

78. In comparison to the standard typewriter keyboard, the EFCO keyboard, which places the most-used keys nearest the typist's strongest fingers, allows faster typing and results in less fatigue. Therefore, replacement of standard keyboards with the EFCO keyboard will result in an immediate reduction of typing costs.

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

- (A) People who use both standard and EFCO keyboards report greater difficulty in the transition from the EFCO keyboard to the standard keyboard than in the transition from the standard keyboard to the EFCO keyboard.
- (B) EFCO keyboards are no more expensive to manufacture than are standard keyboards and require less frequent repair than do standard keyboards.
- (C) The number of businesses and government agencies that use EFCO keyboards is increasing each year.
- (D) The more training and experience an employee has had with the standard keyboard, the more costly it is to train that employee to use the EFCO keyboard.
- (E) Novice typists can learn to use the EFCO keyboard in about the same amount of time that it takes them to learn to use the standard keyboard.

Argument Evaluation

Situation Compared to the standard typewriter keyboard, the EFCO keyboard promotes faster typing while producing less fatigue. Replacing standard keyboards with EFCO keyboards promises immediate reduction of typing costs.

Reasoning *What point would weaken the conclusion about reduced typing costs?* Whenever a word such as *immediate* is part of an argument, it is wise to be alert. Given the comparison with the standard keyboard, it is logical that over the longer term the EFCO keyboard will save money. What problems might there be initially that would counteract the possibility of *immediate* savings? Personnel must first be retrained on the new EFCO keyboard, and it is possible that the costs of the training could offset any short-term savings. If the more experience employees have had with the standard keyboard, the more costly the initial training, then adopting the new keyboard could have high short-term costs that preclude *immediate* savings.

- A The greater ease of changing from the standard keyboard to the EFCO keyboard for typists experienced in both would support, not weaken, the conclusion.
- B The fewer repairs required by EFCO keyboards should save money in the long run; immediate costs will not go up since the price of both keyboards is the same. The conclusion is not weakened.
- C The increasing use of EFCO keyboards supports the conclusion, suggesting that other offices have found the switch advantageous.
- D **Correct.** This statement properly identifies information that weakens the conclusion that savings will be immediate.
- E For new typists, training time is the same for both keyboards; this statement does not weaken the conclusion.

The correct answer is D.

79. An overly centralized economy, not the changes in the climate, is responsible for the poor agricultural production in Country X since its new government came to power. Neighboring Country Y has experienced the same climatic conditions, but while agricultural production has been falling in Country X, it has been rising in Country Y.

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

- (A) Industrial production also is declining in Country X.
- (B) Whereas Country Y is landlocked, Country X has a major seaport.
- (C) Both Country X and Country Y have been experiencing drought conditions.
- (D) The crops that have always been grown in Country X are different from those that have always been grown in Country Y.
- (E) Country X's new government instituted a centralized economy with the intention of ensuring an equitable distribution of goods.

Argument Evaluation

Situation Two countries sharing similar climatic conditions differ widely in agricultural production, one experiencing a rise and the other a decline. The decline is blamed on an overly centralized economy.

Reasoning *What point most weakens the argument that the economy is to blame?* If a factor other than the economy could account for the differences in agricultural production, then the argument is weakened. If the two countries grow different kinds of crops that may react differently to the same climatic conditions, then the types of crops, rather than the economy, could be responsible for the differences in production.

- A The economy might indeed be to blame for declining industrial production, which would strengthen the argument, but not enough information is given about the country's industry to allow that evaluation of blame to be made.
- B The availability of a seaport does not explain the differences in agricultural production.
- C Similar climatic conditions have already been established in the argument.
- D **Correct.** This statement properly identifies a factor that weakens the argument.
- E The government's intention when instituting the economy does not have any bearing on whether the economy is responsible for the decline or not.

The correct answer is D.

80. Because no employee wants to be associated with bad news in the eyes of a superior, information about serious problems at lower levels is progressively softened and distorted as it goes up each step in the management hierarchy. The chief executive is, therefore, less well informed about problems at lower levels than are his or her subordinates at those levels.

The conclusion drawn above is based on the assumption that _____.

- (A) problems should be solved at the level in the management hierarchy at which they occur
- (B) employees should be rewarded for accurately reporting problems to their superiors
- (C) problem-solving ability is more important at higher levels than it is at lower levels of the management hierarchy
- (D) chief executives obtain information about problems at lower levels from no source other than their subordinates
- (E) some employees are more concerned about truth than about the way they are perceived by their superiors

Argument Construction

Situation No employee wants to report bad news to a superior, so information about problems is softened and distorted as it goes up the ranks of management. As a result, chief executives know less about problems at lower levels than their subordinates do.

Reasoning *What assumption is being made in this argument?* This passage contends that information travels step by step upward through an organization, and that information becomes increasingly distorted along the route with each additional individual's reluctance to be candid with a superior about problems. What must be true about this information flow to support the conclusion? In order to conclude that chief executives are *less well informed* about problems than their subordinates, the argument must logically assume that they have no source of information except their subordinates.

- A This argument is not about how problems should be solved, only about how chief executives learn of them.
- B No recommendation for solving the problem is assumed; only the method of discovering the problem is assumed.
- C The passage does not discuss problem solving ability and where it is best served, so this statement cannot be assumed.
- D **Correct.** This statement properly identifies an assumption that underlies the argument.
- E This statement contradicts the first sentence of the passage and so cannot possibly be assumed.

The correct answer is D.

81. A recent report determined that although only 3 percent of drivers on Maryland highways equipped their vehicles with radar detectors, 33 percent of all vehicles ticketed for exceeding the speed limit were equipped with them. Clearly, drivers who equip their vehicles with radar detectors are more likely to exceed the speed limit regularly than are drivers who do not.

The conclusion drawn above depends on which of the following assumptions?

- (A) Drivers who equip their vehicles with radar detectors are less likely to be ticketed for exceeding the speed limit than are drivers who do not.
- (B) Drivers who are ticketed for exceeding the speed limit are more likely to exceed the speed limit regularly than are drivers who are not ticketed.
- (C) The number of vehicles that were ticketed for exceeding the speed limit was greater than the number of vehicles that were equipped with radar detectors.
- (D) Many of the vehicles that were ticketed for exceeding the speed limit were ticketed more than once in the time period covered by the report.
- (E) Drivers on Maryland highways exceeded the speed limit more often than did drivers on other state highways not covered in the report.

Argument Construction

Situation Although only 3 percent of drivers on Maryland's highways have radar detectors in their vehicles, 33 percent of vehicles recently ticketed for driving over the speed limit on Maryland highways have had radar detectors. Drivers who have radar detectors are thus more likely to exceed the speed limit regularly than drivers who do not.

Reasoning *What assumption must be true for the conclusion to be drawn?* The argument moves from a particular sample, that is, the percentage of vehicles ticketed for exceeding the speed limit that were equipped with radar detectors, to a generalization about the regular driving behaviors of all drivers who have radar detectors in their vehicles. Between the example and the generalization must stand an assumption. What can the assumption be? Only if the drivers ticketed in this instance are assumed to make a regular habit of exceeding the speed limit can the conclusion be drawn that drivers with radar detectors are more likely to do so *regularly* than drivers who are not ticketed.

- A While this statement about being ticketed may be true, the conclusion pertains to the recurrent exceeding of the speed limit, so this statement is not relevant.
- B **Correct.** This statement properly identifies the conclusion's necessary assumption about ticketed drivers' being more likely to drive in excess of the speed limit than nonticketed drivers.
- C From the original passage it is already known that 67 percent of all ticketed vehicles did not have radar detectors. This statement is about the number of vehicles ticketed, not about the regular habits of drivers, so it is not assumed for the conclusion.
- D While this additional information could help support the conclusion, it is not a necessary assumption in the conclusion because it is about the particular example of the drivers in Maryland, not about drivers' habits in general.
- E Learning that Maryland drivers are not representative of other drivers undermines the conclusion about all drivers, so it is clearly not assumed.

The correct answer is B.

82. Products sold under a brand name used to command premium prices because, in general, they were superior to nonbrand rival products. Technical expertise in product development has become so widespread, however, that special quality advantages are very hard to obtain these days and even harder to maintain. As a consequence, brand-name products generally neither offer higher quality nor sell at higher prices. Paradoxically, brand names are a bigger marketing advantage than ever.

Which of the following, if true, most helps to resolve the paradox outlined above?

- (A) Brand names are taken by consumers as a guarantee of getting a product as good as the best rival products.
- (B) Consumers recognize that the quality of products sold under invariant brand names can drift over time.
- (C) In many acquisitions of one corporation by another, the acquiring corporation is interested more in acquiring the right to use certain brand names than in acquiring existing production facilities.
- (D) In the days when special quality advantages were easier to obtain than they are now, it was also easier to get new brand names established.
- (E) The advertising of a company's brand-name products is at times transferred to a new advertising agency, especially when sales are declining.

Argument Evaluation

Situation In both quality and price, brand-name and nonbrand products have now become similar. Yet brand names offer a bigger marketing advantage than ever.

Reasoning *How can this paradox be explained?* It is given that a brand-name product's only distinction from its rival products is a recognizable name. What must be true to give brand-name products a bigger marketing advantage? Could consumers be relying on their outdated knowledge and believing that brand names continue to guarantee that a product's quality is at least as good as, and possibly higher than, that of the rival products at the same price? If so, they would choose to purchase the brand-name product trusting they would, at a minimum, get comparable quality for the same price.

- A **Correct.** This statement correctly identifies the consumer behavior that explains the marketing advantage of brand names.
- B Consumers would be less likely to buy brand-name products if they were unsure of their quality, so this statement does not resolve the paradox.
- C Corporations value brand names, but this statement does not say why, nor does it explain the marketing advantage of brand names.
- D The relative ease or difficulty of establishing brand names does not explain why they are a marketing advantage.
- E The shift from one advertising agency to another to counteract falling sales does not account for the general marketing advantage brand names enjoy.

The correct answer is A.

83. **Editorial:** Regulations recently imposed by the government of Risemia call for unprecedented reductions in the amounts of pollutants manufacturers are allowed to discharge into the environment. It will take costly new pollution control equipment requiring expensive maintenance to comply with these regulations. Resultant price increases for Risemian manufactured goods will lead to the loss of some export markets. Clearly, therefore, annual exports of Risemian manufactured goods will in the future occur at diminished levels.

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

- (A) The need to comply with the new regulations will stimulate the development within Risemia of new pollution control equipment for which a strong worldwide demand is likely to emerge.
- (B) The proposed regulations include a schedule of fines for noncompliance that escalate steeply in cases of repeated noncompliance.
- (C) Savings from utilizing the chemicals captured by the pollution control equipment will remain far below the cost of maintaining the equipment.
- (D) By international standards, the levels of pollutants currently emitted by some of Risemia's manufacturing plants are not considered excessive.
- (E) The stockholders of most of Risemia's manufacturing corporations exert substantial pressure on the corporations to comply with environmental laws.

Argument Evaluation

Situation An editorial states that manufacturers in Risemia must pay for expensive new pollution control equipment in order to comply with recent regulations. Increased costs will lead to increased prices and consequently to the loss of some export markets. Exports will thus go down.

Reasoning *What point weakens the argument?* First, recognize the underlying assumptions regarding the exports of manufactured goods. While the kinds of goods previously exported may be priced out of their markets and experience a loss, it is apparently assumed that the existing goods are the only ones that Risemia is able to manufacture for export. What if new products were exported in their place? If so, the total annual exports would not necessarily fall. The new regulations call for new, expensive pollution control equipment. If this equipment were manufactured in Risemia, it would be likely to find an international market anywhere similar environmental restrictions were applied.

- A **Correct.** This statement properly identifies a weakness in the editorial's argument since it is possible that the potential loss of some exports will be compensated for by the addition of a new export, the pollution control equipment, for which there could be strong international demand.
- B Fines for noncompliance increase the cost to manufacturers and thus their prices, so this statement tends to support the argument.
- C Since the new equipment will cost more to maintain than it will save, the manufacturers' costs will again go up. This statement supports the argument.
- D The comparative level of pollutants is irrelevant because manufacturers must comply with the new regulations in Risemia and pay the resultant costs, no matter how their level of pollutant emission compares with that of other countries.
- E The stockholders' determination that manufacturers comply with the new regulations supports the argument rather than weakening it.

The correct answer is A.

84. When demand for a factory's products is high, more money is spent at the factory for safety precautions and machinery maintenance than when demand is low. Thus the average number of on-the-job accidents per employee each month should be lower during periods when demand is high than when demand is low and less money is available for safety precautions and machinery maintenance.

Which of the following, if true about a factory when demand for its products is high, casts the most serious doubt on the conclusion drawn above?

- (A) Its employees ask for higher wages than they do at other times.
- (B) Its management hires new workers but lacks the time to train them properly.
- (C) Its employees are less likely to lose their jobs than they are at other times.
- (D) Its management sponsors a monthly safety award for each division in the factory.
- (E) Its old machinery is replaced with modern, automated models.

Argument Evaluation

Situation Because more money is spent on safety precautions and machinery maintenance at a factory when demand for its product is high, the average number of job-related accidents per employee at the factory should be lower when demand is high.

Reasoning *What point casts doubt on the conclusion?* Consider what other conditions can result from high demand for a factory's products. What if, when demand is high, more employees are hired to meet the demand? If, in the effort to increase production, there is not enough time for proper training, then it is likely that the new, poorly trained employees will have more job-related accidents than experienced, well-trained workers.

- A The conclusion is about safety rather than wages, so the employees' demand for higher wages is irrelevant.
- B **Correct.** This statement properly identifies a point that undermines the conclusion.
- C The conclusion is about safety, not about job security, so this point is irrelevant.
- D Actively promoting safety with an award would tend to support the argument, not weaken it.
- E Replacing outdated machinery with more modern machinery should result in a safer workplace; this point strengthens the conclusion.

The correct answer is B.

85. An unusually severe winter occurred in Europe after the continent was blanketed by a blue haze resulting from the eruption of the Laki Volcano in the European republic of Iceland in the summer of 1984. Thus, it is evident that major eruptions cause the atmosphere to become cooler than it would be otherwise.

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

- (A) The cooling effect triggered by volcanic eruptions in 1985 was counteracted by an unusual warming of Pacific waters.
- (B) There is a strong statistical link between volcanic eruptions and the severity of the rainy season in India.
- (C) A few months after El Chichón's large eruption in April 1982, air temperatures throughout the region remained higher than expected, given the long-term weather trends.
- (D) The climatic effects of major volcanic eruptions can temporarily mask the general warming trend resulting from an excess of carbon dioxide in the atmosphere.
- (E) Three months after an early springtime eruption in South America during the late nineteenth century, sea surface temperatures near the coast began to fall.

Argument Evaluation

Situation Europe experienced an exceptionally cold winter after a volcanic eruption in the summer of 1984 covered the continent in a blue haze. Major eruptions must cause the atmosphere to become cooler.

Reasoning *Which statement weakens this argument?* The argument is weak because it makes a generalization on the basis of only one example. Any example of a volcanic eruption that was not followed by a cooling of the atmosphere weakens this argument. The example of the eruption of El Chichón in 1982, which resulted in higher than normal air temperatures, contradicts the generalization of cooler temperatures following volcanic eruptions.

- A This statement supports the argument by establishing that other volcanic eruptions triggered a cooling effect, even though another event counteracted it.
- B The argument is about the relationship between volcanic eruption and a cooler atmosphere, not between volcanic eruption and increased rain.
- C **Correct.** This statement properly identifies a weakness in the argument.
- D This statement supports the argument because it implies that volcanic eruptions cool the atmosphere, given that their effects *mask the general warming trend*.
- E The argument is about a cooling in the atmosphere, which could in turn lower sea surface temperatures, so this example tends to support the argument.

The correct answer is C.

86. Journalist: In physics journals, the number of articles reporting the results of experiments involving particle accelerators was lower last year than it had been in previous years. Several of the particle accelerators at major research institutions were out of service the year before last for repairs, so it is likely that the low number of articles was due to the decline in availability of particle accelerators.

Which of the following, if true, most seriously undermines the journalist's argument?

- (A) Every article based on experiments with particle accelerators that was submitted for publication last year actually was published.
- (B) The average time scientists must wait for access to a particle accelerator has declined over the last several years.
- (C) The number of physics journals was the same last year as in previous years.
- (D) Particle accelerators can be used for more than one group of experiments in any given year.
- (E) Recent changes in the editorial policies of several physics journals have decreased the likelihood that articles concerning particle-accelerator research will be accepted for publication.

Argument Evaluation

Situation A journalist attributes the low number of articles about particle accelerators in physics journals to the fact that several accelerators at major research institutions had been out of service the previous year.

Reasoning *What point undermines the journalist's argument?* The journalist assumes that the researchers' lack of access to the accelerators is responsible for the decline in the number of articles. What else could explain fewer articles? What if the decline is due, not to the availability of the accelerators for experiments, but to policies regarding publishing articles related to such experiments? An alternate explanation is that changes in the editorial policies of physics journals, rather than the effect of the out-of-service accelerators, could well be responsible for the lower number of published articles about particle-accelerator research.

- A This statement rules out the possibility that submitted articles were not published, and eliminating this alternate explanation tends to support the argument.
- B A decline in waiting time would seem to promote more articles about accelerator research being written and published, not fewer.
- C While the decline in articles could be explained by a decline in the number of journals, this statement eliminates that alternate explanation.
- D If the accelerators can be used for multiple experiments, then it is reasonable to expect more articles related to them, not fewer.
- E **Correct.** This statement properly identifies a point that undermines the journalist's reasoning.

The correct answer is E.

Questions 87–89 are based on the following:

Networks of blood vessels in bats' wings serve only to disperse heat generated in flight. This heat is generated only because bats flap their wings. Thus paleontologists' recent discovery that the winged dinosaur Sandactylus had similar networks of blood vessels in the skin of its wings provides evidence for the hypothesis that Sandactylus flew by flapping its wings, not just by gliding.

87.

In the passage, the author develops the argument by _____.

- (A) forming the hypothesis that best explains several apparently conflicting pieces of evidence
- (B) reinterpreting evidence that had been used to support an earlier theory
- (C) using an analogy with a known phenomenon to draw a conclusion about an unknown phenomenon
- (D) speculating about how structures observed in present-day creatures might have developed from similar structures in creatures now extinct
- (E) pointing out differences in the physiological demands that flight makes on large, as opposed to small, creatures

Argument Evaluation

Situation The network of blood vessels in bats' wings is compared with a similar structure in the wings of the dinosaur Sandactylus to explain how the dinosaur flew.

Reasoning *How is this argument developed?* The author first shows that a physical characteristic of bats' wings is directly related to their style of flight. The author then argues that the similar structure found in the wings of Sandactylus is evidence that the dinosaur had a style of flight similar to that of bats. The structure of this argument is a comparison, or analogy, between a known phenomenon (bats) and an unknown one (Sandactylus).

- A The evidence of the blood vessels in the wings does not conflict with other evidence.
- B Only one theory—that Sandactylus flew by flapping its wings as well as by gliding—is proposed; no earlier theory is discussed.
- C **Correct.** This statement properly identifies how the argument compares the wings of bats and of Sandactylus in order to draw a conclusion about how the dinosaur flew.
- D The theory is not about how the structures in the bats developed from the structures in the dinosaurs, but rather about how Sandactylus flew.
- E The comparison between bats and Sandactylus points out similarities, not differences.

The correct answer is C.

88. Which of the following, if true, most seriously weakens the argument in the passage?
- (A) Sandactylus' wings were far more similar to the wings of bats than to the wings of birds.
 - (B) Paleontologists do not know whether winged dinosaurs other than Sandactylus had similar networks of blood vessels in the skin of their wings.
 - (C) The mechanism used by bats for dispersing heat in flight could, in principle, work for much larger flying creatures, such as Sandactylus.
 - (D) Not all the bats that use the mechanism described in the passage for dispersing heat in flight live in climates similar to the climate in which Sandactylus lived.
 - (E) Other winged dinosaurs that flew only by gliding had networks of blood vessels in the skin of their wings similar to those that Sandactylus had.

Argument Evaluation

Situation The network of blood vessels in bats' wings is compared with a similar structure in the wings of the dinosaur Sandactylus to explain how the dinosaur flew. (The same as the previous item.)

Reasoning *Which point weakens the argument?* Based on the evidence of similar structures found in the wings of bats and of Sandactylus, the conclusion suggests that Sandactylus flew not only by gliding, but also by flapping its wings as bats do. What if the wing structures shared by bats and Sandactylus are also found in other dinosaurs that are known to have flown only by gliding? The author's argument would be weakened by evidence that other dinosaurs that did not flap their wings in flight nonetheless had similar blood-vessel networks in their wings.

- A This point supports the argument.
- B Since the argument concerns only Sandactylus, lack of knowledge about other dinosaurs does not affect the hypothesis about flight.
- C This point supports the argument.
- D Some of the bats do live in climates similar to the one in which Sandactylus lived; not enough information is provided to determine whether climate is relevant to the argument.
- E **Correct.** This statement properly identifies a factor that weakens the argument: having similar wing structures does not necessitate similar wing-flapping flight styles.

The correct answer is E.

89. The argument in the passage relies on which of the following assumptions?

- (A) Sandactylus would not have had networks of blood vessels in the skin of its wings if these networks were of no use to Sandactylus.
- (B) All creatures that fly by flapping their wings have networks of blood vessels in the skin of their wings.
- (C) Winged dinosaurs that flapped their wings in flight would have been able to fly more effectively than winged dinosaurs that could only glide.
- (D) If Sandactylus flew by flapping its wings, then paleontologists would certainly be able to find some evidence that it did so.
- (E) Heat generated by Sandactylus in flapping its wings in flight could not have been dispersed by anything other than the blood vessels in its wings.

Argument Construction

Situation The network of blood vessels in bats' wings is compared with a similar structure in the wings of the dinosaur Sandactylus to explain how the dinosaur flew. (The same as the previous item.)

Reasoning *What assumption does this argument make?* The networks of blood vessels in the wings of bats are shown to have a purpose: to disperse the heat generated by wing-flapping flight. In proposing that a similar structure had a similar purpose in Sandactylus, the argument assumes that the network of blood vessels found in the dinosaur wings had a purpose.

- A **Correct.** This statement properly identifies the assumption that underlies the argument: there was a purpose for the network of blood vessels found in the wings of Sandactylus.
- B This statement is too broad to be assumed; the comparison between bats and Sandactylus cannot be extended to all flying creatures.
- C No conclusion is drawn about the efficiency of flight, so this point is not assumed.
- D The argument does not assume that evidence is certain to be found.
- E Since this point is not addressed in the argument, it cannot be assumed.

The correct answer is A.

90. Keith: Compliance with new government regulations requiring the installation of smoke alarms and sprinkler systems in all theaters and arenas will cost the entertainment industry \$25 billion annually. Consequently, jobs will be lost and profits diminished. Therefore, these regulations will harm the country's economy.

Laura: The \$25 billion spent by some businesses will be revenue for others. Jobs and profits will be gained as well as lost.

Laura responds to Keith by ____.

- (A) demonstrating that Keith's conclusion is based on evidence that is not relevant to the issue at hand
- (B) challenging the plausibility of the evidence that serves as the basis for Keith's argument
- (C) suggesting that Keith's argument overlooks a mitigating consequence
- (D) reinforcing Keith's conclusion by supplying a complementary interpretation of the evidence Keith cites
- (E) agreeing with the main conclusion of Keith's argument but construing that conclusion as grounds for optimism rather than for pessimism

Argument Construction

Situation Keith argues that the cost of new regulations will result in a loss of jobs and profits, hurting the national economy. Laura points out that while one industry will suffer, others will gain by supplying the goods and services required by the regulations.

Reasoning *What is the strategy Laura uses in the counterargument?* Laura uses the same evidence, the \$25 billion spent on meeting new regulations, but comes to a different conclusion. While Keith focuses on the losses to one industry, Laura looks at the gains to other industries. By suggesting a consequence that Keith did not mention, she places the outcome in a more positive light.

- A Laura accepts the relevance of Keith's evidence and uses it herself when she replies that *the \$25 billion spent by some businesses will be revenue for others*.
- B Laura does not challenge Keith's evidence; she uses the same evidence as the basis of her own argument.
- C **Correct.** This statement properly identifies the strategy Laura employs in her counterargument. Laura points out that Keith did not consider that, in this case, losses for one industry mean gains for others.
- D Laura rejects rather than reinforces Keith's conclusion; while he notes the losses in jobs and profits that will harm the economy, she points out that *jobs and profits will be gained as well as lost*.
- E Laura does not agree with Keith that the regulations will harm the national economy; she argues instead that gains in other industries will compensate for the losses in one industry.

The correct answer is C.

91. Businesses are suffering because of a lack of money available for development loans. To help businesses, the government plans to modify the income-tax structure in order to induce individual taxpayers to put a larger portion of their incomes into retirement savings accounts, because as more money is deposited in such accounts, more money becomes available to borrowers.

Which of the following, if true, raises the most serious doubt regarding the effectiveness of the government's plan to increase the amount of money available for development loans for businesses?

- (A) When levels of personal retirement savings increase, consumer borrowing always increases correspondingly.
- (B) The increased tax revenue the government would receive as a result of business expansion would not offset the loss in revenue from personal income taxes during the first year of the plan.
- (C) Even with tax incentives, some people will choose not to increase their levels of retirement savings.
- (D) Bankers generally will not continue to lend money to businesses whose prospective earnings are insufficient to meet their loan repayment schedules.
- (E) The modified tax structure would give all taxpayers, regardless of their incomes, the same tax savings for a given increase in their retirement savings.

Evaluation of a Plan

Situation Because the lack of available money for development loans is harming businesses, the government plans to modify the income-tax structure, encouraging taxpayers to put more money into retirement accounts. This plan is intended to ensure that with more money put into these accounts, more money will in turn be available to business borrowers.

Reasoning *What potential flaw in this plan might prevent it from being effective? What is the expectation behind the plan? The government's plan supposes that the money invested in retirement accounts will be readily available to business borrowers in the form of development loans. Consider what circumstances might hinder that availability. What if consumer borrowers compete with businesses? If it is known that, historically, increased savings in personal retirement accounts results in increased consumer borrowing, then the government's effort to target businesses as the sole beneficiaries of this plan could well fail.*

- A **Correct.** This statement properly identifies a reason that the government's plan could be less effective in meeting its goal.
- B The goal of the plan is to increase the amount of money available as development loans for businesses, so this point is irrelevant to the effectiveness of the plan.
- C The effectiveness of the plan would be determined not by what *some people* do, but by what most people do.
- D The plan would increase the money available specifically for development loans, not existing loans.
- E The universal tax savings does not affect the effectiveness of the plan.

The correct answer is A.

92. In order to finance road repairs, the highway commission of a certain state is considering a 50 percent increase in the 10-cents-per-mile toll for vehicles using its toll highway. The highway commissioner claims that the toll increase will increase the annual revenue generated by the toll highway by at least 50 percent per year.

Which of the following is an assumption on which the highway commissioner's claim depends?

- (A) The amount of money required annually for road repairs will not increase from its current level.
- (B) The total number of trips made on the toll highway per year will not decrease from its current level.
- (C) The average length of a trip made on the toll highway will not decrease from its current level.
- (D) The number of drivers who consistently avoid the highway tolls by using secondary roads will not increase from its current level.
- (E) The total distance traveled by vehicles on the toll highway per year will not decrease from its current level.

Argument Construction

Situation A state highway commission considers a 50 percent increase in the 10-cents-a-mile toll on its toll highway; this increase promises at least a 50 percent increase in the revenue generated by the toll highway.

Reasoning *On what assumption does this argument depend?* The toll is charged on a per-mile basis. A 50 percent increase in the toll will bring a 50 percent increase in revenue only if the total number of miles traveled on the toll highway per year does not decrease.

- A Road repairs are not included in the argument about the increase in the annual *revenue*, so this assumption is not made.
- B The toll highway generates revenue based on the number of miles traveled, not the number of trips, so this assumption is not part of the argument.
- C The average length of a trip does not determine the annual revenue that the toll highway brings in; since the toll is charged per mile, it is the total distance per year that determines the amount of annual revenue.
- D The revenue is determined by the number of miles traveled on the toll highway, not the number of drivers who either take it or avoid it.
- E **Correct.** This statement properly recognizes the assumption underlying the commissioner's claim: with the revenue generated on a per-mile basis, a 50 percent increase in the toll will result in a 50 percent increase in the revenue as long as the total number of miles traveled on the toll highway remains the same.

The correct answer is E.

93. A new law gives ownership of patents—documents providing exclusive right to make and sell an invention—to universities, not the government, when those patents result from government-sponsored university research. Administrators at Logos University plan to sell any patents they acquire to corporations in order to fund programs to improve undergraduate teaching.

Which of the following, if true, would cast the most doubt on the viability of the college administrators' plan described above?

- (A) Profit-making corporations interested in developing products based on patents held by universities are likely to try to serve as exclusive sponsors of ongoing university research projects.
- (B) Corporate sponsors of research in university facilities are entitled to tax credits under new federal tax-code guidelines.
- (C) Research scientists at Logos University have few or no teaching responsibilities and participate little if at all in the undergraduate programs in their field.
- (D) Government-sponsored research conducted at Logos University for the most part duplicates research already completed by several profit-making corporations.
- (E) Logos University is unlikely to attract corporate sponsorship of its scientific research.

Evaluation of a Plan

Situation Universities own the patents resulting from government-sponsored research at their institutions. One university plans to sell its patents to corporations to fund a program to improve teaching.

Reasoning *Which point casts doubt on the university's plan?* The university's plan assumes there will be a market for its patents, and that the corporations will want to buy them. What might make this untrue? If some of the corporations have already done the same or similar research, they will not be prospective buyers of the university's patents.

- A This point is irrelevant to the plan to sell patents in order to fund a program.
- B The university plans to sell the patents to the corporations, not to invite the corporations to sponsor research.
- C This point is irrelevant to the university's plan to sell off patents.
- D **Correct.** This statement properly identifies a factor that casts doubt on the university's plan to sell its patents to corporations.
- E The plan concerns selling patents, not attracting corporate sponsorship for research.

The correct answer is D.

Questions 94–95 are based on the following:

Environmentalist: The commissioner of the Fish and Game Authority would have the public believe that increases in the number of marine fish caught demonstrate that this resource is no longer endangered. This is a specious argument, as unsound as it would be to assert that the ever-increasing rate at which rain forests are being cut down demonstrates a lack of danger to that resource. The real cause of the increased fish-catch is a greater efficiency in using technologies that deplete resources.

94. Which of the following strategies is used in the presentation of the environmentalist's position?

- (A) Questioning the motives of an opponent
- (B) Showing that an opposing position is self-contradictory
- (C) Attacking an argument through the use of an analogy
- (D) Demonstrating the inaccuracy of certain data
- (E) Pointing out adverse consequences of a proposal

Argument Construction

Situation A public official argues that increased catches show that marine fish are no longer endangered. An environmentalist attacks the position and cites technology as the cause of the increased catch.

Reasoning *What strategy does the environmentalist use to state a position?* Consider how the environmentalist structures the argument. The environmentalist describes the commissioner's argument as *specious*, or deceptive, and then uses an analogy to rain forests to demonstrate that the commissioner's argument is built on false premises.

- A The position, but not the motives, of the commissioner is questioned.
- B The environmentalist says that the official's position is *specious* but does not claim that is self-contradictory.
- C **Correct.** This statement properly identifies the strategy used in the argument: the environmentalist attacks the commissioner's position by comparing it to an absurd argument about the rain forests.
- D The environmentalist does not use any data.
- E No proposal is offered; thus no adverse consequences are examined.

The correct answer is C.

95. The environmentalist's statements, if true, best support which of the following as a conclusion?
- (A) The use of technology is the reason for the increasing encroachment of people on nature.
 - (B) It is possible to determine how many fish are in the sea by some way other than by catching fish.
 - (C) The proportion of marine fish that are caught is as high as the proportion of rain forest trees that are cut down each year.
 - (D) Modern technologies waste resources by catching inedible fish.
 - (E) Marine fish continue to be an endangered resource.

Argument Construction

Situation	A public official argues that increased catches show that marine fish are no longer endangered. An environmentalist attacks the position and cites technology as the cause of the increased catch. (The same as the previous item.)
Reasoning	<i>What conclusion do the environmentalist's statements support?</i> The environmentalist casts doubt by saying the commissioner <i>would have the public believe</i> that the increased catch shows that the fish are no longer endangered; the phrasing indicates that environmentalist believes just the reverse. The environmentalist does believe the marine fish are endangered, and, after attacking the commissioner's argument as <i>specious</i> , or false, and offering an analogy to make that argument look ridiculous, the environmentalist gives an alternate explanation for the increased catch that is consistent with that belief.

- A *The encroachment of people on nature* is not examined.
- B No methods to determine the number are discussed in the statements.
- C The environmentalist compares the two arguments, not the two proportions.
- D The fish are not said to be inedible.
- E **Correct.** This statement properly identifies a conclusion supported by the environmentalist's statements: the marine fish are endangered.

The correct answer is E.

96. **Commentator:** The theory of trade retaliation states that countries closed out of any of another country's markets should close some of their own markets to the other country in order to pressure the other country to reopen its markets. If every country acted according to this theory, no country would trade with any other.

The commentator's argument relies on which of the following assumptions?

- (A) No country actually acts according to the theory of trade retaliation.
- (B) No country should block any of its markets to foreign trade.
- (C) Trade disputes should be settled by international tribunal.
- (D) For any two countries, at least one has some market closed to the other.
- (E) Countries close their markets to foreigners to protect domestic producers.

Argument Construction

Situation The theory of trade retaliation is explained as the action and reaction of closing markets between trading nations; no country would ever trade with another, the observation is offered, if every country acted according to the theory.

Reasoning What assumption underlies this argument? What makes the commentator conclude that no country would be trading if the theory were operative? The commentator must perceive of some condition as a given here. The argument assumes an initial action, a country's closing of a market to a trading partner, that is followed by a reaction, the retaliatory closing of a market by that partner. In this unending pattern of action-reaction, at least one of the two countries must have a market closed to the other.

- A Any one country may act according to the theory, but not *every* country.
- B The argument assumes that countries do block markets to foreign trade.
- C An international tribunal is not mentioned in the argument.
- D **Correct.** This statement properly identifies the assumption required to create the never-ending action-reaction pattern.
- E The argument does not discuss the protection of domestic trade.

The correct answer is D.

97. Although parapsychology is often considered a pseudoscience, it is in fact a genuine scientific enterprise, for it uses scientific methods such as controlled experiments and statistical tests of clearly stated hypotheses to examine the questions it raises.

The conclusion above is properly drawn if which of the following is assumed?

- (A) If a field of study can conclusively answer the questions it raises, then it is a genuine science.
- (B) Since parapsychology uses scientific methods, it will produce credible results.
- (C) Any enterprise that does not use controlled experiments and statistical tests is not genuine science.
- (D) Any field of study that employs scientific methods is a genuine scientific enterprise.
- (E) Since parapsychology raises clearly statable questions, they can be tested in controlled experiments.

Argument construction

Situation The argument states that parapsychology is a genuine science because it uses scientific methods.

Reasoning *What assumption does the argument make?* The argument asserts that parapsychology is a science because it uses scientific methods. The argument thus assumes that the use of scientific methods proves that a field of study is a genuine science.

- A The argument is based on an assumption about how the questions are investigated rather than on how well they are answered.
- B The argument is not about whether the results are credible, so this assumption is irrelevant.
- C The argument does not concern what is *not* genuine science, so there is no need for this assumption.
- D **Correct.** This statement properly identifies the argument's assumption that the use of scientific methods is sufficient to make an enterprise genuine science.
- E This assumption about the relation between statable hypotheses and controlled experiments is not necessary to the argument.

The correct answer is D.

98. Hotco oil burners, designed to be used in asphalt plants, are so efficient that Hotco will sell one to the Clifton Asphalt plant for no payment other than the cost savings between the total amount the asphalt plant actually paid for oil using its former burner during the last two years and the total amount it will pay for oil using the Hotco burner during the next two years. On installation, the plant will make an estimated payment, which will be adjusted after two years to equal the actual cost savings.

Which of the following, if it occurred, would constitute a disadvantage for Hotco of the plan described above?

- (A) Another manufacturer's introduction to the market of a similarly efficient burner
- (B) The Clifton Asphalt plant's need for more than one new burner
- (C) Very poor efficiency in the Clifton Asphalt plant's old burner
- (D) A decrease in the demand for asphalt
- (E) A steady increase in the price of oil beginning soon after the new burner is installed

Evaluation of a Plan

Situation Hotco produces a very efficient oil burner. It sells a burner to an asphalt plant, stating that the price of the burner is how much money the plant saves on oil using the new burner.

Reasoning *Hotco will be at a disadvantage if which of the following occurs?* Hotco is to be paid based on how much money the plant saves on oil over a two-year period. There is an assumption that a number of factors will remain relatively stable from the previous two years to the next two years. What is a factor that could cause a disadvantage for Hotco? If the price of oil goes up, then the plant will experience smaller savings than Hotco anticipated, despite the plant's using less oil than previously because of its new, more efficient burners. If the plant's savings go down, Hotco will not get the payment it is expecting.

- A The burner is already installed, so a competitor is not a problem.
- B The plant's need for multiple burners should be an opportunity for Hotco, not a disadvantage.
- C If the old burner was very inefficient, the new burner should save a great deal of money that would ultimately go to Hotco.
- D If demand decreases, less oil would need to be purchased, and Hotco would get more money.
- E **Correct.** This statement properly identifies a factor that would constitute a disadvantage for the plan: since the payment for the burner is based on savings in oil purchases, any increases in the price of oil will decrease savings and thus decrease payments to Hotco.

The correct answer is E.

99. An experiment was done in which human subjects recognize a pattern within a matrix of abstract designs and then select another design that completes that pattern. The results of the experiment were surprising. The lowest expenditure of energy in neurons in the brain was found in those subjects who performed most successfully in the experiments.

Which of the following hypotheses best accounts for the findings of the experiment?

- (A) The neurons of the brain react less when a subject is trying to recognize patterns than when the subject is doing other kinds of reasoning.
- (B) Those who performed best in the experiment experienced more satisfaction when working with abstract patterns than did those who performed less well.
- (C) People who are better at abstract pattern recognition have more energy-efficient neural connections.
- (D) The energy expenditure of the subjects' brains increases when a design that completes the initially recognized pattern is determined.
- (E) The task of completing a given design is more capably performed by athletes, whose energy expenditure is lower when they are at rest.

Argument Construction

Situation Experimental subjects worked with pattern recognition and completion. The subjects who performed best showed the lowest expenditure of energy in neurons in the brain.

Reasoning Which hypothesis best accounts for the findings? In order to account for the findings, the hypothesis must suggest a plausible link between successful performance and the energy expenditure of neurons in the brain. Consider each answer choice, and evaluate its plausibility and logic. Where is there a reasonably direct relationship between the given factors and the conclusion that is drawn? Understand that hypotheses based on factors not included in the experiment cannot be used to account for the findings.

- A The experiment did not compare types of reasoning so this hypothesis does not account for the results.
- B Subjects' satisfaction is not in question in this experiment.
- C **Correct.** This statement properly identifies a hypothesis that connects subjects' performance with their energy expenditure and so could account for the experiment's results.
- D The experiment did not compare energy expenditure in different phases of the experiment.
- E No information is offered on the subjects, so no hypothesis about athletes is warranted.

The correct answer is C.

100. One way to judge the performance of a company is to compare it with other companies. This technique, commonly called "benchmarking," permits the manager of a company to discover better industrial practices and can provide a justification for the adoption of good practices.

Any of the following, if true, is a valid reason for benchmarking the performance of a company against companies with which it is not in competition rather than against competitors EXCEPT:

- (A) Comparisons with competitors are most likely to focus on practices that the manager making the comparisons already employs.
- (B) Getting "inside" information about the unique practices of competitors is particularly difficult.
- (C) Since companies that compete with each other are likely to have comparable levels of efficiency, only benchmarking against noncompetitors is likely to reveal practices that would aid in beating competitors.
- (D) Managers are generally more receptive to new ideas that they find outside their own industry.
- (E) Much of the success of good companies is due to their adoption of practices that take advantage of the special circumstances of their products or markets.

Argument Construction

Situation “Benchmarking” is a technique for judging the performance of a company by comparing it with other companies. The goal is to find and adopt better industrial practices.

Reasoning Which one condition does NOT recommend benchmarking against noncompetitors? Which one condition IS a well-founded reason to benchmark against competitors? First, sort through the given information and the answer choices for the question to gain an understanding of the potential advantages or disadvantages of comparing a company to its competitors or to noncompetitors.

What are the reasons in favor of benchmarking against noncompetitors? Information about noncompeting companies is easier to obtain; it can offer new insights; and it may be easier to put into practice. Why then might a manager choose to benchmark against competitors?

Competing companies do share special circumstances involving products and markets. If companies are often successful because of practices related to these special circumstances within their industry, then benchmarking against competitors will reveal these practices and so be more fruitful than benchmarking against noncompetitors.

- A Since benchmarking against competitors would yield few new practices, it would be better to benchmark against noncompetitors.
- B If information about competitors is hard to obtain, benchmarking against noncompetitors is preferable.
- C Since benchmarking against noncompetitors would yield practices useful in beating competitors, benchmarking against noncompetitors is preferable.
- D If managers are more likely to adopt new practices learned from benchmarking against noncompetitors, then this technique is preferable.
- E **Correct.** This statement properly identifies the rationale that supports a company's benchmarking against its competitors.

The correct answer is E.

101. For a trade embargo against a particular country to succeed, a high degree of both international accord and ability to prevent goods from entering or leaving that country must be sustained. A total blockade of Patria's ports is necessary to an embargo, but such an action would be likely to cause international discord over the embargo.

The claims above, if true, most strongly support which of the following conclusions?

- (A) The balance of opinion is likely to favor Patria in the event of a blockade.
- (B) As long as international opinion is unanimously against Patria, a trade embargo is likely to succeed.
- (C) A naval blockade of Patria's ports would ensure that no goods enter or leave Patria.
- (D) Any trade embargo against Patria would be likely to fail at some time.
- (E) For a blockade of Patria's ports to be successful, international opinion must be unanimous.

Argument Construction

Situation The success of a trade embargo requires both international accord and the ability to enforce the embargo. In the case of Patria, an embargo would require a total blockade of the ports, but the blockade itself would likely lead to international discord.

Reasoning *What conclusion can be drawn from this information?* A conclusion must be based only on the information provided. Since the given information discusses the general conditions for a successful trade embargo and the conditions specific to the possible embargo in Patria, the conclusion should be about the likelihood of success for a trade embargo against Patria. Since international accord is necessary for the success of an embargo but the blockade required in this case would create international discord, the contradictions of this paradoxical situation make any embargo unlikely to succeed.

- A Since no information is given about the balance of opinion, no conclusion about it is justified.
- B This conclusion contradicts the given information, and so it is not justified.
- C This statement simply defines the purpose of a blockade; it is not a conclusion from the information given.
- D **Correct.** This statement properly identifies a conclusion supported by the claims.
- E This statement contradicts the given information and cannot be a justifiable conclusion.

The correct answer is D.

Questions 102–103 are based on the following:

The average life expectancy for the United States population as a whole is 73.9 years, but children born in Hawaii will live an average of 77 years, and those born in Louisiana, 71.7 years. If a newlywed couple from Louisiana were to begin their family in Hawaii, therefore, their children would be expected to live longer than would be the case if the family remained in Louisiana.

102. Which of the following, if true, would most seriously weaken the conclusion drawn in the passage?

- (A) Insurance company statisticians do not believe that moving to Hawaii will significantly lengthen the average Louisianan's life.
- (B) The governor of Louisiana has falsely alleged that statistics for his state are inaccurate.
- (C) The longevity ascribed to Hawaii's current population is attributable mostly to genetically determined factors.
- (D) Thirty percent of all Louisianans can expect to live longer than 77 years.
- (E) Most of the Hawaiian Islands have levels of air pollution well below the national average for the United States.

Argument Evaluation

Situation Because average life expectancy is greater in Hawaii than in Louisiana, it is said that the prospective children of a newlywed Louisiana couple who moved to Hawaii would live longer.

Reasoning *What point weakens the conclusion?* The passage says that people in Hawaii live longer but does not say why they do. If the cause lies largely in the genetic endowment of native Hawaiians, then the couple's hopes for their children are unfounded because their children will inherit their parents' genetic makeup.

- A The argument concerns only people born in Hawaii, not people like the newlywed couple who move there.
- B Since the governor's statement is false, the statistics showing Louisiana's shorter life span remain true; the conclusion is not weakened.
- C **Correct.** This statement properly identifies a point that would weaken the conclusion.
- D The conclusion concerns the average life span of all Louisianans, not 30 percent of them. This 30 percent would be included in the statistical average.
- E The lower levels of pollution may contribute to the longer life span Hawaiians enjoy; thus, this strengthens rather than weakens the conclusion.

The correct answer is C.

103. Which of the following statements, if true, would most significantly strengthen the conclusion drawn in the passage?
- (A) As population density increases in Hawaii, life expectancy figures for that state are likely to be revised downward.
- (B) Environmental factors tending to favor longevity are abundant in Hawaii and less numerous in Louisiana.
- (C) Twenty-five percent of all Louisianans who move to Hawaii live longer than 77 years.
- (D) Over the last decade, average life expectancy has risen at a higher rate for Louisianans than for Hawaiians.
- (E) Studies show that the average life expectancy for Hawaiians who move permanently to Louisiana is roughly equal to that of Hawaiians who remain in Hawaii.

Argument Evaluation

Situation Because average life expectancy is greater in Hawaii than in Louisiana, it is said that the prospective children of a newlywed Louisiana couple who moved to Hawaii would live longer. (The same as the previous item.)

Reasoning *What point strengthens the conclusion?* If the reason that people born in Hawaii live longer may be explained by favorable environmental factors that are absent or infrequent in Louisiana, then the couple's hopes for their children are well founded. All children born in Hawaii benefit from environmental factors that favor longevity, so the children of the Louisiana couple would have a longer life expectancy.

- A The downward trend of life expectancy weakens the conclusion.
- B **Correct.** This statement properly identifies a factor that strengthens the conclusion.
- C The argument is about the average life span; the 25 percent of Louisianans who live longer are irrelevant. This percentage would be included in the statistical average.
- D The rise in life expectancy would be included in the statistics, so that rise still brings the average to 71.7 years.
- E The reverse move—of Hawaiians to Louisiana—is irrelevant to the conclusion.

The correct answer is B.

104. The cost of producing radios in Country Q is 10 percent less than the cost of producing radios in Country Y. Even after transportation fees and tariff charges are added, it is still cheaper for a company to import radios from Country Q to Country Y than to produce radios in Country Y.

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

- (A) Labor costs in Country Q are 10 percent below those in Country Y.
- (B) Importing radios from Country Q to Country Y will eliminate 10 percent of the manufacturing jobs in Country Y.
- (C) The tariff on a radio imported from Country Q to Country Y is less than 10 percent of the cost of manufacturing the radio in Country Y.
- (D) The fee for transporting a radio from Country Q to Country Y is more than 10 percent of the cost of manufacturing the radio in Country Q.
- (E) It takes 10 percent less time to manufacture a radio in Country Q than it does in Country Y.

Argument Construction

Situation One country's manufacturing costs for a product are 10 percent higher than another country's. Even with tariffs and transportation costs, importing is a less expensive option than local production.

Reasoning *What conclusion can be drawn from this information?* Because production costs are 10 percent higher in Country Y than in Country Q, importing radios is less expensive only if the combined costs of tariffs and transportation are less than 10 percent of the manufacturing costs.

- A Lower labor costs may explain the lower production costs in Country Q, but there may be a variety of other reasons as well.
- B It is possible that manufacturing jobs would be decreased, but no evidence in the passage leads to that conclusion.
- C **Correct.** This statement properly identifies the point that, for importing to be less expensive, tariffs and transportation costs together must be less than 10 percent of manufacturing costs. Therefore, tariffs alone must be less than 10 percent.
- D If transportation costs were more than 10 percent, importing would be more expensive, not less.
- E Less production time may explain the lower costs in Country Q, but there may be a variety of other reasons as well.

The correct answer is C.

105. The average normal infant born in the United States weighs between 12 and 14 pounds at the age of three months. Therefore, if a three-month-old child weighs only 10 pounds, its weight gain has been below the United States average.

Which of the following indicates a flaw in the reasoning above?

- (A) Weight is only one measure of normal infant development.
- (B) Some three-month-old children weigh as much as 17 pounds.
- (C) It is possible for a normal child to weigh 10 pounds at birth.
- (D) The phrase “below average” does not necessarily mean insufficient.
- (E) Average weight gain is not the same as average weight.

Argument Evaluation

Situation An infant’s low weight at three months, compared with the national average, shows that the child’s weight gain has not been average.

Reasoning *How is this reasoning flawed?* The conclusion relies on a direct connection between average weight and average weight gain. While the infant’s weight is known to be below average for a three-month-old child, no conclusion can be drawn about this infant’s weight gain. No information is given about average birth weights or average weight gains.

- A The passage does not say that weight is the sole measure of development; this statement fails to point out any error in the reasoning.
- B The greater weight of some infants would be calculated in reaching the average.
- C This birth weight may be consistent with the weight range at three months; not enough information is provided to make a judgment.
- D The passage does not claim that *below average* is the same as *insufficient*, so pointing out the distinction does not show an error in the reasoning.
- E **Correct.** This statement properly identifies the logical flaw in the reasoning, which takes evidence about average weight to draw a conclusion about average weight gain. The two measures are not the same.

The correct answer is E.

106. In the aftermath of a worldwide stock-market crash, Country T claimed that the severity of the stock-market crash it experienced resulted from the accelerated process of denationalization many of its industries underwent shortly before the crash.

Which of the following, if it could be carried out, would be most useful in an evaluation of Country T's assessment of the causes of the severity of its stock-market crash?

- (A) Calculating the average loss experienced by individual traders in Country T during the crash
- (B) Using economic theory to predict the most likely date of the next crash in Country T
- (C) Comparing the total number of shares sold during the worst days of the crash in Country T to the total number of shares sold in Country T just prior to the crash
- (D) Comparing the severity of the crash in Country T to the severity of the crash in countries otherwise economically similar to Country T that have not experienced recent denationalization
- (E) Comparing the long-term effects of the crash on the purchasing power of the currency of Country T to the immediate, more severe short-term effects of the crash on the purchasing power of the currency of Country T

Argument Evaluation

Situation A country attributes the severity of its stock-market crash to the denationalization of its industries shortly before the crash.

Reasoning *How could the country determine whether denationalization caused the severity of the crash?*

Country T concludes that there is one reason for the severity of its crash, denationalization. If Country T can find countries similar economically to itself that also suffered a stock market crash, but that had not denationalized, then it has the basis for a sound comparison. If these countries' crashes were not as severe, then the conclusion is justified. If the countries had crashes as severe or more severe, then the conclusion is not justified. The comparison with economically similar countries that have experienced crashes but had not denationalized should thus provide evidence showing whether denationalization was to blame or not.

- A This method shows only the severity of the loss in Country T; it does nothing to show the cause of the loss.
- B Predicting the date of the next crash does not explain the cause of the current one.
- C Comparing the number of shares sold before and during the crash may show how bad the crash was, but it does not reveal its cause.
- D **Correct.** This statement properly identifies an action that would help assess the cause of the crash.
- E Comparing long- and short-term effects will reveal the severity of the crash rather than the cause of that severity.

The correct answer is D.

107. Kale has more nutritional value than spinach. But since collard greens have more nutritional value than lettuce, it follows that kale has more nutritional value than lettuce.

Any of the following, if introduced into the argument as an additional premise, makes the argument above logically correct EXCEPT:

- (A) Collard greens have more nutritional value than kale.
- (B) Spinach has more nutritional value than lettuce.
- (C) Spinach has more nutritional value than collard greens.
- (D) Spinach and collard greens have the same nutritional value.
- (E) Kale and collard greens have the same nutritional value.

Argument Construction

Situation Using the symbol $>$ to mean “has (or have) more nutritional value than,” this statement can be expressed as $\text{kale} > \text{spinach}$, and $\text{collard greens} > \text{lettuce}$. The conclusion that $\text{kale} > \text{lettuce}$ remains valid if all but one of the premises is added.

Reasoning Which premise makes the conclusion incorrect? The information given in the passage is that $\text{kale} > \text{spinach}$ and that $\text{collard greens} > \text{lettuce}$. This is not enough to conclude that $\text{kale} > \text{lettuce}$; another premise is needed to establish the relative nutritional value of kale and lettuce. Look at each premise offered in the answers to see whether the conclusion $\text{kale} > \text{lettuce}$ remains valid. The ranking of vegetables may change with the additional premises; the conclusion, $\text{kale} > \text{lettuce}$, must not change. Find the one answer that does NOT support the conclusion.

- A **Correct.** This statement properly identifies an additional premise that would invalidate the argument. If $\text{collard greens} > \text{kale}$, then it is possible that $\text{lettuce} > \text{kale}$, because the ranking could be $\text{collard greens} > \text{lettuce} > \text{kale} > \text{spinach}$.
- B If $\text{spinach} > \text{lettuce}$, then $\text{kale} > \text{lettuce}$ because $\text{kale} > \text{spinach}$.
- C If $\text{spinach} > \text{collard greens}$, then $\text{kale} > \text{lettuce}$ because the ranking would then be $\text{kale} > \text{spinach} > \text{collard greens} > \text{lettuce}$.
- D If $\text{spinach} = \text{collard greens}$, then $\text{kale} > \text{lettuce}$ because the ranking would be $\text{kale} > \text{spinach} = \text{collard greens} > \text{lettuce}$.
- E If $\text{kale} = \text{collard greens}$, then $\text{kale} > \text{lettuce}$ because $\text{kale} = \text{collard greens} > \text{lettuce}$.

The correct answer is A.

108. Although custom prosthetic bone replacements produced through a new computer-aided design process will cost more than twice as much as ordinary replacements, custom replacements should still be cost-effective. Not only will surgery and recovery time be reduced, but custom replacements should last longer, thereby reducing the need for further hospital stays.

Which of the following must be studied in order to evaluate the argument presented above?

- (A) The amount of time a patient spends in surgery *versus* the amount of time spent recovering from surgery
- (B) The amount by which the cost of producing custom replacements has declined with the introduction of the new technique for producing them
- (C) The degree to which the use of custom replacements is likely to reduce the need for repeat surgery when compared with the use of ordinary replacements
- (D) The degree to which custom replacements produced with the new technique are more carefully manufactured than are ordinary replacements
- (E) The amount by which custom replacements produced with the new technique will drop in cost as the production procedures become standardized and applicable on a larger scale

Argument Evaluation

Situation Custom prosthetic bone replacements, although twice as expensive as ordinary replacements, should be cost effective because they reduce the time of surgery, recovery, and potential future hospitalizations.

Reasoning *What research study would help in evaluating this argument?* The custom replacements must be compared with the ordinary replacements on the basis of the costs of surgery, recovery, and potential repeat hospitalizations. Repeat surgery involves all three kinds of costs; the extent to which such repeat surgery can be avoided is a sound measure of the cost effectiveness of the two types of replacements.

- A Comparing time in surgery with time in recovery does not lead to a conclusion about the two kinds of replacements and their cost effectiveness.
- B The cost effectiveness of the custom replacements is being projected in the current moment; a previous decline in production costs would already have been taken into account.
- C **Correct.** This statement properly identifies evidence of cost effectiveness that would assist in evaluating the argument.
- D The analysis is about cost effectiveness; it is not about the level of care taken in manufacture.
- E Anticipating a future drop in production costs is outside the scope of the analysis, which should be based on current conditions.

The correct answer is C.

108. Although custom prosthetic bone replacements produced through a new computer-aided design process will cost more than twice as much as ordinary replacements, custom replacements should still be cost-effective. Not only will surgery and recovery time be reduced, but custom replacements should last longer, thereby reducing the need for further hospital stays.

Which of the following must be studied in order to evaluate the argument presented above?

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- (B) The amount by which the cost of producing custom replacements has declined with the introduction of the new technique for producing them
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Argument Evaluation

Situation Custom prosthetic bone replacements, although twice as expensive as ordinary replacements, should be cost effective because they reduce the time of surgery, recovery, and potential future hospitalizations.

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- B The cost effectiveness of the custom replacements is being projected in the current moment; a previous decline in production costs would already have been taken into account.
- C **Correct.** This statement properly identifies evidence of cost effectiveness that would assist in evaluating the argument.
- D The analysis is about cost effectiveness; it is not about the level of care taken in manufacture.
- E Anticipating a future drop in production costs is outside the scope of the analysis, which should be based on current conditions.

The correct answer is C.

110. “Fast cycle time” is a strategy of designing a manufacturing organization to eliminate bottlenecks and delays in production. Not only does it speed up production, but it also ensures quality. The reason is that the bottlenecks and delays cannot be eliminated unless all work is done right the first time.

The claim about quality made above rests on a questionable presupposition that _____.

- (A) any flaw in work on a product would cause a bottleneck or delay and so would be prevented from occurring on a “fast cycle” production line
- (B) the strategy of “fast cycle time” would require fundamental rethinking of product design
- (C) the primary goal of the organization is to produce a product of unexcelled quality, rather than to generate profits for stockholders
- (D) “fast cycle time” could be achieved by shaving time off each of the component processes in a production cycle
- (E) “fast cycle time” is a concept in business strategy that has not yet been put into practice in a factory

Argument Construction

Situation Eliminating production bottlenecks and delays is a strategy that ensures higher quality because all work must be done right the first time.

Reasoning *What questionable assumption is the basis for the claim about ensured quality?* The argument assumes that any problem with a product would cause a bottleneck or a delay in production. It is entirely possible that there might be flaws that might not cause such problems; thus, the assumption is questionable.

- A **Correct.** This statement properly identifies the questionable assumption that all flaws must cause bottlenecks or delays. The assumption is questionable since flaws might well exist without causing such problems.
- B The claim is about the quality of the product, so the assumption must relate to the production of the product; rethinking product design is an unrelated issue.
- C The primary goal of the organization is outside the scope of the claim.
- D The assumption is about the product that is the result of “fast cycle time”; it is not about a specific method for implementing “fast cycle time.”
- E The assumption is about the product; it is not concerned with whether the method has previously been put into practice.

The correct answer is A.

111. Sales of telephones have increased dramatically over the last year. In order to take advantage of this increase, Mammoth Industries plans to expand production of its own model of telephone, while continuing its already very extensive advertising of this product.

Which of the following, if true, provides most support for the view that Mammoth Industries *cannot* increase its sales of telephones by adopting the plan outlined above?

- (A) Although it sells all the telephones that it produces, Mammoth Industries' share of all telephone sales has declined over the last year.
- (B) Mammoth Industries' average inventory of telephones awaiting shipment to retailers has declined slightly over the last year.
- (C) Advertising has made the brand name of Mammoth Industries' telephones widely known, but few consumers know that Mammoth Industries owns this brand.
- (D) Mammoth Industries' telephone is one of three brands of telephone that have together accounted for the bulk of the last year's increase in sales.
- (E) Despite a slight decline in the retail price, sales of Mammoth Industries' telephones have fallen in the last year.

Evaluation of a Plan

Situation A company wants to take advantage of the rising sales of telephones to produce more of its current telephone model and to continue its extensive advertising of the product.

Reasoning *What point suggests that the plan will fail?* The company plans to increase production of its current model. If that product has been successful so far, then expanded production and continued advertising should lead to continued success. Any evidence that the company's product has been failing—at a time when overall product sales are generally increasing—would undermine the anticipated success of a plan to increase sales. Expanding the production of an unsuccessful product will not lead to more of its being sold.

- A If the company is successfully selling all its phones, then a plan to produce more is likely to increase sales. This statement argues for rather than against the plan.
- B The decline in inventory suggests that demand is outpacing production, so producing more telephones is again likely to increase sales.
- C It is irrelevant to the argument that consumers do not know the owner of the brand name.
- D If the sales of its telephone have been successful, then the company's plan to produce more is likely to increase sales. This statement argues for rather than against the plan.
- E **Correct.** This statement properly identifies evidence supporting the view that the plan will NOT succeed.

The correct answer is E.

112. In tests for pironoma, a serious disease, a false positive result indicates that people have pironoma when, in fact, they do not; a false negative result indicates that people do not have pironoma when, in fact, they do. To detect pironoma most accurately, physicians should use the laboratory test that has the lowest proportion of false positive results.

Which of the following, if true, gives the most support to the recommendation above?

- (A) The accepted treatment for pironoma does not have damaging side effects.
- (B) The laboratory test that has the lowest proportion of false positive results causes the same minor side effects as do the other laboratory tests used to detect pironoma.
- (C) In treating pironoma patients, it is essential to begin treatment as early as possible, since even a week of delay can result in loss of life.
- (D) The proportion of inconclusive test results is equal for all laboratory tests used to detect pironoma.
- (E) All laboratory tests to detect pironoma have the same proportion of false negative results.

Argument Construction

Situation Laboratory tests for a serious disease may give false results: either a false positive, which wrongly indicates the presence of the disease when it is absent, or a false negative, which wrongly indicates the absence of the disease when it is present. Accurate testing for the disease should use the one test (of all the laboratory tests) that has the lowest proportion of false positives.

Reasoning *What is the most accurate way to detect the disease?* The given recommendation is to use the test that least often indicates a false positive. What therefore needs to be true about the accuracy of all the laboratory tests? If the proportion of false positives is the determining variable in the choice of the most accurate test, then the different tests for the disease must have the same proportion of false negative results. Thus, the test that leads to the lowest proportion of false positive results must have the fewest false results overall and must give the most accurate results of all the tests.

- A The treatment of the disease is outside the scope of this question about accurate testing.
- B Possible side effects are irrelevant to determining which test is most accurate.
- C The treatment plan is irrelevant to an evaluation of the diagnostic tests.
- D The existence of an equal number of inconclusive results for all tests leaves unanswered the question of which test is most accurate, that is, which test has the fewest false results.
- E **Correct.** This statement properly identifies the fact supporting the recommendation.

The correct answer is E.

113. The difficulty with the proposed high-speed train line is that a used plane can be bought for one-third the price of the train line, and the plane, which is just as fast, can fly anywhere. The train would be a fixed linear system, and we live in a world that is spreading out in all directions and in which consumers choose the free-wheel systems (cars, buses, aircraft), which do not have fixed routes. Thus a sufficient market for the train will not exist.

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

- (A) Cars, buses, and planes require the efforts of drivers and pilots to guide them, whereas the train will be guided mechanically.
- (B) Cars and buses are not nearly as fast as the high-speed train will be.
- (C) Planes are not a free-wheel system because they can fly only between airports, which are less convenient for consumers than the high-speed train's stations would be.
- (D) The high-speed train line cannot use currently underutilized train stations in large cities.
- (E) For long trips, most people prefer to fly rather than to take ground-level transportation.

Argument Evaluation

Situation A free-wheel system of transportation, the airplane, is as fast as a fixed linear system, the high-speed train. Because people prefer free-wheel systems that do not have fixed routes, the high-speed train will never find a sufficient market.

Reasoning: *What is the potential weakness in this argument?* The passage argues that consumers will choose to fly rather than use the high-speed train. The argument is based upon a consumer preference for free-wheel systems over fixed linear systems. The definition of a free-wheel system is one that does *not have fixed routes*. The argument is weakened by any challenge to the definition of flying as a free-wheel transportation system. It is true that airplanes may be able to go almost anywhere, but commercial airlines do establish fixed routes and necessarily must travel to and from airports. Furthermore, if airports are less conveniently located for consumers than are train terminals, consumers might well prefer the more convenient of the two fixed-route alternatives.

- A The method of guidance is irrelevant to the argument.
- B The passage compares the speed and system models of airplanes and high-speed trains. The argument does not incorporate buses and cars, which are included only to give examples of free-wheel systems, and so this statement is irrelevant.
- C **Correct.** This statement properly identifies the weakness in the argument: airplanes are not truly a free-wheel system because they are restricted to traveling between airports. Additionally, airports tend to be less conveniently located than are train terminals, which has further potential to weaken the argument in favor of airplanes.
- D The inability of high-speed trains to use some convenient train stations strengthens, rather than weakens, the argument in favor of airplanes.
- E Consumer preference for air travel over ground travel on long trips strengthens, rather than weakens, the argument in favor of airplanes.

The correct answer is C.

Questions 114–115 are based on the following:

114. According to the Tristate Transportation Authority, making certain improvements to the main commuter rail line would increase ridership dramatically. The authority plans to finance these improvements over the course of five years by raising automobile tolls on the two highway bridges along the route the rail line serves. Although the proposed improvements are indeed needed, the authority's plan for securing the necessary funds should be rejected because it would unfairly force drivers to absorb the entire cost of something from which they receive no benefit.

Which of the following, if true, would cast the most doubt on the effectiveness of the authority's plan to finance the proposed improvements by increasing bridge tolls?

- (A) Before the authority increases tolls on any of the area bridges, it is required by law to hold public hearings at which objections to the proposed increase can be raised.
- (B) Whenever bridge tolls are increased, the authority must pay a private contractor to adjust the automated toll-collecting machines.
- (C) Between the time a proposed toll increase is announced and the time the increase is actually put into effect, many commuters buy more tokens than usual to postpone the effects of the increase.
- (D) When tolls were last increased on the two bridges in question, almost 20 percent of the regular commuter traffic switched to a slightly longer alternative route that has since been improved.
- (E) The chairman of the authority is a member of the Tristate Automobile Club, which has registered strong opposition to the proposed toll increase.

Evaluation of a Plan

Situation A transportation authority plans to pay for improvements to a commuter rail line by raising automobile tolls on the two highway bridges along the route the rail line serves. One objection to this plan is that drivers will have to pay for something from which they will not benefit.

Reasoning *What casts doubt on how well the financing plan would work? Any financing plan is based on estimates of costs and revenues, and any factor that significantly increases costs or lowers revenues threatens the effectiveness of that plan. The authority's plan makes a revenue projection based on the current number of drivers who use the bridges and thus will pay the increased tolls. If there is a precedent that a significant percentage of regular commuters had previously used an alternate route in order to avoid the increased tolls on these specific bridges, then the revenue basis for the financing plan is considerably undermined. If that substitute route has since become an even more appealing alternative, the effectiveness of the plan is further threatened.*

- A Objections to the plan at public hearings do not affect how well the financing plan will work.
- B The one-time costs of changing the automatic toll-collectors would not be significant given the five years of revenue from the increased tolls.
- C Revenue lost to token hoarding is insignificant compared to the revenue gained from five years of increased tolls.
- D **Correct.** This statement properly identifies a factor that weakens the authority's financing plan.
- E Opposition to the increased toll can be expected; it does not mean that the plan will be less effective.

The correct answer is D.

115. Which of the following, if true, would provide the authority with the strongest counter to the objection that its plan is unfair?
- Even with the proposed toll increase, the average bridge toll in the tristate region would remain less than the tolls charged in neighboring states.
 - Any attempt to finance the improvements by raising rail fares would result in a decrease in ridership and so would be self-defeating.
 - Automobile commuters benefit from well-maintained bridges, and in the tristate region bridge maintenance is funded out of general income tax revenues to which both automobile and rail commuters contribute.
 - The roads along the route served by the rail line are highly congested and drivers benefit when commuters are diverted from congested roadways to mass transit.
 - The only alternative way of funding the proposed improvements now being considered is through a regional income tax surcharge, which would affect automobile commuters and rail commuters alike.

Evaluation of a Plan

Situation A transportation authority plans to pay for improvements to a commuter rail line by raising automobile tolls on the two highway bridges along the route the rail line serves. One objection to this plan is that drivers will have to pay for something from which they will not benefit. (The same as the previous item.)

Reasoning *What is the best rebuttal to the charge of unfairness?* It is objected that the drivers pay the increased toll but receive no benefit. The best way for the authority to answer this objection is to point out a way that drivers do benefit. Because some people will choose the train instead of the car, traffic congestion will decrease.

- The relatively low toll shows merely that these drivers are not paying as much as their counterparts in neighboring states.
- Showing that this particular alternative approach would not work does not counter the argument that the drivers receive no benefit.
- This alternate plan does not show that the bridge toll is fair.
- Correct.** This statement properly identifies the rebuttal to the allegations of unfairness: improving traffic congestion is a significant benefit for drivers.
- This alternative plan distributes the cost among a wider group of people, but it does not answer the objection that the bridge toll is unfair to drivers.

The correct answer is D.

116. The pharmaceutical industry argues that because new drugs will not be developed unless heavy development costs can be recouped in later sales, the current 20 years of protection provided by patents should be extended in the case of newly developed drugs. However, in other industries new-product development continues despite high development costs, a fact that indicates that the extension is unnecessary.

Which of the following, if true, most strongly supports the pharmaceutical industry's argument against the challenge made above?

- (A) No industries other than the pharmaceutical industry have asked for an extension of the 20-year limit on patent protection.
- (B) Clinical trials of new drugs, which occur after the patent is granted and before the new drug can be marketed, often now take as long as 10 years to complete.
- (C) There are several industries in which the ratio of research and development costs to revenues is higher than it is in the pharmaceutical industry.
- (D) An existing patent for a drug does not legally prevent pharmaceutical companies from bringing to market alternative drugs, provided they are sufficiently dissimilar to the patented drug.
- (E) Much recent industrial innovation has occurred in products—for example, in the computer and electronics industries—for which patent protection is often very ineffective.

Argument Evaluation

Situation The pharmaceutical industry argues for longer patents for new drugs to offset high development costs, claiming that no new drugs can be developed profitably otherwise. Its critics argue that the patent extension is unnecessary because other industries with high development costs keep developing new products.

Reasoning *How can the pharmaceutical industry best answer the challenge concerning other industries?* The pharmaceutical industry must explain how it differs from other industries. Unlike other industries, it must wait for clinical trials of new drugs before those drugs can be marketed. The clinical trials may take half the patent period, so the pharmaceutical industry may have only half the time allowed to other industries to market new products and recover development costs.

- A Other industries' failure to ask for the same extension does not justify the pharmaceutical industry's request.
- B **Correct.** This statement properly identifies evidence that supports the pharmaceutical industry's argument.
- C Pointing out that other industries may have even higher ratios of costs to revenues weakens the pharmaceutical industry's argument.
- D If alternative drugs can rival a patented drug, then the extended patent protection the pharmaceutical industry seeks would appear to be useless.
- E Innovation's effects on patent protection in other industries do not explain why the pharmaceutical industry needs longer patent protection.

The correct answer is B.

117. Caterpillars of all species produce an identical hormone called "juvenile hormone" that maintains feeding behavior. Only when a caterpillar has grown to the right size for pupation to take place does a special enzyme halt the production of juvenile hormone. This enzyme can be synthesized and will, on being ingested by immature caterpillars, kill them by stopping them from feeding.

Which of the following, if true, most strongly supports the view that it would NOT be advisable to try to eradicate agricultural pests that go through a caterpillar stage by spraying croplands with the enzyme mentioned above?

- (A) Most species of caterpillar are subject to some natural predation.
- (B) Many agricultural pests do not go through a caterpillar stage.
- (C) Many agriculturally beneficial insects go through a caterpillar stage.
- (D) Since caterpillars of different species emerge at different times, several sprayings would be necessary.
- (E) Although the enzyme has been synthesized in the laboratory, no large-scale production facilities exist as yet.

Argument Evaluation

Situation The feeding behavior of immature caterpillars of all species is regulated by the "juvenile hormone"; an enzyme stops the production of this hormone when the caterpillars have reached an appropriate level of growth. At any earlier stage, ingesting this enzyme, which can be produced synthetically, kills the immature caterpillars because they stop feeding. It can then be argued that it is unwise to spray croplands with this enzyme to eradicate agricultural pests that undergo a caterpillar stage.

Reasoning *What evidence strengthens the argument that the synthetic enzyme should NOT be sprayed on croplands?* Spraying the enzyme will kill all insects that go through a caterpillar stage. If the goal is to eradicate insect pests by killing them at the caterpillar stage, why is this spraying inadvisable? The relationship between crops and insects is complicated; while some insects harm crops, others benefit them. If the spraying kills all susceptible insects, regardless of whether they harm or help the crops, it can also destroy agriculturally beneficial insects. This is a good reason to conclude that spraying is not advisable.

- A Spraying would eradicate all pests that go through a caterpillar stage and so is more effective than natural predators would be. This statement provides no reason not to spray.
- B Spraying affects only those agricultural pests that do go through a caterpillar stage, so this statement is irrelevant.
- C **Correct.** This statement properly identifies evidence that strengthens the argument against doing such spraying.
- D The need to spray repeatedly does not mean that spraying is inadvisable, but simply that the process will be more complicated.
- E The lack of production facilities for the synthetic hormone does not mean that the spraying is inadvisable.

The correct answer is C.

118. Firms adopting “profit-related-pay” (PRP) contracts pay wages at levels that vary with the firm’s profits. In the metalworking industry last year, firms with PRP contracts in place showed productivity per worker on average 13 percent higher than that of their competitors who used more traditional contracts.

If, on the basis of the evidence above, it is argued that PRP contracts increase worker productivity, which of the following, if true, would most seriously weaken that argument?

- (A) Results similar to those cited for the metalworking industry have been found in other industries where PRP contracts are used.
- (B) Under PRP contracts costs other than labor costs, such as plant, machinery, and energy, make up an increased proportion of the total cost of each unit of output.
- (C) Because introducing PRP contracts greatly changes individual workers’ relationships to the firm, negotiating the introduction of PRP contracts is complex and time-consuming.
- (D) Many firms in the metalworking industry have modernized production equipment in the last five years, and most of these introduced PRP contracts at the same time.
- (E) In firms in the metalworking industry where PRP contracts are in place, the average take-home pay is 15 percent higher than it is in those firms where workers have more traditional contracts.

Argument Evaluation

Situation Last year, firms using profit-related-pay (PRP) contracts found that productivity per worker increased significantly as compared to firms that used traditional wage contracts.

Reasoning What point weakens the argument that PRP contracts increase productivity? The argument directly attributes increased productivity to the existence of PRP contracts. Any information that other factors might have contributed to the increase in productivity would weaken the argument. If production equipment was modernized during the same period that the new contracts took effect, then it is possible that the modernized equipment was responsible for the higher level of productivity.

- A Similar findings in other industries strengthen rather than weaken the argument.
- B If workers are more productive, labor costs are a smaller proportion of total costs and nonlabor costs are a greater proportion. This point does not weaken the argument.
- C The difficulty of negotiating the contracts is irrelevant to a conclusion about what happens once the contracts are in place.
- D Correct.** This statement properly identifies information that weakens the argument.
- E The higher pay of workers on PRP contracts is consistent with their higher productivity. This statement does not weaken the argument.

The correct answer is D.

119. Adult female rats who have never before encountered rat pups will start to show maternal behaviors after being confined with a pup for about seven days. This period can be considerably shortened by disabling the female's sense of smell or by removing the scent-producing glands of the pup.

Which of the following hypotheses best explains the contrast described above?

- (A) The sense of smell in adult female rats is more acute than that in rat pups.
- (B) The amount of scent produced by rat pups increases when they are in the presence of a female rat that did not bear them.
- (C) Female rats that have given birth are more affected by olfactory cues than are female rats that have never given birth.
- (D) A female rat that has given birth shows maternal behavior toward rat pups that she did not bear more quickly than does a female rat that has never given birth.
- (E) The development of a female rat's maternal interest in a rat pup that she did not bear is inhibited by the odor of the pup.

Argument Construction

Situation Adult female rats having no previous familiarity with rat pups, that is, those that have never given birth to pups, display maternal behavior after seven days. Disabling the female's sense of smell or removing the scent-producing glands of the pups shortens this time period considerably.

Reasoning What might explain the shorter time period after this intervention? The scent of the pups is clearly the issue. When this scent is absent from the interaction, either by making the females unable to smell it or making the pups unable to produce it, the females display maternal behavior more quickly.

- A Pointing to the difference between the sense of smell in the adult females and in the pups does not explain why the females without a sense of smell accept pups more quickly.
- B The greater amount of scent the pups produce does not reveal why removing the scent glands allows the females to display maternal behaviors more quickly.
- C The experiment concerns only those females that have not given birth, so the contrast with those that have is irrelevant.
- D The speed with which adult females that have given birth accept pups that are not their own is irrelevant to an experiment involving only females that have not given birth.
- E **Correct.** This statement properly identifies a hypothesis that explains the shorter time period for the female's acceptance of the pup.

The correct answer is E.

120. The proposal to hire 10 new police officers in Middletown is quite foolish. There is sufficient funding to pay the salaries of the new officers, but not the salaries of additional court and prison employees to process the increased caseload of arrests and convictions that new officers usually generate.

Which of the following, if true, will most seriously weaken the conclusion drawn above?

- (A) Studies have shown that an increase in a city's police force does not necessarily reduce crime.
- (B) When one major city increased its police force by 19 percent last year, there were 40 percent more arrests and 13 percent more convictions.
- (C) If funding for the new police officers' salaries is approved, support for other city services will have to be reduced during the next fiscal year.
- (D) In most United States cities, not all arrests result in convictions, and not all convictions result in prison terms.
- (E) Middletown's ratio of police officers to citizens has reached a level at which an increase in the number of officers will have a deterrent effect on crime.

Evaluation of a Plan

Situation A proposal to hire new police officers is dismissed as foolish because there is not enough funding to cover the salaries of the increased support staff necessary when arrests and convictions go up.

Reasoning *What evidence weakens the conclusion that hiring new officers will increase costs for support staff?* The conclusion is based on the argument that hiring new officers usually increases the caseload, which in turn increases the need for court and prison support staff. Under what circumstances might this not be true? What if an increase in the number of officers will bring the ratio of police officers to citizens to the level known to *deter* crime from occurring in the first place? Less crime means fewer arrests and convictions overall, and so no additional funding for court and prison support staff should be necessary.

- A If crime is not reduced, then arrests and convictions will remain the same or possibly go up; this statement does not weaken the conclusion.
- B The example supports the argument rather than weakening its conclusion.
- C Tight funding supports the argument's claim that it will be difficult or impossible to fund salaries of support staff.
- D This generalization is as true of Middletown as it is of any other American city, but it only states the obvious and does not weaken the conclusion about increased caseloads for the courts.
- E **Correct.** This statement properly identifies a point that weakens the conclusion.

The correct answer is E.

121. Northern Air has dozens of flights daily into and out of Belleville Airport, which is highly congested. Northern Air depends for its success on economy and quick turnaround and consequently is planning to replace its large planes with Skybuses, the novel aerodynamic design of which is extremely fuel efficient. The Skybus' fuel efficiency results in both lower fuel costs and reduced time spent refueling.

Which of the following, if true, could present the most serious disadvantage for Northern Air in replacing their large planes with Skybuses?

- (A) The Skybus would enable Northern Air to schedule direct flights to destinations that currently require stops for refueling.
- (B) Aviation fuel is projected to decline in price over the next several years.
- (C) The fuel efficiency of the Skybus would enable Northern Air to eliminate refueling at some of its destinations, but several mechanics would lose their jobs.
- (D) None of Northern Air's competitors that use Belleville Airport are considering buying Skybuses.
- (E) The aerodynamic design of the Skybus causes turbulence behind it when taking off that forces other planes on the runway to delay their takeoffs.

Evaluation of a Plan

Situation An airline flies in and out of a highly congested airport many times a day. Because the airline's success depends on low costs and quick turnaround, it plans to replace its current planes with Skybuses, the more fuel-efficient design of which will reduce both fuel costs and the time spent refueling.

Reasoning *What could be the plan's most serious disadvantage?* Since it is given that the Skybuses provide fuel economy and quicker refueling, what could be a disadvantage of the proposed plan? What if the use of the particular aircraft somehow contributed to the congestion at the busy airport or caused slower turnaround? While the Skybus' design promotes fuel economy, if it also creates turbulence on takeoff, the turbulence would then delay the takeoffs of any other planes. Since the airport is congested and the airline flies through it many times a day, such takeoff delays would ultimately impede Northern Air's turnaround time, as well as its success.

- A The ability to schedule direct flights would be an advantage, not a disadvantage.
- B The decline in aviation fuel might make the plan seem less pressing, but lower fuel costs would not diminish the advantage of fuel-efficient planes.
- C The ability to eliminate refueling is an advantage to the airline, and the loss of jobs is a disadvantage to the mechanics rather than to the airline.
- D The decisions made by other airlines are irrelevant to the plan.
- E **Correct.** This statement properly identifies a potentially serious disadvantage to the plan.

The correct answer is E.

122. The earliest Mayan pottery found at Colha, in Belize, is about 3,000 years old. Recently, however, 4,500-year-old stone agricultural implements were unearthed at Colha. These implements resemble Mayan stone implements of a much later period, also found at Colha. Moreover, the implements' designs are strikingly different from the designs of stone implements produced by other cultures known to have inhabited the area in prehistoric times. Therefore, there were surely Mayan settlements in Colha 4,500 years ago.

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

- (A) Ceramic ware is not known to have been used by the Mayan people to make agricultural implements.
- (B) Carbon dating of corn pollen in Colha indicates that agriculture began there around 4,500 years ago.
- (C) Archaeological evidence indicates that some of the oldest stone implements found at Colha were used to cut away vegetation after controlled burning of trees to open areas of swampland for cultivation.
- (D) Successor cultures at a given site often adopt the style of agricultural implements used by earlier inhabitants of the same site.
- (E) Many religious and social institutions of the Mayan people who inhabited Colha 3,000 years ago relied on a highly developed system of agricultural symbols.

Argument Evaluation

Situation Recently, 4,500-year-old stone agricultural implements have been found in Colha, a location where 3,000-year old Mayan pottery had previously been found. The implements resemble other Mayan implements of a much later time that were also found in Colha, and they are unlike the implements used by other local cultures in prehistoric times. These recently discovered implements thus prove that Mayan culture was established in Colha 4,500 years ago.

Reasoning *Which point weakens the argument?* First, identify the underlying assumption. The argument assumes the distinctive 4,500-year-old implements must be Mayan because they are similar to implements the Mayans are known to have used there much later. What if there is another reason for the similarity? What if a culture that comes to an occupied site tends to adapt its implements to the style of the resident culture's implements? In that case, the Mayans could have come to the occupied community of Colha at some later point, and the later Mayan agricultural tools could be copies of the earlier culture's tools.

- A The argument does not suggest that the Mayans used ceramics for implements, so this point does not weaken the argument; it is irrelevant to it.
- B Since the point of the argument is who, specifically, established a settlement in Colha 4,500 years ago, merely pointing out the settlement's existence does not weaken or strengthen the argument.
- C Discovering how the implements were used does not explain who was using them, so this information is not relevant to the conclusion and thus does not weaken the argument.
- D **Correct.** This statement properly identifies the weakness in the argument that the similarity between the 4,500-year-old implements and the later Mayan implements may be attributed to the Mayans' adopting the style of implements used earlier by another culture.
- E The Mayans' *highly developed* system of agricultural symbols 3,000 years ago suggests the culture is even older, which tends to support, rather than weaken, the argument.

The correct answer is D.

123. Codex Berinensis, a Florentine copy of an ancient Roman medical treatise, is undated but contains clues to when it was produced. Its first 80 pages are by a single copyist, but the remaining 20 pages are by three different copyists, which indicates some significant disruption. Since a letter in handwriting identified as that of the fourth copyist mentions a plague that killed many people in Florence in 1148, Codex Berinensis was probably produced in that year.

Which of the following, if true, most strongly supports the hypothesis that Codex Berinensis was produced in 1148?

- (A) Other than Codex Berinensis, there are no known samples of the handwriting of the first three copyists.
- (B) According to the account by the fourth copyist, the plague went on for 10 months.
- (C) A scribe would be able to copy a page of text the size and style of Codex Berinensis in a day.
- (D) There was only one outbreak of plague in Florence in the 1100's.
- (E) The number of pages of Codex Berinensis produced by a single scribe becomes smaller with each successive change of copyist.

Argument Evaluation

Situation The Florentine copy of an ancient Roman work is undated but provides clues as to the time it was produced. The first 80 pages of Codex Berinensis are the work of one copyist. The fact that the last 20 pages are the work of a succession of three different copyists is an indication of serious turmoil at the time the copying was done. Since a letter in the fourth copyist's handwriting reveals that a plague killed many people there in 1148, Codex Berinensis was probably produced in that year.

Reasoning Which information supports the hypothesis dating the Codex to 1148? Consider the basis of the hypothesis: the succession of copyists indicating the work was significantly disrupted, and the fourth copyist's letter indicating the plague of 1148 caused serious loss of life. From this it is argued that the plague of 1148 was the reason for the multiple copyists and that the work can thus be dated to that year. What if there were multiple plagues? In that case, Codex Berinensis could have been produced at another time. If instead only one plague occurred in the 1100's, the elimination of that possibility supports the hypothesis that the work was done in 1148.

- A Examples of the copyists' handwriting might help date Codex Berinensis; the absence of handwriting samples does not help support 1148 as the date.
- B The length of the plague, while it may account for the succession of copyists, does not help support the particular year the work was done.
- C The amount of work a copyist could achieve each day does not provide any information about the year the work appeared.
- D **Correct.** This statement properly identifies a circumstance that supports the hypothesis.
- E The productivity or tenure of the various copyists is irrelevant to establishing the date.

The correct answer is D.

124. Outsourcing is the practice of obtaining from an independent supplier a product or service that a company has previously provided for itself. Since a company's chief objective is to realize the highest possible year-end profits, any product or service that can be obtained from an independent supplier for less than it would cost the company to provide the product or service on its own should be outsourced.

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

- (A) If a company decides to use independent suppliers for a product, it can generally exploit the vigorous competition arising among several firms that are interested in supplying that product.
- (B) Successful outsourcing requires a company to provide its suppliers with information about its products and plans that can fall into the hands of its competitors and give them a business advantage.
- (C) Certain tasks, such as processing a company's payroll, are commonly outsourced, whereas others, such as handling the company's core business, are not.
- (D) For a company to provide a product or service for itself as efficiently as an independent supplier can provide it, the managers involved need to be as expert in the area of that product or service as the people in charge of that product or service at an independent supplier are.
- (E) When a company decides to use an independent supplier for a product or service, the independent supplier sometimes hires members of the company's staff who formerly made the product or provided the service that the independent supplier now supplies.

Argument Evaluation

Situation In order to realize the highest year-end profits, a company should outsource any service or product that can be obtained from an independent supplier for less than it would cost the company to provide that service or product itself.

Reasoning *What weakens this argument?* When could outsourcing a service or product result in a business disadvantage or lower profits? It is clear that the company must give independent suppliers enough information to enable them to provide the contracted products and services, but this means that the company can lose control over who has possession of such critical information. If the information becomes known to the company's competitors and gives them a business advantage, the company's profitability may be harmed rather than helped by outsourcing. This possibility weakens the argument.

- A This would strengthen the argument since the pricing competition among independent suppliers is an advantage for the company.
- B **Correct.** This statement properly identifies one disadvantage of outsourcing: the company no longer controls access to its information and plans. With the increased possibility of competitors' gaining access to its proprietary information, the company's business is put at risk.
- C Providing examples of the tasks typically outsourced or handled internally does not affect the argument.
- D Expertise in a particular area is an advantage of outsourcing and thus a strength of the argument.
- E The supplier's hiring of members of the company's staff to handle work no longer performed within the company is not shown to be a disadvantage.

The correct answer is B.