



## SECTION III

Time—35 minutes

27 Questions

**Directions:** Each passage in this section is followed by a group of questions to be answered on the basis of what is stated or implied in the passage. For some of the questions, more than one of the choices could conceivably answer the question. However, you are to choose the best answer; that is, the response that most accurately and completely answers the question, and blacken the corresponding space on your answer sheet.

A major tenet of the neurosciences has been that all neurons (nerve cells) in the brains of vertebrate animals are formed early in development. An adult vertebrate, it was believed, must make do with a

(5) fixed number of neurons: those lost through disease or injury are not replaced, and adult learning takes place not through generation of new cells but through modification of connections among existing ones.

- (10) However, new evidence for neurogenesis (the birth of new neurons) has come from the study of canary song. Young canaries and other songbirds learn to sing much as humans learn to speak, by imitating models provided by their elders. Several
- (15) weeks after birth, a young bird produces its first rudimentary attempts at singing; over the next few months the song becomes more structured and stable, reaching a fully developed state by the time the bird approaches its first breeding season. But
- (20) this repertoire of song is not permanently learned. After each breeding season, during late summer and fall, the bird loses mastery of its developed “vocabulary,” and its song becomes as unstable as that of a juvenile bird. During the following winter
- (25) and spring, however, the canary acquires new songs, and by the next breeding season it has developed an entirely new repertoire.

- Recent neurological research into this learning and relearning process has shown that the two most
- (30) important regions of the canary’s brain related to the learning of songs actually vary in size at different times of the year. In the spring, when the bird’s song is highly developed and uniform, the regions are roughly twice as large as they are in the
- (35) fall. Further experiments tracing individual nerve cells within these regions have shown that the number of neurons drops by about 38 percent after the breeding season, but by the following breeding season, new ones have been generated to replace
- (40) them. A possible explanation for this continual replacement of nerve cells may have to do with the canary’s relatively long life span and the requirements of flight. Its brain would have to be substantially larger and heavier than might be
- (45) feasible for flying if it had to carry all the brain cells needed to process and retain all the information gathered over a lifetime.

- Although the idea of neurogenesis in the adult mammalian brain is still not generally accepted,
- (50) these findings might help uncover a mechanism that

- would enable the human brain to repair itself through neurogenesis. Whether such replacement of neurons would disrupt complex learning processes or long-term memory is not known, but
- (55) songbird research challenges scientists to identify the genes or hormones that orchestrate neurogenesis in the young human brain and to learn how to activate them in the adult brain.

1. Which one of the following best expresses the main idea of the passage?
- (A) New evidence of neurogenesis in canaries challenges an established neurological theory concerning brain cells in vertebrates and suggests the possibility that human brains may repair themselves.
- (B) The brains of canaries differ from the brains of other vertebrate animals in that the brains of adult canaries are able to generate neurons.
- (C) Recent studies of neurogenesis in canaries, building on established theories of vertebrate neurology, provide important clues as to why researchers are not likely to discover neurogenesis in adult humans.
- (D) Recent research into neurogenesis in canaries refutes a long-held belief about the limited supply of brain cells and provides new information about neurogenesis in the adult human brain.
- (E) New information about neurogenesis in canaries challenges older hypotheses and clarifies the importance of the yearly cycle in learning processes and neurological replacement among vertebrates.

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2. According to the passage, which one of the following is true of the typical adult canary during the late summer and fall?
  - (A) The canary's song repertoire takes on a fully structured and stable quality.
  - (B) A process of neurogenesis replaces the song-learning neurons that were lost during the preceding months.
  - (C) The canary begins to learn an entirely new repertoire of songs based on the models of other canaries.
  - (D) The regions in the canary's brain that are central to the learning of song decrease in size.
  - (E) The canary performs slightly modified versions of the songs it learned during the preceding breeding season.
3. Information in the passage suggests that the author would most likely regard which one of the following as LEAST important in future research on neurogenesis in humans?
  - (A) research on possible similarities between the neurological structures of humans and canaries
  - (B) studies that compare the ratio of brain weight to body weight in canaries to that in humans
  - (C) neurological research on the genes or hormones that activate neurogenesis in the brain of human infants
  - (D) studies about the ways in which long-term memory functions in the human brain
  - (E) research concerning the processes by which humans learn complicated tasks
4. Which one of the following, if true, would most seriously undermine the explanation proposed by the author in the third paragraph?
  - (A) A number of songbird species related to the canary have a shorter life span than the canary and do not experience neurogenesis.
  - (B) The brain size of several types of airborne birds with life spans similar to those of canaries has been shown to vary according to a two-year cycle of neurogenesis.
  - (C) Several species of airborne birds similar to canaries in size are known to have brains that are substantially heavier than the canary's brain.
  - (D) Individual canaries that have larger-than-average repertoires of songs tend to have better developed muscles for flying.
  - (E) Individual canaries with smaller and lighter brains than the average tend to retain a smaller-than-average repertoire of songs.
5. The use of the word "vocabulary" (line 23) serves primarily to
  - (A) demonstrate the presence of a rudimentary grammatical structure in canary song
  - (B) point out a similarity between the patterned groupings of sounds in a canary's song and the syllabic structures of words
  - (C) stress the stability and uniformity of the canary's song throughout its lifetime
  - (D) suggest a similarity between the possession of a repertoire of words among humans and a repertoire of songs among canaries
  - (E) imply that the complexity of the canary's song repertoire is equal to that of human language
6. According to the passage, which one of the following factors may help account for the occurrence of neurogenesis in canaries?
  - (A) the life span of the average canary
  - (B) the process by which canaries learn songs
  - (C) the frequency of canary breeding seasons
  - (D) the number of regions in the canary brain related to song learning
  - (E) the amount of time an average canary needs to learn a repertoire of songs
7. Which one of the following best describes the organization of the third paragraph?
  - (A) A theory is presented, analyzed, and modified, and a justification for the modification is offered.
  - (B) Research results are advanced and reconciled with results from other studies, and a shared principle is described.
  - (C) Research results are presented, further details are provided, and a hypothesis is offered to explain the results.
  - (D) Research findings are described, their implications are explained, and an application to a related field is proposed.
  - (E) Research results are reported, their significance is clarified, and they are reconciled with previously established neurological tenets.
8. It can be inferred from the passage that the author would most likely describe the current understanding of neurogenesis as
  - (A) exhaustive
  - (B) progressive
  - (C) incomplete
  - (D) antiquated
  - (E) incorrect

For too many years scholars of African American history focused on the harm done by slaveholders and by the institution of slavery, rather than on what Africans in the United States were

- (5) able to accomplish despite the effects of that institution. In *Myne Owne Ground*, T. H. Breen and Stephen Innes contribute significantly to a recent, welcome shift from a white-centered to a black-centered inquiry into the role of African Americans in the American colonial period. Breen and Innes focus not on slaves, but on a small group of freed indentured servants in Northampton County (in the Chesapeake Bay region of Virginia) who, according to the authors, maintained their freedom, secured
- (10) property, and interacted with persons of different races and economic standing from 1620 through the 1670s. African Americans living on the Chesapeake were to some extent disadvantaged, say Breen and Innes, but this did not preclude the attainment of
- (20) status roughly equal to that of certain white planters of the area. Continuously acting within black social networks, and forming economic relationships with white planters, local Native Americans, indentured servants, and white settlers outside the gentry class,
- (25) the free African Americans of Northampton County held their own in the rough-hewn world of Chesapeake Bay.

The authors emphasize that in this early period, when the percentage of African Americans in any

- (30) given Chesapeake county was still no more than 10 percent of the population, very little was predetermined so far as racial status or race relations were concerned. By schooling themselves in the local legal process and by working
- (35) prodigiously on the land, African Americans acquired property, established families, and warded off contentious white neighbors. Breen and Innes do acknowledge that political power on the Chesapeake was asymmetrically distributed among
- (40) black and white residents. However, they underemphasize much evidence that customary law, only gradually embodied in statutory law, was closing in on free African Americans well before the 1670s: during the 1660s, when the proportion
- (45) of African Americans in Virginia increased dramatically, Virginia tightened a law regulating interracial relations (1662) and enacted a statute prohibiting baptism from altering slave status (1667). Anthony Johnson, a leader in the
- (50) community of free African Americans in the Chesapeake Bay region, sold the land he had cultivated for more than twenty years and moved north with his family around 1665, an action that the authors attribute to a search for “fresh, more
- (55) productive land.” But the answer to why the Johnsons left that area where they had labored so long may lie in their realization that their white neighbors were already beginning the transition from a largely white indentured labor force to
- (60) reliance on a largely black slave labor force, and that the institution of slavery was threatening their descendants’ chances for freedom and success in Virginia.

9. The author of the passage objects to many scholarly studies of African American history for which one of the following reasons?

- (A) Their emphases have been on statutory law rather than on customary law.
- (B) They have ignored specific historical situations and personages in favor of broad interpretations.
- (C) They have focused on the least eventful periods in African American history.
- (D) They have underemphasized the economic system that was the basis of the institution of slavery.
- (E) They have failed to focus to a sufficient extent on the achievements of African Americans.

10. Which one of the following can be inferred from the passage concerning the relationship between the African American population and the law in the Chesapeake Bay region of Virginia between 1650 and 1670?

- (A) The laws affecting black citizens were embodied in statutes much more gradually than were laws affecting white citizens.
- (B) As the percentage of black citizens in the population grew, the legal restrictions placed on them also increased.
- (C) Because of discriminatory laws, black farmers suffered more economic setbacks than did white farmers.
- (D) Because of legal constraints on hiring indentured servants, black farmers faced a chronic labor shortage on their farms.
- (E) The adherence to customary law was more rigid in regions with relatively large numbers of free black citizens.

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11. The author of the passage most probably refers to Anthony Johnson and his family in order to
- (A) provide a specific example of the potential shortcomings of Breen and Innes's interpretation of historical events
  - (B) provide a specific example of relevant data overlooked by Breen and Innes in their discussion of historical events
  - (C) provide a specific example of data that Breen and Innes might profitably have used in proving their thesis
  - (D) argue that the standard interpretation of historical events is superior to Breen and Innes's revisionist interpretation
  - (E) argue that a new historiographical method is needed to provide a full and coherent reading of historical events
12. The attitude of the author of the passage toward Breen and Innes's study can best be described as one of
- (A) condescending dismissal
  - (B) wholehearted acceptance
  - (C) contentious challenge
  - (D) qualified approval
  - (E) sincere puzzlement
13. The primary purpose of the passage is to
- (A) summarize previous interpretations
  - (B) advocate a new approach
  - (C) propose and then illustrate a thesis
  - (D) present and evaluate an interpretation
  - (E) describe a historical event

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- Late-nineteenth-century books about the French artist Watteau (1684–1721) betray a curious blind spot: more than any single artist before or since, Watteau provided his age with an influential image of itself, and nineteenth-century writers accepted this image as genuine. This was largely due to the enterprise of Watteau’s friends who, soon after his death, organized the printing of engraved reproductions of the great bulk of his work—both his paintings and his drawings—so that Watteau’s total artistic output became and continued to be more accessible than that of any other artist until the twentieth-century advent of art monographs illustrated with photographs. These engravings presented aristocratic (and would-be aristocratic) eighteenth-century French society with an image of itself that was highly acceptable and widely imitated by other artists, however little relationship that image bore to reality. By 1884, the bicentenary of Watteau’s birth, it was standard practice for biographers to refer to him as “the personification of the witty and amiable eighteenth century.”

- In fact, Watteau saw little enough of that “witty and amiable” century for which so much nostalgia was generally felt between about 1870 and 1920, a period during which enthusiasm for the artist reached its peak. The eighteenth century’s first decades, the period of his artistic activity, were fairly calamitous ones. During his short life, France was almost continually at war: his native region was overrun with foreign troops, and Paris was threatened by siege and by a rampaging army rabble. The dreadful winter of 1709, the year of Watteau’s first Paris successes, was marked by military defeat and a disastrous famine.

- Most of Watteau’s nineteenth-century admirers simply ignored the grim background of the works they found so lyrical and charming. Those who took the inconvenient historical facts into consideration did so only in order to refute the widely held deterministic view that the content and style of an artist’s work were absolutely dictated by heredity and environment. (For Watteau admirers, such determinism was unthinkable: the artist was born in a Flemish town only six years after it first became part of France, yet Watteau was quintessentially French. As one patriotic French biographer put it, “In Dresden, Potsdam, and Berlin I have never come across a Watteau without feeling refreshed by a breath of native air.”) Even such writers, however, persisted in according Watteau’s canvases a privileged status as representative “personifications” of the eighteenth century. The discrepancy between historical fact and artistic vision, useful in refuting the extreme deterministic position, merely forced these writers to seek a new formula that allowed them to preserve the desired identity between image and reality, this time a rather suspiciously psychic one: Watteau did not record the society he knew, but rather “foresaw” a society that developed shortly after his death.

14. Which one of the following best describes the overall organization of the passage?
- (A) A particular phenomenon is discussed, the reasons that it is atypical are put forward, and these reasons are evaluated and refined.
  - (B) An assumption is made, results deriving from it are compared with what is known to be true, and the assumption is finally rejected as counterfactual.
  - (C) A point of view is described, one hypothesis accounting for it is introduced and rejected, and a better hypothesis is offered for consideration.
  - (D) A general characterization is offered, examples supporting it are introduced, and its special applicability to a particular group is asserted.
  - (E) A particular viewpoint is explained, its shortcomings are discussed, and its persistence in the face of these is noted.
15. The passage suggests that late-nineteenth-century biographers of Watteau considered the eighteenth century to be “witty and amiable” in large part because of
- (A) what they saw as Watteau’s typical eighteenth-century talent for transcending reality through art
  - (B) their opposition to the determinism that dominated late-nineteenth-century French thought
  - (C) a lack of access to historical source material concerning the early eighteenth century in France
  - (D) the nature of the image conveyed by the works of Watteau and his many imitators
  - (E) their political bias in favor of aristocratic regimes and societies

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16. According to the passage, explanations of artistic production based on determinism were unthinkable to Watteau admirers for which one of the following reasons?
- (A) If such explanations were widely accepted, too many people who would otherwise have admired Watteau would cease to appreciate Watteau's works.
  - (B) If such explanations were adopted, they would make it difficult for Watteau admirers to explain why Watteau's works were purchased and admired by foreigners.
  - (C) If such explanations were correct, many artists who, like Watteau, considered themselves French would have to be excluded from histories of French art.
  - (D) If such simple explanations were offered, other more complex arguments concerning what made Watteau's works especially charming would go unexplored.
  - (E) If such explanations were true, Watteau's works would reflect a "Flemish" sensibility rather than the especially "French" one these admirers saw in them.
17. The phrase "curious blind spot" (lines 2–3) can best be interpreted as referring to which one of the following?
- (A) some biographers' persistent inability to appreciate what the author considers a particularly admirable quality
  - (B) certain writers' surprising lack of awareness of what the author considers an obvious discrepancy
  - (C) some writers' willful refusal to evaluate properly what the author considers a valuable source of information about the past
  - (D) an inexplicable tendency on the part of some writers to undervalue an artist whom the author considers extremely influential
  - (E) a marked bias in favor of a certain painter and a concomitant prejudice against contemporaries the author considers equally talented
18. It can be inferred from the passage that the author's view of Watteau's works differs most significantly from that of most late-nineteenth-century Watteau admirers in which one of the following ways?
- (A) Unlike most late-nineteenth-century Watteau admirers, the author appreciates the importance of Watteau's artistic accomplishment.
  - (B) The author finds Watteau's works to be much less lyrical and charming than did most late-nineteenth-century admirers of the works.
  - (C) In contrast to most late-nineteenth-century Watteau admirers, the author finds it misleading to see Watteau's works as accurately reflecting social reality.
  - (D) The author is much more willing to entertain deterministic explanations of the origins of Watteau's works than were most late-nineteenth-century Watteau admirers.
  - (E) Unlike most late-nineteenth-century admirers of Watteau, the author considers it impossible for any work of art to personify or represent a particular historical period.
19. The author asserts that during the period of Watteau's artistic activity French society was experiencing which one of the following?
- (A) widespread social upheaval caused by war
  - (B) a pervasive sense of nostalgia for an idealized past
  - (C) increased domination of public affairs by a powerful aristocracy
  - (D) rapid adoption by the middle classes of aristocratic manners and life-styles
  - (E) a need to reconcile the French self-image with French social realities
20. The information given in the passage suggests that which one of the following principles accurately characterizes the relationship between an artist's work and the impact it is likely to have on a society?
- (A) An artist's recognition by a society is most directly determined by the degree to which his or her works are perceived as lyrical and charming.
  - (B) An artist will have the greatest influence on a society that values art particularly highly.
  - (C) The works of an artist who captures the true and essential nature of a given society will probably have a great impact on that society.
  - (D) The degree of influence an artist's vision will have on a society is conditional on the visibility of the artist's work.
  - (E) An artist who is much imitated by contemporaries will usually fail to have an impact on a society unless the imitators are talented.

Faced with the problems of insufficient evidence, of conflicting evidence, and of evidence relayed through the flawed perceptual, retentive, and narrative abilities of witnesses, a jury is forced to

- (5) draw inferences in its attempt to ascertain the truth. By applying the same cognitive tools they have developed and used over a lifetime, jurors engage in the inferential exercise that lawyers call fact-finding. In certain decision-making contexts that are
- (10) relevant to the trial of lawsuits, however, these normally reliable cognitive tools may cause jurors to commit inferential errors that distort rather than reveal the truth.

- Although juries can make a variety of inferential
- (15) errors, most of these mistakes in judgment involve the drawing of an unwarranted conclusion from the evidence, that is, deciding that the evidence proves something that, in reality, it does not prove. For example, evidence that the defendant in a criminal
- (20) prosecution has a prior conviction may encourage jurors to presume the defendant's guilt, because of their preconception that a person previously convicted of a crime must be inclined toward repeated criminal behavior. That commonly held
- (25) belief is at least a partial distortion of reality; not all former convicts engage in repeated criminal behavior. Also, a jury may give more probative weight than objective analysis would allow to vivid photographic evidence depicting a shooting victim's
- (30) wounds, or may underestimate the weight of defense testimony that is not delivered in a sufficiently forceful or persuasive manner. Finally, complex or voluminous evidence might be so confusing to a jury that its members would draw
- (35) totally unwarranted conclusions or even ignore the evidence entirely.

Recent empirical research in cognitive psychology suggests that people tend to commit inferential errors like these under certain

- (40) predictable circumstances. By examining the available information, the situation, and the type of decision being made, cognitive psychologists can describe the kinds of inferential errors a person or group is likely to make. These patterns of human
- (45) decision-making may provide the courts with a guide to evaluating the effect of evidence on the reliability of the jury's inferential processes in certain situations.

- The notion that juries can commit inferential
- (50) errors that jeopardize the accuracy of the fact-finding process is not unknown to the courts. In fact, one of a presiding judge's duties is to minimize jury inferential error through explanation and clarification. Nonetheless, most judges now employ
- (55) only a limited and primitive concept of jury inferential error: limited because it fails to recognize the potential for error outside certain traditional situations, primitive because it ignores the research and conclusions of psychologists in favor of notions about human cognition held by lawyers.

21. Which one of the following best expresses the main idea of the passage?

- (A) When making decisions in certain predictable situations, juries may commit inferential errors that obscure rather than reveal the truth.
- (B) The views of human cognition taken by cognitive psychologists on the one hand and by the legal profession on the other are demonstrably dissimilar.
- (C) When confronting powerful preconceptions, particularly shocking evidence, or complex situations, jurors make errors in judgment.
- (D) The problem of inferential error by juries is typical of the difficulties with cognitive processes that people face in their everyday lives.
- (E) Juries would probably make more reliable decisions if cognitive psychologists, rather than judges, instructed them about the problems inherent in drawing unwarranted conclusions.

22. Of the following hypothetical reforms in trial procedure, which one would the author be most likely to support as the best way to address the problem of jury inferential error?

- (A) a move away from jury trials
- (B) the institution of minimum formal educational requirements for jurors
- (C) the development of strict guidelines for defense testimony
- (D) specific training for judges in the area of jury instruction
- (E) restrictions on lawyers' use of psychological research

23. In the second paragraph, the author's primary purpose is to

- (A) refute the idea that the fact-finding process is a complicated exercise
- (B) emphasize how carefully evidence must be presented in order to avoid jury inferential error
- (C) explain how commonly held beliefs affect the Jury's ability to ascertain the truth
- (D) provide examples of situations that may precipitate jury errors
- (E) recommend a method for minimizing mistakes by juries

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24. Which one of the following best describes the author's attitude toward the majority of judges today?
- (A) apprehensive about whether they are consistent in their instruction of juries
  - (B) doubtful of their ability to draw consistently correct conclusions based on the evidence
  - (C) critical of their failure to take into account potentially helpful research
  - (D) pessimistic about their willingness to make significant changes in trial procedure
  - (E) concerned about their allowing the presentation of complex and voluminous evidence in the courtroom
25. Which one of the following statements, if true, would most seriously undermine the author's suggestion about the use of current psychological research in the courtroom?
- (A) All guidelines about human behavior must take account of variations in the patterns of human decision-making.
  - (B) Current models of how humans make decisions apply reliably to individuals but do not hold for decisions made by groups.
  - (C) The current conception of jury inferential error employed by judges has been in use for nearly a century.
  - (D) Inferential errors can be more easily predicted in controlled situations such as the trial of lawsuits than in other kinds of decision-making processes.
  - (E) In certain predictable circumstances, juries are less susceptible to inferential errors than they are in other circumstances.
26. It can be inferred from the passage that the author would be most likely to agree with which one of the following generalizations about lawyers?
- (A) They have a less sophisticated understanding of human cognition than do psychologists.
  - (B) They often present complex or voluminous information merely in order to confuse a jury.
  - (C) They are no better at making logical inferences from the testimony at a trial than are most judges.
  - (D) They have worked to help judges minimize jury inferential error.
  - (E) They are unrealistic about the ability of jurors to ascertain the truth.
27. The author would be most likely to agree with which one of the following generalizations about a jury's decision-making process?
- (A) The more evidence that a jury has, the more likely it is that the jury will reach a reliable verdict.
  - (B) Juries usually overestimate the value of visual evidence such as photographs.
  - (C) Jurors have preconceptions about the behavior of defendants that prevent them from making an objective analysis of the evidence in a criminal trial.
  - (D) Most of the jurors who make inferential errors during a trial do so because they are unaccustomed to having to make difficult decisions based on inferences.
  - (E) The manner in which evidence is presented to a jury may influence the jury either to overestimate or to underestimate the value of that evidence.

## S T O P

IF YOU FINISH BEFORE TIME IS CALLED, YOU MAY CHECK YOUR WORK ON THIS SECTION ONLY.  
DO NOT WORK ON ANY OTHER SECTION IN THE TEST.