is unfounded.

Which of the following, if true, most seriously weakens the claim that the prediction of a teacher shortage as early as next academic year is unfounded?

- (A) Funding for public elementary schools in Sondland is expected to increase over the next ten years.
- (B) Average salaries for Sondland's teachers increased at the rate of inflation from last academic year to this academic year.
- (C) A new law has mandated that there be ten percent more teachers per pupil in Sondland's public schools next academic year than there were this academic year.
- (D) In the past, increases in enrollments in public elementary and secondary schools in Sondland have generally been smaller than increases in the number of teachers.
- (E) Because of reductions in funding, the number of students enrolling in teacher-training programs in Sondland is expected to decline beginning in the next academic year.

CR05590

153. Art restorers who have been studying the factors that cause Renaissance oil paintings to deteriorate physically when subject to climatic changes have found that the oil paint used in these paintings actually adjusts to these changes well. The restorers therefore hypothesize that it is a layer of material called gesso, which is under the paint, that causes the deterioration.

Which of the following, if true, most strongly supports the restorers' hypothesis?

- (A) Renaissance oil paintings with a thin layer of gesso are less likely to show deterioration in response to climatic changes than those with a thicker layer.
- (B) Renaissance oil paintings are often painted on wooden panels, which swell when humidity increases and contract when it declines.
- (C) Oil paint expands and contracts readily in response to changes in temperature, but it absorbs little water and so is little affected by changes in humidity.
- (D) An especially hard and nonabsorbent type of gesso was the raw material for moldings on the frames of Renaissance oil paintings.
- (E) Gesso layers applied by Renaissance painters typically consisted of a coarse base layer onto which several increasingly fine-grained layers were applied.

CR10731

154. A newly discovered painting seems to be the work of one of two 17th-century artists, either the northern German Johannes Drechen or the Frenchman Louis Birelle, who sometimes painted in the same style as Drechen. Analysis of the carved picture frame, which has been identified as the painting's original 17th-century frame, showed that it is made of wood found widely in northern Germany at the time, but rare in the part of France where Birelle lived. This shows that the painting is most likely the work of Drechen.

Which of the following is an assumption that the argument requires?

- (A) The frame was made from wood local to the region where the picture was painted.
- (B) Drechen is unlikely to have ever visited the home region of Birelle in France.
- (C) Sometimes a painting so closely resembles others of its era that no expert is able to confidently decide who painted it.
- (D) The painter of the picture chose the frame for the picture.
- (E) The carving style of the picture frame is not typical of any specific region of Europe.

CR09120

155. Archaeologists working in the Andes Mountains recently excavated a buried 4,000-year-old temple containing structures that align with a stone carving on a distant hill to indicate the direction of the rising sun at the summer solstice. Alignments in the temple were also found to point toward the position, at the summer solstice, of a constellation known in Andean culture as the Fox. Since the local mythology represents the fox as teaching people how to cultivate and irrigate plants, the ancient Andeans may have built the temple as a religious representation of the fox.

Which of the following is an assumption on which the argument is based?

- (A) The constellation known as the Fox has the same position at the summer solstice as it did 4,000 years ago.
- (B) In the region around the temple, the summer solstice marks the time for planting.
- (C) The temple was protected from looters by dirt and debris built up over thousands of years.
- (D) Other structural alignments at the temple point to further constellations with agricultural significance.
- (E) The site containing the temple was occupied for a significant amount of time before abandonment.

CR05065

156. Meat from chickens contaminated with salmonella bacteria can cause serious food poisoning. Capsaicin, the chemical that gives chili peppers their hot flavor, has antibacterial properties. Chickens do not have taste receptors for capsaicin and will readily eat feed laced with capsaicin. When chickens were fed such feed and then exposed to salmonella bacteria, relatively few of them became contaminated with salmonella.

In deciding whether the feed would be useful in raising salmonella-free chicken for retail sale, it would be most helpful to determine which of the following?

- (A) Whether feeding capsaicin to chickens affects the taste of their meat
- (B) Whether eating capsaicin reduces the risk of salmonella poisoning for humans
- (C) Whether chicken is more prone to salmonella contamination than other kinds of meat
- (D) Whether appropriate cooking of chicken contaminated with salmonella can always prevent food poisoning
- (E) Whether capsaicin can be obtained only from chili peppers

CR04532

157. Which of the following most logically completes the argument below?

When mercury-vapor streetlights are used in areas inhabited by insect-eating bats, the bats feed almost exclusively around the lights, because the lights attract flying insects. In Greenville, the mercury-vapor streetlights are about to be replaced with energy-saving sodium streetlights, which do not attract insects. This change is likely to result in a drop in the population of insect-eating bats in Greenville, since _____.

- (A) the bats do not begin to hunt until after sundown
- (B) the bats are unlikely to feed on insects that do not fly
- (C) the highway department will be able to replace mercury-vapor streetlights with sodium streetlights within a relatively short time and without disrupting the continuity of lighting at the locations of the streetlights
- (D) in the absence of local concentrations of the flying insects on which bats feed, the bats expend much more energy on hunting for food, requiring much larger quantities of insects to sustain each bat
- (E) bats use echolocation to catch insects and therefore gain no advantage from the fact that insects flying in the vicinity of streetlights are visible at night

CR01353

158. Rats injected with morphine exhibit decreased activity of the immune system, the bodily system that fights off infections. These same rats exhibited heightened blood levels of corticosteroids, chemicals secreted by the adrenal glands. Since corticosteroids can interfere with immune-system activity, scientists hypothesized that the way morphine reduces immune responses in rats is by stimulating the adrenal glands to secrete additional corticosteroids into the bloodstream.

Which of the following experiments would yield the most useful results for evaluating the scientists' hypothesis?

- (A) Injecting morphine into rats that already have heightened blood levels of corticosteroids and then observing their new blood levels of corticosteroids
- (B) Testing the level of immune-system activity of rats, removing their adrenal glands, and then testing the rats' immune-system activity levels again
- (C) Injecting rats with corticosteroids and then observing how many of the rats contracted infections
- (D) Removing the adrenal glands of rats, injecting the rats with morphine, and then testing the level of the rats' immune-system responses
- (E) Injecting rats with a drug that stimulates immune-system activity and then observing the level of corticosteroids in their bloodstreams

CR06831

159. Curator: If our museum lends *Venus* to the Hart Institute for their show this spring, they will lend us their Rembrandt etchings for our print exhibition next fall. Having those etchings will increase attendance to the exhibition and hence increase revenue from our general admission fee.

Museum Administrator: But *Venus* is our biggest attraction. Moreover the Hart's show will run for twice as long as our exhibition. So on balance the number of patrons may decrease.

The point of the administrator's response to the curator is to question

- (A) whether getting the Rembrandt etchings from the Hart Institute is likely to increase attendance at the print exhibition
- (B) whether the Hart Institute's Rembrandt etchings will be appreciated by those patrons of the curator's museum for whom the museum's biggest attraction is *Venus*
- (C) whether the number of patrons attracted by the Hart Institute's Rembrandt etchings will be larger than the number of patrons who do not come in the spring because *Venus* is on loan
- (D) whether, if *Venus* is lent, the museum's revenue from general admission fees during the print exhibition will exceed its revenue from general admission fees during the Hart Institute's exhibition
- (E) whether the Hart Institute or the curator's museum will have the greater financial gain from the proposed exchange of artworks

CR03697

160. Which of the following most logically completes the passage?

Leaf beetles damage willow trees by stripping away their leaves, but a combination of parasites and predators generally keeps populations of these beetles in check. Researchers have found that severe air pollution results in reduced predator populations. The parasites, by contrast, are not adversely affected by pollution; nevertheless, the researchers' discovery probably does explain why leaf beetles cause particularly severe damage to willows in areas with severe air pollution, since _____.

- (A) neither the predators nor the parasites of leaf beetles themselves attack willow trees
- (B) the parasites that attack leaf beetles actually tend to be more prevalent in areas with severe air pollution than they are elsewhere
- (C) the damage caused by leaf beetles is usually not enough to kill a willow tree outright
- (D) where air pollution is not especially severe, predators have much more impact on leaf-beetle populations than parasites do
- (E) willows often grow in areas where air pollution is especially severe

CR05438

161. On May first, in order to reduce the number of overdue books, a children's library instituted a policy of forgiving fines and giving bookmarks to children returning all of their overdue books. On July first there were twice as many overdue books as there had been on May first, although a record number of books had been returned during the interim.

Which of the following, if true, most helps to explain the apparent inconsistency in the results of the library's policy?

- (A) The librarians did not keep accurate records of how many children took advantage of the grace period, and some of the children returning overdue books did not return all of their overdue books.
- (B) Although the grace period enticed some children to return all of their overdue books, it did not convince all of the children with overdue books to return all of their books.
- (C) The bookmarks became popular among the children, so in order to collect the bookmarks, many children borrowed many more books than they usually did and kept them past their due date.
- (D) The children were allowed to borrow a maximum of five books for a two-week period, and hence each child could keep a maximum of fifteen books beyond their due date within a two-month period.
- (E) Although the library forgave overdue fines during the grace period, the amount previously charged the children was minimal; hence, the forgiveness of the fines did not provide enough incentive for them to return their overdue books.

CR00663

162. A certain species of desert lizard digs tunnels in which to lay its eggs. The eggs must incubate inside the tunnel for several weeks before hatching, and they fail to hatch if they are disturbed at any time during this incubation period. Yet these lizards guard their tunnels for only a few days after laying their eggs.

Which of the following, if true, most helps explain why there is no need for lizards to guard their tunnels for more than a few days?

- (A) The eggs are at risk of being disturbed only during the brief egg-laying season when many lizards are digging in a relatively small area.
- (B) The length of the incubation period varies somewhat from one tunnel to another.
- (C) Each female lizard lays from 15 to 20 eggs, only about 10 of which hatch even if the eggs are not disturbed at any time during the incubation period.
- (D) The temperature and humidity within the tunnels will not be suitable for the incubating eggs unless the tunnels are plugged with sand immediately after the eggs are laid.
- (E) The only way to disturb the eggs of this lizard species is by opening up one of the tunnels in which they are laid.

CR00677

163. Most banks that issue credit cards charge interest rates on credit card debt that are ten percentage points higher than the rates those banks charge for ordinary consumer loans. These banks' representatives claim the difference is fully justified, since it simply covers the difference between the costs to these banks associated with credit card debt and those associated with consumer loans.

Which of the following, if true, most seriously calls into question the reasoning offered by the banks' representatives?

- (A) Some lenders that are not banks offer consumer loans at interest rates that are even higher than most banks charge on credit card debt.
- (B) Most car rental companies require that their customers provide signed credit card charge slips or security deposits.
- (C) Two to three percent of the selling price of every item bought with a given credit card goes to the bank that issued that credit card.
- (D) Most people need not use credit cards to buy everyday necessities, but could buy those necessities with cash or pay by check.
- (E) People who pay their credit card bills in full each month usually pay no interest on the amounts they charge.

CR00726

164. Often patients with ankle fractures that are stable, and thus do not require surgery, are given follow-up x-rays because their orthopedists are concerned about possibly having misjudged the stability of the fracture. When a number of follow-up x-rays were reviewed, however, all the fractures that had initially been judged stable were found to have healed correctly. Therefore, it is a waste of money to order follow-up x-rays of ankle fractures initially judged stable.

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

- (A) Doctors who are general practitioners rather than orthopedists are less likely than orthopedists to judge the stability of an ankle fracture correctly.
- (B) Many ankle injuries for which an initial x-ray is ordered are revealed by the x-ray not to involve any fracture of the ankle.
- (C) X-rays of patients of many different orthopedists working in several hospitals were reviewed.
- (D) The healing of ankle fractures that have been surgically repaired is always checked by means of a follow-up x-ray.
- (E) Orthopedists routinely order follow-up x-rays for fractures of bones other than ankle bones.

CR05431

165. In setting environmental standards for industry and others to meet, it is inadvisable to require the best results that state-of-the-art technology can achieve. Current technology is able to detect and eliminate even extremely minute amounts of contaminants, but at a cost that is exorbitant relative to the improvement achieved. So it would be reasonable instead to set standards by taking into account all of the current and future risks involved.

The argument given concerning the reasonable way to set standards presupposes that

- (A) industry currently meets the standards that have been set by environmental authorities
- (B) there are effective ways to take into account all of the relevant risks posed by allowing different levels of contaminants
- (C) the only contaminants worth measuring are generated by industry
- (D) it is not costly to prevent large amounts of contaminants from entering the environment
- (E) minute amounts of some contaminants can be poisonous

CR05750

166. The chemical adenosine is released by brain cells when those cells are active. Adenosine then binds to more and more sites on cells in certain areas of the brain, as the total amount released gradually increases during wakefulness. During sleep, the number of sites to which adenosine is bound decreases. Some researchers have hypothesized that it is the cumulative binding of adenosine to a large number of sites that causes the onset of sleep.

Which of the following, if true, provides the most support for the researchers' hypothesis?

- (A) Even after long periods of sleep when adenosine is at its lowest concentration in the brain, the number of brain cells bound with adenosine remains very large.
- (B) Caffeine, which has the effect of making people remain wakeful, is known to interfere with the binding of adenosine to sites on brain cells.
- (C) Besides binding to sites in the brain, adenosine is known to be involved in biochemical reactions throughout the body.
- (D) Some areas of the brain that are relatively inactive nonetheless release some adenosine.
- (E) Stress resulting from a dangerous situation can preserve wakefulness even when brain levels of bound adenosine are high.

CR01101

167. A two-year study beginning in 1977 found that, among 85-year-old people, those whose immune systems were weakest were twice as likely to die within two years as others in the study. The cause of their deaths, however, was more often heart disease, against which the immune system does not protect, than cancer or infections, which are attacked by the immune system.

Which of the following, if true, would offer the best prospects for explaining deaths in which weakness of the immune system, though present, played no causal role?

- (A) There were twice as many infections among those in the study with the weakest immune systems as among those with the strongest immune systems.
- (B) The majority of those in the study with the strongest immune systems died from infection or cancer by 1987.
- (C) Some of the drugs that had been used to treat the symptoms of heart disease had a side effect of weakening the immune system.
- (D) Most of those in the study who survived beyond the two-year period had recovered from a serious infection sometime prior to 1978.
- (E) Those in the study who survived into the 1980s had, in 1976, strengthened their immune systems through drug therapy.

CR13093

168. Most scholars agree that King Alfred (A.D. 849–899) personally translated a number of Latin texts into Old English. One historian contends that Alfred also personally penned his own law code, arguing that the numerous differences between the language of the law code and Alfred's translations of Latin texts are outweighed by the even more numerous similarities. Linguistic similarities, however, are what one expects in texts from the same language, the same time, and the same region. Apart from Alfred's surviving translations and law code, there are only two other extant works from the same dialect and milieu, so it is risky to assume here that linguistic similarities point to common authorship.

The passage above proceeds by

- (A) providing examples that underscore another argument's conclusion
- (B) questioning the plausibility of an assumption on which another argument depends
- (C) showing that a principle if generally applied would have anomalous consequences
- (D) showing that the premises of another argument are mutually inconsistent
- (E) using argument by analogy to undermine a principle implicit in another argument

CR01355

169. Parland's alligator population has been declining in recent years, primarily because of hunting. Alligators prey heavily on a species of freshwater fish that is highly valued as food by Parlanders, who had hoped that the decline in the alligator population would lead to an increase in the numbers of these fish available for human consumption. Yet the population of this fish species has also declined, even though the annual number caught for human consumption has not increased.

Which of the following, if true, most helps to explain the decline in the population of the fish species?

- (A) The decline in the alligator population has meant that fishers can work in some parts of lakes and rivers that were formerly too dangerous.
- (B) Over the last few years, Parland's commercial fishing enterprises have increased the number of fishing boats they use.
- (C) Many Parlanders who hunt alligators do so because of the high market price of alligator skins, not because of the threat alligators pose to the fish population.
- (D) During Parland's dry season, holes dug by alligators remain filled with water long enough to provide a safe place for the eggs of this fish species to hatch.
- (E) In several neighboring countries through which Parland's rivers also flow, alligators are at risk of extinction as a result of extensive hunting.

CR05418

170. A company plans to develop a prototype weeding machine that uses cutting blades with optical sensors and microprocessors that distinguish weeds from crop plants by differences in shade of color. The inventor of the machine claims that it will reduce labor costs by virtually eliminating the need for manual weeding.

Which of the following is a consideration in favor of the company's implementing its plan to develop the prototype?

- (A) There is a considerable degree of variation in shade of color between weeds of different species.
- (B) The shade of color of some plants tends to change appreciably over the course of their growing season.
- (C) When crops are weeded manually, overall size and leaf shape are taken into account in distinguishing crop plants from weeds.
- (D) Selection and genetic manipulation allow plants of virtually any species to be economically bred to have a distinctive shade of color without altering their other characteristics.
- (E) Farm laborers who are responsible for the manual weeding of crops carry out other agricultural duties at times in the growing season when extensive weeding is not necessary.

CR05079

171. Aroca City currently funds its public schools through taxes on property. **In place of this system, the city plans to introduce a sales tax of 3 percent on all retail sales in the city.** Critics protest that 3 percent of current retail sales falls short of the amount raised for schools by property taxes. The critics are correct on this point. **Nevertheless, implementing the plan will probably not reduce the money going to Aroca's schools.** Several large retailers have selected Aroca City as the site for huge new stores, and these are certain to draw large numbers of shoppers from neighboring municipalities, where sales are taxed at rates of 6 percent and more. In consequence, retail sales in Aroca City are bound to increase substantially.

In the argument given, the two portions in **boldface** play which of the following roles?

- (A) The first presents a plan that the argument concludes is unlikely to achieve its goal; the second expresses that conclusion.
- (B) The first presents a plan that the argument concludes is unlikely to achieve its goal; the second presents evidence in support of that conclusion.
- (C) The first presents a plan that the argument contends is the best available; the second is a conclusion drawn by the argument to justify that contention.
- (D) The first presents a plan one of whose consequences is at issue in the argument; the second is the argument's conclusion about that consequence.
- (E) The first presents a plan that the argument seeks to defend against a certain criticism; the second is that criticism.

CR06152

172. Which of the following most logically completes the argument?

A photograph of the night sky was taken with the camera shutter open for an extended period. The normal motion of stars across the sky caused the images of the stars in the photograph to appear as streaks. However, one bright spot was not streaked. Even if the spot were caused, as astronomers believe, by a celestial object, that object could still have been moving across the sky during the time the shutter was open, since _____.

- (A) the spot was not the brightest object in the photograph
- (B) the photograph contains many streaks that astronomers can identify as caused by noncelestial objects
- (C) stars in the night sky do not appear to shift position relative to each other
- (D) the spot could have been caused by an object that emitted a flash that lasted for only a fraction of the time that the camera shutter was open
- (E) if the camera shutter had not been open for an extended period, it would have recorded substantially fewer celestial objects

CR09046

173. Economist: Paying extra for fair-trade coffee—coffee labeled with the Fairtrade logo—is intended to help poor farmers, because they receive a higher price for the fair-trade coffee they grow. But this practice may hurt more farmers in developing nations than it helps. By raising average prices for coffee, it encourages more coffee to be produced than consumers want to buy. This lowers prices for non-fair-trade coffee and thus lowers profits for non-fair-trade coffee farmers.

To evaluate the strength of the economist's argument, it would be most helpful to know which of the following?

- (A) Whether there is a way of alleviating the impact of the increased average prices for coffee on non-fair-trade coffee farmers' profits
- (B) What proportion of coffee farmers in developing nations produce fair-trade coffee
- (C) Whether many coffee farmers in developing nations also derive income from other kinds of farming
- (D) Whether consumers should pay extra for fair-trade coffee if doing so lowers profits for non-fair-trade coffee farmers
- (E) How fair-trade coffee farmers in developing nations could be helped without lowering profits for non-fair-trade coffee farmers

CR01887

174. Tanco, a leather manufacturer, uses large quantities of common salt to preserve animal hides. New environmental regulations have significantly increased the cost of disposing of salt water that results from this use, and, in consequence, Tanco is considering a plan to use potassium chloride in place of common salt. Research has shown that Tanco could reprocess the by-product of potassium chloride use to yield a crop fertilizer, leaving a relatively small volume of waste for disposal.

In determining the impact on company profits of using potassium chloride in place of common salt, it would be important for Tanco to research all of the following EXCEPT:

- (A) What difference, if any, is there between the cost of the common salt needed to preserve a given quantity of animal hides and the cost of the potassium chloride needed to preserve the same quantity of hides?
- (B) To what extent is the equipment involved in preserving animal hides using common salt suitable for preserving animal hides using potassium chloride?
- (C) What environmental regulations, if any, constrain the disposal of the waste generated in reprocessing the by-product of potassium chloride?
- (D) How closely does leather that results when common salt is used to preserve hides resemble that which results when potassium chloride is used?
- (E) Are the chemical properties that make potassium chloride an effective means for preserving animal hides the same as those that make common salt an effective means for doing so?

CR04999

175. Colorless diamonds can command high prices as gemstones. A type of less valuable diamonds can be treated to remove all color. Only sophisticated tests can distinguish such treated diamonds from naturally colorless ones. However, only 2 percent of diamonds mined are of the colored type that can be successfully treated, and many of those are of insufficient quality to make the treatment worthwhile. Surely, therefore, the vast majority of colorless diamonds sold by jewelers are naturally colorless.

A serious flaw in the reasoning of the argument is that

- (A) comparisons between the price diamonds command as gemstones and their value for other uses are omitted
- (B) information about the rarity of treated diamonds is not combined with information about the rarity of naturally colorless, gemstone diamonds
- (C) the possibility that colored diamonds might be used as gemstones, even without having been treated, is ignored
- (D) the currently available method for making colorless diamonds from colored ones is treated as though it were the only possible method for doing so
- (E) the difficulty that a customer of a jeweler would have in distinguishing a naturally colorless diamond from a treated one is not taken into account

CR14448

176. The Sumpton town council recently voted to pay a prominent artist to create an abstract sculpture for the town square. Critics of this decision protested that town residents tend to dislike most abstract art, and any art in the town square should reflect their tastes. But a town council spokesperson dismissed this criticism, pointing out that other public abstract sculptures that the same sculptor has installed in other cities have been extremely popular with those cities' local residents.

The statements above most strongly suggest that the main point of disagreement between the critics and the spokesperson is whether

- (A) it would have been reasonable to consult town residents on the decision
- (B) most Sumpton residents will find the new sculpture to their taste
- (C) abstract sculptures by the same sculptor have truly been popular in other cities
- (D) a more traditional sculpture in the town square would be popular among local residents
- (E) public art that the residents of Sumpton would find desirable would probably be found desirable by the residents of other cities

CR09085

177. Jay: Of course there are many good reasons to support the expansion of preventive medical care, but arguments claiming that it will lead to greater societal economic gains are misguided. Some of the greatest societal expenses arise from frequent urgent-care needs for people who have attained a long life due to preventive care.

Sunil: Your argument fails because you neglect economic gains outside the health care system: society suffers an economic loss when any of its productive members suffer preventable illnesses.

Sunil's response to Jay makes which of the following assumptions?

- (A) Those who receive preventive care are not more likely to need urgent care than are those who do not receive preventive care.
- (B) Jay intends the phrase "economic gains" to refer only to gains accruing to institutions within the health care system.
- (C) Productive members of society are more likely than others to suffer preventable illnesses.
- (D) The economic contributions of those who receive preventive medical care may outweigh the economic losses caused by preventive care.
- (E) Jay is incorrect in stating that patients who receive preventive medical care are long-lived.

CR01766

178. Boreal owls range over a much larger area than do other owls of similar size. The reason for this behavior is probably that the small mammals on which owls feed are especially scarce in the forests where boreal owls live, and the relative scarcity of prey requires the owls to range more extensively to find sufficient food.

Which of the following, if true, most helps to confirm the explanation above?

- (A) Some boreal owls range over an area eight times larger than the area over which any other owl of similar size ranges.
- (B) Boreal owls range over larger areas in regions where food of the sort eaten by small mammals is sparse than they do in regions where such food is abundant.
- (C) After their young hatch, boreal owls must hunt more often than before in order to feed both themselves and their newly hatched young.
- (D) Sometimes individual boreal owls hunt near a single location for many weeks at a time and do not range farther than a few hundred yards.
- (E) The boreal owl requires less food, relative to its weight, than is required by members of other owl species.

CR12567

179. Microbiologist: A lethal strain of salmonella recently showed up in a European country, causing an outbreak of illness that killed two people and infected twenty-seven others. Investigators blame the severity of the outbreak on the overuse of antibiotics, since the salmonella bacteria tested were shown to be drug-resistant. But this is unlikely because patients in the country where the outbreak occurred cannot obtain antibiotics to treat illness without a prescription, and the country's doctors prescribe antibiotics less readily than do doctors in any other European country.

Which of the following, if true, would most weaken the microbiologist's reasoning?

- (A) Physicians in the country where the outbreak occurred have become hesitant to prescribe antibiotics since they are frequently in short supply.
- (B) People in the country where the outbreak occurred often consume foods produced from animals that eat antibiotics-laden livestock feed.
- (C) Use of antibiotics in two countries that neighbor the country where the outbreak occurred has risen over the past decade.
- (D) Drug-resistant strains of salmonella have not been found in countries in which antibiotics are not generally available.
- (E) Salmonella has been shown to spread easily along the distribution chains of certain vegetables, such as raw tomatoes.

CR03416

180. Historian: Newton developed mathematical concepts and techniques that are fundamental to modern calculus. Leibniz developed closely analogous concepts and techniques. It has traditionally been thought that these discoveries were independent. Researchers have, however, recently discovered notes of Leibniz's that discuss one of Newton's books on mathematics. Several scholars have argued that since **the book includes a presentation of Newton's calculus concepts and techniques**, and since the notes were written before Leibniz's own development of calculus concepts and techniques, it is virtually certain **that the traditional view is false**. A more cautious conclusion than this is called for, however. Leibniz's notes are limited to early sections of Newton's book, sections that precede the ones in which Newton's calculus concepts and techniques are presented.

In the historian's reasoning, the two portions in **boldface** play which of the following roles?

- (A) The first is a claim that the historian rejects; the second is a position that that claim has been used to support.
- (B) The first is evidence that has been used to support a conclusion about which the historian expresses reservations; the second is that conclusion.
- (C) The first provides evidence in support of a position that the historian defends; the second is that position.
- (D) The first and the second each provide evidence in support of a position that the historian defends.
- (E) The first has been used in support of a position that the historian rejects; the second is a conclusion that the historian draws from that position.

CR03867

181. For over two centuries, no one had been able to make Damascus blades—blades with a distinctive serpentine surface pattern—but a contemporary sword maker may just have rediscovered how. Using iron with trace impurities that precisely matched those present in the iron used in historic Damascus blades, this contemporary sword maker seems to have finally hit on an intricate process by which he can produce a blade indistinguishable from a true Damascus blade.

Which of the following, if true, provides the strongest support for the hypothesis that trace impurities in the iron are essential for the production of Damascus blades?

- (A) There are surface features of every Damascus blade—including the blades produced by the contemporary sword maker—that are unique to that blade.
- (B) The iron with which the contemporary sword maker made Damascus blades came from a source of iron that was unknown two centuries ago.
- (C) Almost all the tools used by the contemporary sword maker were updated versions of tools that were used by sword makers over two centuries ago.
- (D) Production of Damascus blades by sword makers of the past ceased abruptly after those sword makers' original source of iron became exhausted.
- (E) Although Damascus blades were renowned for maintaining a sharp edge, the blade made by the contemporary sword maker suggests that they may have maintained their edge less well than blades made using what is now the standard process for making blades.

CR01903

182. Images from ground-based telescopes are invariably distorted by the Earth's atmosphere. Orbiting space telescopes, however, operating above Earth's atmosphere, should provide superbly detailed images. Therefore, ground-based telescopes will soon become obsolete for advanced astronomical research purposes.

Which of the following statements, if true, would cast the most doubt on the conclusion drawn above?

- (A) An orbiting space telescope due to be launched this year is far behind schedule and over budget, whereas the largest ground-based telescope was both within budget and on schedule.
- (B) Ground-based telescopes located on mountain summits are not subject to the kinds of atmospheric distortion which, at low altitudes, make stars appear to twinkle.
- (C) By careful choice of observatory location, it is possible for large-aperture telescopes to avoid most of the kind of wind turbulence that can distort image quality.
- (D) When large-aperture telescopes are located at high altitudes near the equator, they permit the best Earth-based observations of the center of the Milky Way Galaxy, a prime target of astronomical research.
- (E) Detailed spectral analyses, upon which astronomers rely for determining the chemical composition and evolutionary history of stars, require telescopes with more light-gathering capacity than space telescopes can provide.

CR07562

183. Generally scientists enter their field with the goal of doing important new research and accept as their colleagues those with similar motivation. Therefore, when any scientist wins renown as an expounder of science to general audiences, most other scientists conclude that this popularizer should no longer be regarded as a true colleague.

The explanation offered above for the low esteem in which scientific popularizers are held by research scientists assumes that

- (A) serious scientific research is not a solitary activity, but relies on active cooperation among a group of colleagues
- (B) research scientists tend not to regard as colleagues those scientists whose renown they envy
- (C) a scientist can become a famous popularizer without having completed any important research
- (D) research scientists believe that those who are well known as popularizers of science are not motivated to do important new research
- (E) no important new research can be accessible to or accurately assessed by those who are not themselves scientists

CR07676

184. Urban planner: When a city loses population due to migration, property taxes in that city tend to rise. This is because there are then fewer residents paying to maintain an infrastructure that was designed to support more people. Rising property taxes, in turn, drive more residents away, compounding the problem. Since the city of Stonebridge is starting to lose population, the city government should therefore refrain from raising property taxes.

Which of the following, if true, would most weaken the urban planner's argument?

- (A) If Stonebridge does not raise taxes on its residents to maintain its infrastructure, the city will become much less attractive to live in as that infrastructure decays.
- (B) Stonebridge at present benefits from grants provided by the national government to help maintain certain parts of its infrastructure.
- (C) If there is a small increase in property taxes in Stonebridge and a slightly larger proportion of total revenue than at present is allocated to infrastructure maintenance, the funding will be adequate for that purpose.
- (D) Demographers project that the population of a region that includes Stonebridge will start to increase substantially within the next several years.
- (E) The property taxes in Stonebridge are significantly lower than those in many larger cities.

CR01338

185. Which of the following most logically completes the argument?

Utrania was formerly a major petroleum exporter, but in recent decades economic stagnation and restrictive regulations inhibited investment in new oil fields. In consequence, Utranian oil exports dropped steadily as old fields became depleted. Utrania's currently improving economic situation, together with less-restrictive regulations, will undoubtedly result in the rapid development of new fields. However, it would be premature to conclude that the rapid development of new fields will result in higher oil exports, because _____.

- (A) the price of oil is expected to remain relatively stable over the next several years
- (B) the improvement in the economic situation in Utrania is expected to result in a dramatic increase in the proportion of Utranians who own automobiles
- (C) most of the investment in new oil fields in Utrania is expected to come from foreign sources
- (D) new technology is available to recover oil from old oil fields formerly regarded as depleted
- (E) many of the new oil fields in Utrania are likely to be as productive as those that were developed during the period when Utrania was a major oil exporter

CR09592

186. The use of growth-promoting antibiotics in hog farming can weaken their effectiveness in treating humans because such use can spread resistance to those antibiotics among microorganisms. But now the Smee Company, one of the largest pork marketers, may stop buying pork raised on feed containing these antibiotics. Smee has 60 percent of the pork market, and farmers who sell to Smee would certainly stop using antibiotics in order to avoid jeopardizing their sales. So if Smee makes this change, it will probably significantly slow the decline in antibiotics' effectiveness for humans.

Which of the following, if true, would most strengthen the argument above?

- (A) Other major pork marketers will probably stop buying pork raised on feed containing growth-promoting antibiotics if Smee no longer buys such pork.
- (B) The decline in hog growth due to discontinuation of antibiotics can be offset by improved hygiene.
- (C) Authorities are promoting the use of antibiotics to which microorganisms have not yet developed resistance.
- (D) A phaseout of use of antibiotics for hogs in one country reduced usage by over 50 percent over five years.
- (E) If Smee stops buying pork raised with antibiotics, the firm's costs will probably increase.

CR10678

187. In an experiment, volunteers walked individually through a dark, abandoned theater. Half of the volunteers had been told that the theater was haunted and the other half that it was under renovation. The first half reported significantly more unusual experiences than the second did. The researchers concluded that reports of encounters with ghosts and other supernatural entities generally result from prior expectations of such experiences.

Which of the following, if true, would most seriously weaken the researchers' reasoning?

- (A) None of the volunteers in the second half believed that the unusual experiences they reported were supernatural.
- (B) All of the volunteers in the first half believed that the researchers' statement that the theater was haunted was a lie.
- (C) Before being told about the theater, the volunteers within each group varied considerably in their prior beliefs about supernatural experiences.
- (D) Each unusual experience reported by the volunteers had a cause that did not involve the supernatural.
- (E) The researchers did not believe that the theater was haunted.

CR05665

188. In order to reduce dependence on imported oil, the government of Jalica has imposed minimum fuel-efficiency requirements on all new cars, beginning this year. The more fuel-efficient a car, the less pollution it produces per mile driven. As Jalicans replace their old cars with cars that meet the new requirements, annual pollution from car traffic is likely to decrease in Jalica.

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

- (A) In Jalica, domestically produced oil is more expensive than imported oil.
- (B) The Jalican government did not intend the new fuel-efficiency requirement to be a pollution-reduction measure.
- (C) Some pollution-control devices mandated in Jalica make cars less fuel-efficient than they would be without those devices.
- (D) The new regulation requires no change in the chemical formulation of fuel for cars in Jalica.
- (E) Jalicans who get cars that are more fuel-efficient tend to do more driving than before.

CR01173

189. Plantings of cotton bioengineered to produce its own insecticide against bollworms, a major cause of crop failure, sustained little bollworm damage until this year. This year the plantings are being seriously damaged by bollworms. Bollworms, however, are not necessarily developing resistance to the cotton's insecticide. Bollworms breed on corn, and last year more corn than usual was planted throughout cotton-growing regions. So it is likely that the cotton is simply being overwhelmed by corn-bred bollworms.

In evaluating the argument, which of the following would it be most useful to establish?

- (A) Whether corn could be bioengineered to produce the insecticide
- (B) Whether plantings of cotton that does not produce the insecticide are suffering unusually extensive damage from bollworms this year
- (C) Whether other crops that have been bioengineered to produce their own insecticide successfully resist the pests against which the insecticide was to protect them
- (D) Whether plantings of bioengineered cotton are frequently damaged by insect pests other than bollworms
- (E) Whether there are insecticides that can be used against bollworms that have developed resistance to the insecticide produced by the bioengineered cotton

CR03331

190. Typically during thunderstorms most lightning strikes carry a negative electric charge; only a few carry a positive charge. Thunderstorms with unusually high proportions of positive-charge strikes tend to occur in smoky areas near forest fires. The fact that smoke carries positively charged smoke particles into the air above a fire suggests the hypothesis that the extra positive strikes occur because of the presence of such particles in the storm clouds.

Which of the following, if discovered to be true, most seriously undermines the hypothesis?

- (A) Other kinds of rare lightning also occur with unusually high frequency in the vicinity of forest fires.
- (B) The positive-charge strikes that occur near forest fires tend to be no more powerful than positive strikes normally are.
- (C) A positive-charge strike is as likely to start a forest fire as a negative-charge strike is.
- (D) Thunderstorms that occur in drifting clouds of smoke have extra positive-charge strikes weeks after the charge of the smoke particles has dissipated.
- (E) The total number of lightning strikes during a thunderstorm is usually within the normal range in the vicinity of a forest fire.

CR01140

191. Many gardeners believe that the variety of clematis vine that is most popular among gardeners in North America is *jackmanii*. This belief is apparently correct since, of the one million clematis plants sold per year by the largest clematis nursery in North America, ten percent are *jackmanii*.

Which of the following is an assumption on which the argument depends?

- (A) The nursery sells more than ten different varieties of clematis.
- (B) The largest clematis nursery in North America sells nothing but clematis plants.
- (C) Some of the *jackmanii* sold by the nursery are sold to gardeners outside North America.
- (D) Most North American gardeners grow clematis in their gardens.
- (E) For all nurseries in North America that specialize in clematis, at least ten percent of the clematis plants they sell are *jackmanii*.

CR06422

192. Since 1990 the percentage of bacterial sinus infections in Aqadestan that are resistant to the antibiotic perxicillin has increased substantially. Bacteria can quickly develop resistance to an antibiotic when it is prescribed indiscriminately or when patients fail to take it as prescribed. Since perxicillin has not been indiscriminately prescribed, health officials hypothesize that the increase in perxicillin-resistant sinus infections is largely due to patients' failure to take this medication as prescribed.

Which of the following, if true of Aqadestan, provides most support for the health officials' hypothesis?

- (A) Resistance to several other commonly prescribed antibiotics has not increased since 1990 in Aqadestan.
- (B) A large number of Aqadestanis never seek medical help when they have a sinus infection.
- (C) When it first became available, perxicillin was much more effective in treating bacterial sinus infections than any other antibiotic used for such infections at the time.
- (D) Many patients who take perxicillin experience severe side effects within the first few days of their prescribed regimen.
- (E) Aqadestani health clinics provide antibiotics to their patients at cost.

CR07793

193. Psychologist: In a study, researchers gave 100 volunteers a psychological questionnaire designed to measure their self-esteem. The researchers then asked each volunteer to rate the strength of his or her own social skills. The volunteers with the highest levels of self-esteem consistently rated themselves as having much better social skills than did the volunteers with moderate levels. This suggests that attaining an exceptionally high level of self-esteem greatly improves one's social skills.

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

- (A) It fails to adequately address the possibility that many of the volunteers may not have understood what the psychological questionnaire was designed to measure.
- (B) It takes for granted that the volunteers with the highest levels of self-esteem had better social skills than did the other volunteers, even before the former volunteers had attained their high levels of self-esteem.
- (C) It overlooks the possibility that people with very high levels of self-esteem may tend to have a less accurate perception of the strength of their own social skills than do people with moderate levels of self-esteem.
- (D) It relies on evidence from a group of volunteers that is too small to provide any support for any inferences regarding people in general.
- (E) It overlooks the possibility that factors other than level of self-esteem may be of much greater importance in determining the strength of one's social skills.

CR06826

194. A product that represents a clear technological advance over competing products can generally command a high price. Because **technological advances tend to be quickly surpassed** and companies want to make large profits while they still can, **many companies charge the maximum possible price for such a product**. But large profits on the new product will give competitors a strong incentive to quickly match the new product's capabilities. Consequently, the strategy to maximize overall profit from a new product is to charge less than the greatest possible price.

In the argument above, the two portions in **boldface** play which of the following roles?

- (A) The first is a consideration raised to argue that a certain strategy is counterproductive; the second presents that strategy.
- (B) The first is a consideration raised to support the strategy that the argument recommends; the second presents that strategy.
- (C) The first is a consideration raised to help explain the popularity of a certain strategy; the second presents that strategy.
- (D) The first is an assumption, rejected by the argument, that has been used to justify a course of action; the second presents that course of action.
- (E) The first is a consideration that has been used to justify adopting a certain strategy; the second presents the intended outcome of that strategy.

CR05554

195. Gortland has long been narrowly self-sufficient in both grain and meat. However, as per capita income in Gortland has risen toward the world average, per capita consumption of meat has also risen toward the world average, and it takes several pounds of grain to produce one pound of meat. Therefore, since per capita income continues to rise, whereas domestic grain production will not increase, Gortland will soon have to import either grain or meat or both.

Which of the following is an assumption on which the argument depends?

- (A) The total acreage devoted to grain production in Gortland will not decrease substantially.
- (B) The population of Gortland has remained relatively constant during the country's years of growing prosperity.
- (C) The per capita consumption of meat in Gortland is roughly the same across all income levels.
- (D) In Gortland, neither meat nor grain is subject to government price controls.
- (E) People in Gortland who increase their consumption of meat will not radically decrease their consumption of grain.

CR05625

196. Political Advertisement:

Mayor Delmont's critics complain about the jobs that were lost in the city under Delmont's leadership. Yet the fact is that not only were more jobs created than were eliminated, but each year since Delmont took office the average pay for the new jobs created has been higher than that year's average pay for jobs citywide. So it stands to reason that throughout Delmont's tenure the average paycheck in this city has been getting steadily bigger.

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

- (A) The unemployment rate in the city is higher today than it was when Mayor Delmont took office.
- (B) The average pay for jobs in the city was at a ten-year low when Mayor Delmont took office.
- (C) Each year during Mayor Delmont's tenure, the average pay for jobs that were eliminated has been higher than the average pay for jobs citywide.
- (D) Most of the jobs eliminated during Mayor Delmont's tenure were in declining industries.
- (E) The average pay for jobs in the city is currently lower than it is for jobs in the suburbs surrounding the city.

CR04930

197. To prevent a newly built dam on the Chiff River from blocking the route of fish migrating to breeding grounds upstream, the dam includes a fish pass, a mechanism designed to allow fish through the dam. Before the construction of the dam and fish pass, several thousand fish a day swam upriver during spawning season. But in the first season after the project's completion, only 300 per day made the journey. Clearly, the fish pass is defective.

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

- (A) Fish that have migrated to the upstream breeding grounds do not return down the Chiff River again.
- (B) On other rivers in the region, the construction of dams with fish passes has led to only small decreases in the number of fish migrating upstream.
- (C) The construction of the dam stirred up potentially toxic river sediments that were carried downstream.
- (D) Populations of migratory fish in the Chiff River have been declining slightly over the last 20 years.
- (E) During spawning season, the dam releases sufficient water for migratory fish below the dam to swim upstream.

CR09969

198. Music critic: Fewer and fewer musicians are studying classical music, decreasing the likelihood that those with real aptitude for such music will be performing it. Audiences who hear these performances will not appreciate classical music's greatness and will thus decamp to other genres. So to maintain classical music's current meager popularity, we must encourage more young musicians to enter the field.

Which of the following, if true, most weakens the music critic's reasoning?

- (A) Musicians who choose to study classical music do so because they believe they have an aptitude for the music.
- (B) Classical music's current meager popularity is attributable to the profusion of other genres of music available to listeners.
- (C) Most people who appreciate classical music come to do so through old recordings rather than live performances.
- (D) It is possible to enjoy the music in a particular genre even when it is performed by musicians who are not ideally suited for that genre.
- (E) The continued popularity of a given genre of music depends in part on the audiences being able to understand why that genre attained its original popularity.

CR05656

199. Commemorative plaques cast from brass are a characteristic art form of the Benin culture of West Africa. Some scholars, noting that the oldest surviving plaques date to the 1400s, hypothesize that brass-casting techniques were introduced by the Portuguese, who came to Benin in 1485 A.D. But Portuguese records of that expedition mention cast-brass jewelry sent to Benin's king from neighboring Ife. So it is unlikely that Benin's knowledge of brass casting derived from the Portuguese.

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

- (A) The Portuguese records do not indicate whether their expedition of 1485 included metalworkers.
- (B) The Portuguese had no contact with Ife until the 1500s.
- (C) In the 1400s the Portuguese did not use cast brass for commemorative plaques.
- (D) As early as 1500 A.D., Benin artists were making brass plaques incorporating depictions of Europeans.
- (E) Copper, which is required for making brass, can be found throughout Benin territory.

4.6 Answer Key

102. C	127. D	152. C	177. D
103. B	128. B	153. A	178. B
104. B	129. B	154. A	179. B
105. A	130. A	155. A	180. B
106. C	131. B	156. A	181. D
107. D	132. A	157. D	182. E
108. B	133. A	158. D	183. D
109. B	134. C	159. C	184. A
110. A	135. C	160. D	185. B
111. C	136. D	161. C	186. A
112. D	137. A	162. A	187. B
113. E	138. A	163. C	188. E
114. A	139. B	164. C	189. B
115. C	140. C	165. B	190. D
116. A	141. B	166. B	191. A
117. B	142. C	167. C	192. D
118. A	143. E	168. B	193. C
119. D	144. D	169. D	194. C
120. A	145. E	170. D	195. E
121. C	146. C	171. D	196. C
122. E	147. C	172. D	197. C
123. C	148. B	173. B	198. C
124. B	149. C	174. E	199. B
125. A	150. B	175. B	
126. A	151. C	176. B	