## **GMAT**

**Reasoning Test 19**

## **No. 9-1 to No. 9-3**

## No. 9-1

### SECTION A

Many critics of Emily Bronte’s novel *Wuthering Heights* see its second part as a counterpoint (a complementing or contrasting item: OPPOSITE) that comments on, if it does not reverse, the first part, where a “romantic” reading receives more confirmation. Seeing the two parts as a whole is encouraged by the novel’s sophisticated structure, revealed in its complex use of narrators and time shifts. Granted that the presence of these elements need not argue an authorial awareness of novelistic construction comparable to that of Henry James, their presence does encourage attempts to unify the novel’s heterogeneous parts. However, any interpretation that seeks to unify all of the novel’s diverse elements is bound to be somewhat unconvincing. This is not because such an interpretation necessarily stiffens into a thesis (although rigidity in any interpretation of this or of any novel is always a danger), but because *Wuthering Heights* has recalcitrant elements of undeniable power that, ultimately, resist inclusion in an all-encompassing interpretation. In this respect, *Wuthering Heights* shares a feature of *Hamlet.*

17. According to the passage, which of the following is a true statement about the first and second parts of *Wuthering Heights*?

(A) The second part has received more attention from critics.

(B) The second part has little relation to the first part.

(C) The second part annuls the force of the first part.

(D) The second part provides less substantiation for a “romantic” reading.（D）

(E) The second part is better because it is more realistic.

18. Which of the following inferences about Henry James’s awareness of novelistic construction is best supported by the passage?

(A) James, more than any other novelist, was aware of the difficulties of novelistic construction.

(B) James was very aware of the details of novelistic construction.

(C) James’s awareness of novelistic construction derived from his reading of Bronte.

(D) James’s awareness of novelistic construction has led most commentators to see unity in his individual novels.（B）

(E) James’s awareness of novelistic construction precluded him from violating the unity of his novels.

19. The author of the passage would be most likely to agree that an interpretation of a novel should

(A) not try to unite heterogeneous elements in the novel

(B) not be inflexible in its treatment of the elements in the novel

(C) not argue that the complex use of narrators or of time shifts indicates a sophisticated structure

(D) concentrate on those recalcitrant elements of the novel that are outside the novel’s main structure（B）

(E) primarily consider those elements of novelistic construction of which the author of the novel was aware

20. The author of the passage suggests which of the following about *Hamlet*?

I. *Hamlet* has usually attracted critical interpretations that tend to stiffen into theses.

II. *Hamlet* has elements that are not amenable to an all-encompassing critical interpretation.

III. *Hamlet* is less open to an all-encompassing critical interpretation than is *Wuthering Heights*.

IV. *Hamlet* has not received a critical interpretation that has been widely accepted by readers.

(A) I only

(B) II only

(C) I and IV only

(D) III and IV only（B）

(E) I, II, and III only

The determination of the sources of copper ore used in the manufacture of copper and bronze artifacts of Bronze Age (Bronze Age: n. 铜器时代) civilizations would add greatly to our knowledge of cultural contacts and trade in that era. Researchers have analyzed artifacts and ores for their concentrations of elements, but for a variety of reasons, these studies have generally failed to provide evidence of the sources of the copper used in the objects. Elemental composition can vary within the same copper-ore lode, usually because of varying admixtures of other elements, especially iron, lead, zinc, and arsenic. And high concentrations of cobalt or zinc, noticed in some artifacts, appear in a variety of copper-ore sources. Moreover, the processing of ores introduced poorly controlled changes in the concentrations of minor and trace elements in the resulting metal. Some elements evaporate during smelting and roasting; different temperatures and processes produce different degrees of loss. Finally, flux, which is sometimes added during smelting to remove waste material from the ore, could add quantities of elements to the final product.

An elemental property that is unchanged through these chemical processes is the isotopic composition of each metallic element in the ore. Isotopic composition, the percentages of the different isotopes of an element in a given sample of the element, is therefore particularly suitable as an indicator of the sources of the ore. Of course, for this purpose it is necessary to find an element whose isotopic composition is more or less constant throughout a given ore body, but varies from one copper ore body to another or, at least, from one geographic region to another.

The ideal choice, when isotopic composition is used to investigate the source of copper ore, would seem to be copper itself. It has been shown that small but measurable variations occur naturally in the isotopic composition of copper. However, the variations are large enough only in rare ores; between samples of the common ore minerals of copper, isotopic variations greater than the measurement error have not been found. An alternative choice is lead, which occurs in most copper and bronze artifacts of the Bronze Age in amounts consistent with the lead being derived from the copper ores and possibly from the fluxes. The isotopic composition of lead often varies from one source of common copper ore to another, with variations exceeding the measurement error; and preliminary studies indicate virtually uniform isotopic composition of the lead from a single copper-ore source. While some of the lead found in an artifact may have been introduced from flux or when other metals were added to the copper ore, lead so added in Bronze Age processing would usually have the same isotopic composition as the lead in the copper ore. Lead isotope studies may thus prove useful for interpreting the archaeological record of the Bronze Age.

21. The primary purpose of the passage is to

(A) discuss the techniques of analyzing lead isotope composition

(B) propose a way to determine the origin of the copper in certain artifacts

(C) resolve a dispute concerning the analysis of copper ore

(D) describe the deficiencies of a currently used method of chemical analysis of certain metals（B）

(E) offer an interpretation of the archaeological record of the Bronze Age

22. The author first mentions the addition of flux during smelting (lines 18-21) in order to

(A) give a reason for the failure of elemental composition studies to determine ore sources

(B) illustrate differences between various Bronze Age civilizations

(C) show the need for using high smelting temperatures

(D) illustrate the uniformity of lead isotope composition（A）

(E) explain the success of copper isotope composition analysis

23. The author suggests which of the following about a Bronze Age artifact containing high concentrations of cobalt or zinc?

(A) It could not be reliably tested for its elemental composition.

(B) It could not be reliably tested for its copper isotope composition.

(C) It could not be reliably tested for its lead isotope composition.

(D) It could have been manufactured from ore from any one of a variety of sources.（D）

(E) It could have been produced by the addition of other metals during the processing of the copper ore.

24. According to the passage, possible sources of the lead found in a copper or bronze artifact include which of the following?

I. The copper ore used to manufacture the artifact

II. Flux added during processing of the copper ore

III. Other metal added during processing of the copper ore

(A) I only

(B) II only

(C) III only

(D) II and III only（E）

(E) I, II, and III

25. The author rejects copper as the “ideal choice” mentioned in line 33 because

(A) the concentration of copper in Bronze Age artifacts varies

(B) elements other than copper may be introduced during smelting

(C) the isotopic composition of copper changes during smelting

(D) among common copper ores, differences in copper isotope composition are too small（D）

(E) within a single source of copper ore, copper isotope composition can vary substantially

26. The author makes which of the following statements about lead isotope composition?

(A) It often varies from one copper-ore source to another.

(B) It sometimes varies over short distances in a single copper-ore source.

(C) It can vary during the testing of artifacts, producing a measurement error.

(D) It frequently changes during smelting and roasting.（A）

(E) It may change when artifacts are buried for thousands of years.

27. It can be inferred from the passage that the use of flux in processing copper ore can alter the lead isotope composition of the resulting metal EXCEPT when

(A) there is a smaller concentration of lead in the flux than in the copper ore

(B) the concentration of lead in the flux is equivalent to that of the lead in the ore

(C) some of the lead in the flux evaporates during processing

(D) any lead in the flux has the same isotopic composition as the lead in the ore（D）

(E) other metals are added during processing

### SECTION B

Since the Hawaiian Islands have never been connected to other land masses, the great variety of plants in Hawaii must be a result of the long-distance dispersal of seeds, a process that requires both a method of transport and an equivalence between the ecology of the source area and that of the recipient area.

There is some dispute about the method of transport involved. Some biologists argue that ocean and air currents are responsible for the transport of plant seeds to Hawaii. Yet the results of flotation experiments and the low temperatures of air currents cast doubt on these hypotheses. More probable is bird transport, either externally, by accidental attachment of the seeds to feathers, or internally, by the swallowing of fruit and subsequent excretion of the seeds. While it is likely that fewer varieties of plant seeds have reached Hawaii externally than internally, more varieties are known to be adapted to external than to internal transport.

17. The author of the passage is primarily concerned with

(A) discussing different approaches biologists have taken to testing theories about the distribution of plants in Hawaii

(B) discussing different theories about the transport of plant seeds to Hawaii

(C) discussing the extent to which air currents are responsible for the dispersal of plant seeds to Hawaii

(D) resolving a dispute about the adaptability of plant seeds to bird transport（B）

(E) resolving a dispute about the ability of birds to carry plant seeds long distances

18. The author mentions the results of flotation experiments on plant seeds (lines 10-12) most probably in order to

(A) support the claim that the distribution of plants in Hawaii is the result of the long-distance dispersal of seeds

(B) lend credibility to the thesis that air currents provide a method of transport for plant seeds to Hawaii

(C) suggest that the long-distance dispersal of seeds is a process that requires long periods of time

(D) challenge the claim that ocean currents are responsible for the transport of plant seeds to Hawaii（D）

(E) refute the claim that Hawaiian flora evolved independently from flora in other parts of the world

19. It can be inferred from information in the passage that the existence in alpine regions of Hawaii of a plant species that also grows in the southwestern United States would justify which of the following conclusions?

(A) The ecology of the southwestern United States is similar in important respects to the ecology of alpine regions of Hawaii.

(B) There are ocean currents that flow from the southwestern United States to Hawaii.

(C) The plant species discovered in Hawaii must have traveled from the southwestern United States only very recently.

(D) The plant species discovered in Hawaii reached there by attaching to the feathers of birds migrating from the southwestern United States.（A）

(E) The plant species discovered in Hawaii is especially well adapted to transport over long distances.

20. The passage supplies information for answering which of the following questions?

(A) Why does successful long-distance dispersal of plant seeds require an equivalence between the ecology of the source area and that of the recipient area?

(B) Why are more varieties of plant seeds adapted to external rather than to internal bird transport?

(C) What varieties of plant seeds are birds that fly long distances most likely to swallow?

(D) What is a reason for accepting the long-distance dispersal of plant seeds as an explanation for the origin of Hawaiian flora?（D）

(E) What evidence do biologists cite to argue that ocean and air currents are responsible for the transport of plant seeds to Hawaii?

A long-held view of the history of the English colonies that became the United States has been that England’s policy toward these colonies before 1763 was dictated by commercial interests and that a change to a more imperial policy, dominated by expansionist militarist objectives, generated the tensions that ultimately led to the American Revolution. In a recent study, Stephen Saunders Webb has presented a formidable challenge to this view. According to Webb, England already had a military imperial policy for more than a century before the American Revolution. He sees Charles II, the English monarch between 1660 and 1685, as the proper successor of the Tudor monarchs of the sixteenth century and of Oliver Cromwell, all of whom were bent on extending centralized executive power over England’s possessions through the use of what Webb calls “garrison government.” Garrison government allowed the colonists a legislative assembly, but real authority, in Webb’s view, belonged to the colonial governor, who was appointed by the king and supported by the “garrison,” that is, by the local contingent of English troops under the colonial governor’s command.

According to Webb, the purpose of garrison government was to provide military support for a royal policy designed to limit the power of the upper classes in the American colonies. Webb argues that the colonial legislative assemblies represented the interests not of the common people but of the colonial upper classes, a coalition of merchants and nobility who favored self-rule and sought to elevate legislative authority at the expense of the executive. It was, according to Webb, the colonial governors who favored the small farmer, opposed the plantation system, and tried through taxation to break up large holdings of land. Backed by the military presence of the garrison, these governors tried to prevent the gentry and merchants, allied in the colonial assemblies, from transforming colonial America into a capitalistic oligarchy.

Webb’s study illuminates the political alignments that existed in the colonies in the century prior to the American Revolution, but his view of the crown’s use of the military as an instrument of colonial policy is not entirely convincing. England during the seventeenth century was not noted for its military achievements. Cromwell did mount England’s most ambitious overseas military expedition in more than a century, but it proved to be an utter failure. Under Charles II, the English army was too small to be a major instrument of government. Not until the war with France in 1697 did William III persuade Parliament to create a professional standing army, and Parliaments price for doing so was to keep the army under tight legislative control. While it may be true that the crown attempted to curtail the power of the colonial upper classes, it is hard to imagine how the English army during the seventeenth century could have provided significant military support for such a policy.

21. The passage can best be described as a

(A) survey of the inadequacies of a conventional viewpoint

(B) reconciliation of opposing points of view

(C) summary and evaluation of a recent study

(D) defense of a new thesis from anticipated objections（C）

(E) review of the subtle distinctions between apparently similar views

22. The passage suggests that the view referred to in lines 1-7 argued that

(A) the colonial governors were sympathetic to the demands of the common people

(B) Charles II was a pivotal figure in the shift of English monarchs toward a more imperial policy in their governorship of the American colonies

(C) the American Revolution was generated largely out of a conflict between the colonial upper classes and an alliance of merchants and small farmers

(D) the military did not play a major role as an instrument of colonial policy until 1763（D）

(E) the colonial legislative assemblies in the colonies had little influence over the colonial governors

23. It can be inferred from the passage that Webb would be most likely to agree with which of the following statements regarding garrison government?

(A) Garrison government gave legislative assemblies in the colonies relatively little authority, compared to the authority that it gave the colonial governors.

(B) Garrison government proved relatively ineffective until it was used by Charles II to curb the power of colonial legislatures.

(C) Garrison government became a less viable colonial policy as the English Parliament began to exert tighter legislative control over the English military.

(D) Oliver Cromwell was the first English ruler to make use of garrison government on a large scale.（A）

(E) The creation of a professional standing army in England in 1697 actually weakened garrison government by diverting troops from the garrisons stationed in the American colonies.

24. According to the passage, Webb views Charles II as the “proper successor” (line 13) of the Tudor monarchs and Cromwell because Charles II

(A) used colonial tax revenues to fund overseas military expeditions

(B) used the military to extend executive power over the English colonies

(C) wished to transform the American colonies into capitalistic oligarchies

(D) resisted the English Parliament’s efforts to exert control over the military（B）

(E) allowed the American colonists to use legislative assemblies as a forum for resolving grievances against the crown

25. Which of the following, if true, would most seriously weaken the author’s assertion in lines 54-58?

(A) Because they were poorly administered, Cromwell’s overseas military expeditions were doomed to failure.

(B) Because it relied primarily on the symbolic presence of the military, garrison government could be effectively administered with a relatively small number of troops.

(C) Until early in the seventeenth century, no professional standing army in Europe had performed effectively in overseas military expeditions.

(D) Many of the colonial governors appointed by the crown were also commissioned army officers.（B）

(E) Many of the English troops stationed in the American colonies were veterans of other overseas military expeditions.

26. According to Webb’s view of colonial history, which of the following was (were) true of the merchants and nobility mentioned in line 30?

I. They were opposed to policies formulated by Charles II that would have transformed the colonies into capitalistic oligarchies.

II. They were opposed to attempts by the English crown to limit the power of the legislative assemblies.

III. They were united with small farmers in their opposition to the stationing of English troops in the colonies.

(A) I only

(B) II only

(C) I and II only

(D) II and III only（B）

(E) I, II, and III

27. The author suggests that if William III had wanted to make use of the standing army mentioned in line 52 to administer garrison government in the American colonies, he would have had to.

(A) make peace with France

(B) abolish the colonial legislative assemblies

(C) seek approval from the English Parliament

(D) appoint colonial governors who were more sympathetic to royal policy（C）

(E) raise additional revenues by increasing taxation of large landholdings in the colonies

## No. 9-2

### SECTION A

A serious critic has to comprehend the particular content, unique structure, and special meaning of a work of art. And here she faces a dilemma. The critic must recognize the artistic element of uniqueness that requires subjective reaction; yet she must not be unduly prejudiced by such reactions. Her likes and dislikes are less important than what the work itself communicates, and her preferences may blind her to certain qualities of the work and thereby prevent an adequate understanding of it. Hence, it is necessary that a critic develop a sensibility informed by familiarity with the history of art and aesthetic theory. On the other hand, it is insufficient to treat the artwork solely historically, in relation to a fixed set of ideas or values. The critic’s knowledge and training are, rather, a preparation of the cognitive and emotional abilities needed for an adequate personal response to an artwork’s own particular qualities.

17. According to the author, a serious art critic may avoid being prejudiced by her subjective reactions if she

(A) treats an artwork in relation to a fixed set of ideas and values

(B) brings to her observation a knowledge of art history and aesthetic theory

(C) allows more time for the observation of each artwork

(D) takes into account the preferences of other art critics（B）

(E) limits herself to that art with which she has adequate familiarity

18. The author implies that it is insufficient to treat a work of art solely historically because

(A) doing so would lead the critic into a dilemma

(B) doing so can blind the critic to some of the artwork’s unique qualities

(C) doing so can insulate the critic from personally held beliefs

(D) subjective reactions can produce a biased response（B）

(E) critics are not sufficiently familiar with art history

19. The passage suggests that the author would be most likely to agree with which of the following statements?

(A) Art speaks to the passions as well as to the intellect.

(B) Most works of art express unconscious wishes or desires.

(C) The best art is accessible to the greatest number of people.

(D) The art produced in the last few decades is of inferior quality.（A）

(E) The meaning of art is a function of the social conditions in which it was produced.

20. The author’s argument is developed primarily by the use of

(A) an attack on sentimentality

(B) an example of successful art criticism

(C) a critique of artists training

(D) a warning against extremes in art criticism（D）

(E) an analogy between art criticism and art production

Viruses, infectious particles consisting of nucleic acid packaged in a protein coat (the capsid), are difficult to resist. Unable to reproduce outside a living cell, viruses reproduce only by subverting the genetic mechanisms of a host cell. In one kind of viral life cycle (life cycle: n.[生] 生活周期), the virus first binds to the cell’s surface, then penetrates the cell and sheds its capsid. The exposed viral nucleic acid produces new viruses from the contents of the cell. Finally, the cell releases the viral progeny, and a new cell cycle of infection begins. The human body responds to a viral infection by producing antibodies: complex, highly specific proteins that selectively bind to foreign molecules such as viruses. An antibody can either interfere with a virus’s ability to bind to a cell, or can prevent it from releasing its nucleic acid.

Unfortunately, the common cold (common cold: n. 感冒), produced most often by rhinoviruses, is intractable to antiviral defense. Humans have difficulty resisting colds because rhinoviruses are so diverse, including at least 100 strains. The strains differ most in the molecular structure of the proteins in their capsids. Since disease-fighting antibodies bind to the capsid, an antibody developed to protect against one rhinovirus strain is useless against other strains. Different antibodies must be produced for each strain.

A defense against rhinoviruses might nonetheless succeed by exploiting hidden similarities among the rhinovirus strains. For example, most rhinovirus strains bind to the same kind of molecule (delta-receptors) on a cell’s surface when they attack human cells. Colonno, taking advantage of these common receptors, devised a strategy for blocking the attachment of rhinoviruses to their appropriate receptors. Rather than fruitlessly searching for an antibody that would bind to all rhinoviruses, Colonno realized that an antibody binding to the common receptors of a human cell would prevent rhinoviruses from initiating an infection. Because human cells normally do not develop antibodies to components of their own cells, Colonno injected human cells into mice, which did produce an antibody to the common receptor. In isolated human cells, this antibody proved to be extraordinarily effective at thwarting the rhinovirus. Moreover, when the antibody was given to chimpanzees, it inhibited rhinoviral growth, and in humans it lessened both the severity and duration of cold symptoms.

Another possible defense against rhinoviruses was proposed by Rossman, who described rhinoviruses’ detailed molecular structure. Rossman showed that protein sequences common to all rhinovirus strains lie at the base of a deep “canyon” scoring (score: to mark with lines, grooves, scratches, or notches) each face of the capsid. The narrow opening of this canyon possibly prevents the relatively large antibody molecules from binding to the common sequence, but smaller molecules might reach it. Among these smaller, nonantibody molecules, some might bind to the common sequence, lock the nucleic acid in its coat, and thereby prevent the virus from reproducing.

21. The primary purpose of the passage is to

(A) discuss viral mechanisms and possible ways of circumventing certain kinds of those mechanisms

(B) challenge recent research on how rhinoviruses bind to receptors on the surfaces of cells

(C) suggest future research on rhinoviral growth in chimpanzees

(D) defend a controversial research program whose purpose is to discover the molecular structure of rhinovirus capsids（A）

(E) evaluate a dispute between advocates of two theories about the rhinovirus life cycle

22. It can be inferred from the passage that the protein sequences of the capsid that vary most among strains of rhinovirus are those

(A) at the base of the “canyon”

(B) outside of the “canyon”

(C) responsible for producing nucleic acid

(D) responsible for preventing the formation of delta-receptors（B）

(E) preventing the capsid from releasing its nucleic acid

23. It can be inferred from the passage that a cell lacking delta-receptors will be

(A) unable to prevent the rhinoviral nucleic acid from shedding its capsid

(B) defenseless against most strains of rhinovirus

(C) unable to release the viral progeny it develops after infection

(D) protected from new infections by antibodies to the rhinovirus（E）

(E) resistant to infection by most strains of rhinovirus

24. Which of the following research strategies for developing a defense against the common cold would the author be likely to find most promising?

(A) Continuing to look for a general antirhinoviral antibody

(B) Searching for common cell-surface receptors in humans and mice

(C) Continuing to look for similarities among the various strains of rhinovirus

(D) Discovering how the human body produces antibodies in response to a rhinoviral infection（C）

(E) Determining the detailed molecular structure of the nucleic acid of a rhinovirus

25. It can be inferred from the passage that the purpose of Colonno’s experiments was to determine whether

(A) chimpanzees and humans can both be infected by rhinoviruses

(B) chimpanzees can produce antibodies to human cell-surface receptors

(C) a rhinovirus’ nucleic acid might be locked in its protein coat

(D) binding antibodies to common receptors could produce a possible defense against rhinoviruses（D）

(E) rhinoviruses are vulnerable to human antibodies

26. According to the passage, Rossman’s research suggests that

(A) a defense against rhinoviruses might exploit structural similarities among the strains of rhinovirus

(B) human cells normally do not develop antibodies to components of their own cells

(C) the various strains of rhinovirus differ in their ability to bind to the surface of a host cell

(D) rhinovirus versatility can work to the benefit of researchers trying to find a useful antibody（A）

(E) Colonno’s research findings are probably invalid

27. According to the passage, in order for a given antibody to bind to a given rhinoviral capsid, which of the following must be true?

(A) The capsid must have a deep “canyon” on each of its faces.

(B) The antibody must be specific to the molecular structure of the particular capsid.

(C) The capsid must separate from its nucleic acid before binding to an antibody.

(D) The antibody must bind to a particular cell-surface receptor before it can bind to a rhinovirus.（B）

(E) The antibody must first enter a cell containing the particular rhinovirus.

### SECTION B

Diamonds, an occasional component of rare igneous rocks called lamproites and kimberlites, have never been dated satisfactorily. However, some diamonds contain minute inclusions of silicate minerals, commonly olivine, pyroxene, and garnet. These minerals can be dated by radioactive decay techniques because of the very small quantities of radioactive trace elements they, in turn, contain. Usually, it is possible to conclude that the inclusions are older than their diamond hosts, but with little indication of the time interval involved. Sometimes, however, the crystal form of the silicate inclusions is observed to resemble more closely the internal structure of diamond than that of other silicate minerals. It is not known how rare this resemblance is, or whether it is most often seen in inclusions of silicates such as garnet, whose crystallography is generally somewhat similar to that of diamond; but when present, the resemblance is regarded as compelling evidence that the diamonds and inclusions are truly cogenetic.

17. The author implies that silicate inclusions were most often formed

(A) with small diamonds inside of them

(B) with trace elements derived from their host minerals

(C) by the radioactive decay of rare igneous rocks

(D) at an earlier period than were their host minerals（D）

(E) from the crystallization of rare igneous material

18. According to the passage, the age of silicate minerals included in diamonds can be determined due to a feature of the

(A) trace elements in the diamond hosts

(B) trace elements in the rock surrounding the diamonds

(C) trace elements in the silicate minerals

(D) silicate minerals’ crystal structure（C）

(E) host diamonds’ crystal structure

19. The author states that which of the following generally has a crystal structure similar to that of diamond?

(A) Lamproite

(B) Kimberlite

(C) Olivine

(D) Pyroxene（E）

(E) Garnet

20. The main purpose of the passage is to

(A) explain why it has not been possible to determine the age of diamonds

(B) explain how it might be possible to date some diamonds

(C) compare two alternative approaches to determining the age of diamonds

(D) compare a method of dating diamonds with a method used to date certain silicate minerals（B）

(E) compare the age of diamonds with that of certain silicate minerals contained within them

Discussion of the assimilation of Puerto Ricans in the United States has focused on two factors: social standing (social standing: 社会地位) and the loss of national culture. In general, excessive stress is placed on one factor or the other, depending on whether the commentator is North American or Puerto Rican. Many North American social scientists, such as Oscar Handlin, Joseph Fitzpatrick, and Oscar Lewis, consider Puerto Ricans as the most recent in a long line of ethnic entrants to occupy the lowest rung on the social ladder. Such a “sociodemographic” approach tends to regard assimilation as a benign process, taking for granted increased economic advantage and inevitable cultural integration, in a supposedly egalitarian context. However, this approach fails to take into account the colonial nature of the Puerto Rican case, with this group, unlike their European predecessors, coming from a nation politically subordinated to the United States. Even the “radical” critiques of this mainstream research model, such as the critique developed in *Divided Society*, attach the issue of ethnic assimilation too mechanically to factors of economic and social mobility and are thus unable to illuminate the cultural subordination of Puerto Ricans as a colonial minority.

In contrast, the “colonialist” approach of island-based writers such as Eduardo Seda-Bonilla, Manuel Maldonado-Denis, and Luis Nieves-Falcon tends to view assimilation as the forced loss of national culture in an unequal contest with imposed foreign values. There is, of course, a strong tradition of cultural accommodation among other Puerto Rican thinkers. The writings of Eugenio Fernandez Mendez clearly exemplify this tradition, and many supporters of Puerto Rico’s commonwealth status share the same universalizing orientation. But the Puerto Rican intellectuals who have written most about the assimilation process in the United States all advance cultural nationalist views, advocating the preservation of minority cultural distinctions and rejecting what they see as the subjugation of colonial nationalities.

This cultural and political emphasis is appropriate, but the colonialist thinkers misdirect it, overlooking the class relations at work in both Puerto Rican and North American history. They pose the clash of national cultures as an absolute polarity, with each culture understood as static and undifferentiated. Yet both the Puerto Rican and North American traditions have been subject to constant challenge from cultural forces within their own societies, forces that may move toward each other in ways that cannot be written off as mere “assimilation.” Consider, for example, the indigenous and Afro-Caribbean traditions in Puerto Rican culture and how they influence and are influenced by other Caribbean cultures and Black cultures in the United States. The elements of coercion and inequality, so central to cultural contact according to the colonialist framework play no role in this kind of convergence of racially and ethnically different elements of the same social class.

21. The author’s main purpose is to

(A) criticize the emphasis on social standing in discussions of the assimilation of Puerto Ricans in the United States

(B) support the thesis that assimilation has not been a benign process for Puerto Ricans

(C) defend a view of the assimilation of Puerto Ricans that emphasizes the preservation of national culture

(D) indicate deficiencies in two schools of thought on the assimilation of Puerto Ricans in the United States（D）

(E) reject the attempt to formulate a general framework for discussion of the assimilation of Puerto Ricans in the United States

22. According to the passage, cultural accommodation is promoted by

(A) Eduardo Seda-Bonilla

(B) Manuel Maldonado-Denis

(C) the author of *Divided Society*

(D) the majority of social scientists writing on immigration（E）

(E) many supporters of Puerto Rico’s commonwealth status

23. It can be inferred from the passage that a writer such as Eugenio Fernandez Mendez would most likely agree with which of the following statements concerning members of minority ethnic groups?

(A) It is necessary for the members of such groups to adapt to the culture of the majority.

(B) The members of such groups generally encounter a culture that is static and undifferentiated.

(C) Social mobility is the most important feature of the experience of members of such groups.

(D) Social scientists should emphasize the cultural and political aspects of the experience of members of such groups.（A）

(E) The assimilation of members of such groups requires the forced abandonment of their authentic national roots.

24. The author implies that the Puerto Rican writers who have written most about assimilation do NOT do which of the following?

(A) Regard assimilation as benign.

(B) Resist cultural integration.

(C) Describe in detail the process of assimilation.

(D) Take into account the colonial nature of the Puerto Rican case.（A）

(E) Criticize supporters of Puerto Rico’s commonwealth status.

25. It can be inferred from the passage that the “colonialist” approach is so called because its practitioners

(A) support Puerto Rico’s commonwealth status

(B) have a strong tradition of cultural accommodation

(C) emphasize the class relations at work in both Puerto Rican and North American history

(D) pose the clash of national cultures as an absolute polarity in which each culture is understood as static and undifferentiated（E）

(E) regard the political relation of Puerto Rico to the United States as a significant factor in the experience of Puerto Ricans

26. The author regards the emphasis by island-based writers on the cultural and political dimensions of assimilation as

(A) ironic

(B) dangerous

(C) fitting but misdirected

(D) illuminating but easily misunderstood（C）

(E) peculiar but benign

27. The example discussed in lines 51-54 is intended by the author to illustrate a

(A) strength of the sociodemographic approach

(B) strength of the “colonialist” approach

(C) weakness of the sociodemographic approach

(D) weakness of the “colonialist” approach（D）

(E) weakness of the cultural-accommodationist approach

## No. 9-3

### SECTION A

Classical physics defines the vacuum as a state of absence: a vacuum is said to exist in a region of space if there is nothing in it. In the quantum field theories that describe the physics of elementary particles, the vacuum becomes somewhat more complicated. Even in empty space, particles can appear spontaneously as a result of fluctuations of the vacuum. For example, an electron and a positron, or antielectron, can be created out of the void. Particles created in this way have only a fleeting existence; they are annihilated almost as soon as they appear, and their presence can never be detected directly. They are called virtual particles in order to distinguish them from real particles, whose lifetimes are not constrained in the same way, and which can be detected. Thus it is still possible to define that vacuum as a space that has no real particles in it.

One might expect that the vacuum would always be the state of lowest possible energy for a given region of space. If an area is initially empty and a real particle is put into it, the total energy, it seems, should be raised by at least the energy equivalent of the mass of the added particle. A surprising result of some recent theoretical investigations is that this assumption is not invariably true. There are conditions under which the introduction of a real particle of finite mass into an empty region of space can reduce the total energy. If the reduction in energy is great enough, an electron and a positron will be spontaneously created. Under these conditions the electron and positron are not a result of vacuum fluctuations but are real particles, which exist indefinitely and can be detected. In other words, under these conditions the vacuum is an unstable state and can decay into a state of lower energy; i.e., one in which real particles are created.

The essential condition for the decay of the vacuum is the presence of an intense electric field. As a result of the decay of the vacuum, the space permeated by such a field can be said to acquire an electric charge, and it can be called a charged vacuum. The particles that materialize in the space make the charge manifest. An electric field of sufficient intensity to create a charged vacuum is likely to be found in only one place: in the immediate vicinity of a superheavy atomic nucleus, one with about twice as many protons as the heaviest natural nuclei known. A nucleus that large cannot be stable, but it might be possible to assemble one next to a vacuum for long enough to observe the decay of the vacuum. Experiments attempting to achieve this are now under way (under way: adv.进行中, 在行进).

17. Which of the following titles best describes the passage as a whole?

(A) The Vacuum: Its Fluctuations and Decay

(B) The Vacuum: Its Creation and Instability

(C) The Vacuum: A State of Absence

(D) Particles That Materialize in the Vacuum（A）

(E) Classical Physics and the Vacuum

18. According to the passage, the assumption that the introduction of a real particle into a vacuum raises the total energy of that region of space has been cast into doubt by which of the following?

(A) Findings from laboratory experiments

(B) Findings from observational field experiments

(C) Accidental observations made during other experiments

(D) Discovery of several erroneous propositions in accepted theories（E）

(E) Predictions based on theoretical work

19. It can be inferred from the passage that scientists are currently making efforts to observe which of the following events?

(A) The decay of a vacuum in the presence of virtual particles

(B) The decay of a vacuum next to a superheavy atomic nucleus

(C) The creation of a superheavy atomic nucleus next to an intense electric field

(D) The creation of a virtual electron and a virtual positron as a result of fluctuations of a vacuum（B）

(E) The creation of a charged vacuum in which only real electrons can be created in the vacuum’s region of space

20. Physicists’ recent investigations of the decay of the vacuum, as described in the passage, most closely resemble which of the following hypothetical events in other disciplines?

(A) On the basis of data gathered in a carefully controlled laboratory experiment, a chemist predicts and then demonstrates the physical properties of a newly synthesized polymer.

(B) On the basis of manipulations of macroeconomic theory, an economist predicts that, contrary to accepted economic theory, inflation and unemployment will both decline under conditions of rapid economic growth.

(C) On the basis of a rereading of the texts of Jane Austen’s novels, a literary critic suggests that, contrary to accepted literary interpretations. Austen’s plots were actually metaphors for political events in early nineteenth-century England.

(D) On the basis of data gathered in carefully planned observations of several species of birds, a biologist proposes a modification in the accepted theory of interspecies competition.（B）

(E) On the basis of a study of observations incidentally recorded in ethnographers’ descriptions of non-Western societies, an anthropologist proposes a new theory of kinship relations.

21. According to the passage, the author considers the reduction of energy in an empty region of space to which a real particle has been added to be

(A) a well-known process

(B) a frequent occurrence

(C) a fleeting aberration

(D) an unimportant event（E）

(E) an unexpected outcome

22. According to the passage, virtual particles differ from real particles in which of the following ways?

I. Virtual particles have extremely short lifetimes.

II. Virtual particles are created in an intense electric field.

III. Virtual particles cannot be detected directly.

(A) I only

(B) II only

(C) III only

(D) I and II only（E）

(E) I and III only

23. The author’s assertions concerning the conditions that lead to the decay of the vacuum would be most weakened if which of the following occurred?

(A) Scientists created an electric field next to a vacuum, but found that the electric field was not intense enough to create a charged vacuum.

(B) Scientists assembled a superheavy atomic nucleus next to a vacuum, but found that no virtual particles were created in the vacuum’s region of space.

(C) Scientists assembled a superheavy atomic nucleus next to a vacuum, but found that they could not then detect any real particles in the vacuum’s region of space.

(D) Scientists introduced a virtual electron and a virtual positron into a vacuum’s region of space, but found that the vacuum did not then fluctuate.（C）

(E) Scientists introduced a real electron and a real positron into a vacuum’s region of space, but found that the total energy of the space increased by the energy equivalent of the mass of the particles.

Simone de Beauvoir’s work greatly influenced Betty Friedan’s—Indeed, made it possible. Why, then, was it Friedan who became the prophet of women’s emancipation in the United States? Political conditions, as well as a certain anti-intellectual bias, prepared Americans and the American media to better receive Friedan’s deradicalized and highly pragmatic *The Feminine* *Mystique*, published in 1963, than Beauvoir’s theoretical reading of women’s situation in *The* *Second Sex.* In 1953 when *The Second Sex* first appeared in translation in the United States, the country had entered the silent, fearful fortress of the anticommunist McCarthy years (1950-1954), and Beauvoir was suspected of Marxist sympathies. Even *The Nation*, a generally liberal magazine, warned its readers against “certain political leanings” of the author. Open acknowledgement of the existence of women’s oppression was too radical for the United States in the fifties, and Beauvoir’s conclusion, that change in women’s economic condition, though insufficient by itself, “remains the basic factor” in improving women’s situation, was particularly unacceptable.

24. According to the passage, one difference between *The Feminine Mystique* and *The Second Sex* is that Friedan’s book

(A) rejects the idea that women are oppressed

(B) provides a primarily theoretical analysis of women’s lives

(C) does not reflect the political beliefs of its author

(D) suggests that women’s economic condition has no impact on their status（E）

(E) concentrates on the practical aspects of the questions of women’s emancipation

25. The author quotes from *The Nation* most probably in order to

(A) modify an earlier assertion

(B) point out a possible exception to her argument

(C) illustrate her central point

(D) clarify the meaning of a term（C）

(E) cite an expert opinion

26. It can be inferred from the passage that which of the following is not a factor in the explanation of why *The Feminine Mystique* was received more positively in the United States than was *The Second Sex*?

(A) By 1963 political conditions in the United States had changed.

(B) Friedan’s book was less intellectual and abstract than Beauvoir’s.

(C) Readers did not recognize the powerful influence of Beauvoir’s book on Friedan’s ideas.

(D) Friedan’s approach to the issue of women’s emancipation was less radical than Beauvoir’s.（C）

(E) American readers were more willing to consider the problem of the oppression of women in the sixties than they had been in the fifties.

27. According to the passage, Beauvoir’s book asserted that the status of women

(A) is the outcome of political oppression

(B) is inherently tied to their economic condition

(C) can be best improved under a communist government

(D) is a theoretical, rather than a pragmatic, issue（B）

(E) is a critical area of discussion in Marxist economic theory

### SECTION B

One of the questions of interest in the study of the evolution of spiders is whether the weaving of orb webs evolved only once or several times. About half the 35,000 known kinds of spiders make webs; a third of the web weavers make orb webs. Since most orb weavers belong either to the Araneidae or the Uloboridae families, the origin of the orb web can be determined only by ascertaining whether the families are related.

Recent taxonomic analysis of individuals from both families indicates that the families evolved from different ancestors, thereby contradicting Wiehle’s theory. This theory postulates that the families must be related, based on the assumption that complex behavior, such as web building, could evolve only once. According to Kullman, web structure is the only characteristic that suggests a relationship between families. The families differ in appearance, structure of body hair, and arrangement of eyes. Only Uloborids lack venom glands. Further identification and study of characteristic features will undoubtedly answer the question of the evolution of the orb web.

17. The primary purpose of the passage is to

(A) settle the question of whether orb webs evolved once or more than once

(B) describe scientific speculation concerning an issue related to the evolution of orb webs

(C) analyze the differences between the characteristic features of spiders in the Araneidae and Uloboridae families

(D) question the methods used by earlier investigators of the habits of spiders（B）

(E) demonstrate that Araneidae spiders are not related to Uloboridae spiders

18. It can be inferred from the passage that all orb-weaving spiders belong to types of spiders that

(A) lack venom glands

(B) are included either in the Uloboridae or Araneidae families

(C) share few characteristic features with other spider types

(D) comprise less than a third of all known types of spiders（D）

(E) are more recently evolved than other types of spiders

19. According to the passage, members of the Araneidae family can be distinguished from members of the Uloboridae family by all of the following EXCEPT:

(A) the presence of venom glands

(B) the type of web they spin

(C) the structure of their body hair

(D) the arrangement of their eyes（B）

(E) their appearance

20. Which of the following statements, if true, most weakens Wiehle’s theory that complex behavior could evolve only once?

(A) Horses, introduced to the New World by the Spaniards, thrived under diverse climatic conditions.

(B) Plants of the Palmaceae family, descendants of a common ancestor, evolved unique seed forms even though the plants occupy similar habitats throughout the world.

(C) All mammals are descended from a small, rodentlike animal whose physical characteristics in some form are found in all its descendants.

(D) Plants in the Cactaceae and Euphorbiaceae families, although they often look alike and have developed similar mechanisms to meet the rigors of the desert, evolved independently.（D）

(E) The Cuban anole, which was recently introduced in the Florida wilds, is quickly replacing the native Florida chameleon because the anole has no competitors.

“Popular art” has a number of meanings, impossible to define with any precision, which range from folklore to junk. The poles are clear enough, but the middle tends to blur. The Hollywood Western of the 1930’s, for example, has elements of folklore, but is closer to junk than to high art or folk art. There can be great trash, just as there is bad high art. The musicals of George Gershwin are great popular art, never aspiring to high art. Schubert and Brahms, however, used elements of popular music—folk themes—in works clearly intended as high art. The case of Verdi is a different one: he took a popular genre—bourgeois melodrama set to music (an accurate definition of nineteenth-century opera)—and, without altering its fundamental nature, transmuted it into high art. This remains one of the greatest achievements in music, and one that cannot be fully appreciated without recognizing the essential trashiness of the genre.

As an example of such a transmutation, consider what Verdi made of the typical political elements of nineteenth-century opera. Generally in the plots of these operas, a hero or heroine—usually portrayed only as an individual, unfettered by class—is caught between the immoral corruption of the aristocracy and the doctrinaire rigidity or secret greed of the leaders of the proletariat. Verdi transforms this naive and unlikely formulation with music of extraordinary energy and rhythmic vitality, music more subtle than it seems at first hearing. There are scenes and arias that still sound like calls to arms and were clearly understood as such when they were first performed. Such pieces lend an immediacy to the otherwise veiled political message of these operas and call up (call up: v.召唤, 使想起) feelings beyond those of the opera itself.

Or consider Verdi’s treatment of character. Before Verdi, there were rarely any characters at all in musical drama, only a series of situations which allowed the singers to express a series of emotional states. Any attempt to find coherent psychological portrayal in these operas is misplaced ingenuity. The only coherence was the singer’s vocal technique: when the cast changed, new arias were almost always substituted, generally adapted from other operas. Verdi’s characters, on the other hand, have genuine consistency and integrity, even if, in many cases, the consistency is that of pasteboard melodrama. The integrity of the character is achieved through the music: once he had become established, Verdi did not rewrite his music for different singers or countenance alterations or substitutions of somebody else’s arias in one of his operas, as every eighteenth-century composer had done. When he revised an opera, it was only for dramatic economy and effectiveness.

21. The author refers to Schubert and Brahms in order to suggest

(A) that their achievements are no less substantial than those of Verdi

(B) that their works are examples of great trash

(C) the extent to which Schubert and Brahms influenced the later compositions of Verdi

(D) a contrast between the conventions of nineteenth-century opera and those of other musical forms（E）

(E) that popular music could be employed in compositions intended as high art

22. According to the passage, the immediacy of the political message in Verdi’s operas stems from the

(A) vitality and subtlety of the music

(B) audience’s familiarity with earlier operas

(C) portrayal of heightened emotional states

(D) individual talents of the singers（A）

(E) verisimilitude of the characters

23. According to the passage, all of the following characterize musical drama before Verdi EXCEPT:

(A) arias tailored to a particular singer’s ability

(B) adaptation of music from other operas

(C) psychological inconsistency in the portrayal of characters

(D) expression of emotional states in a series of dramatic situations（E）

(E) music used for the purpose of defining a character

24. It can be inferred that the author regards Verdi’s revisions to his operas with

(A) regret that the original music and texts were altered

(B) concern that many of the revisions altered the plots of the original work

(C) approval for the intentions that motivated the revisions

(D) puzzlement, since the revisions seem largely insignificant（C）

(E) enthusiasm, since the revisions were aimed at reducing the conventionality of the operas’ plots

25. According to the passage, one of Verdi’s achievements within the framework of nineteenth-century opera and its conventions was to

(A) limit the extent to which singers influenced the musical compositions and performance of his operas

(B) use his operas primarily as forums to protest both the moral corruption and dogmatic rigidity of the political leaders of his time

(C) portray psychologically complex characters shaped by the political environment surrounding them

(D) incorporate elements of folklore into both the music and plots of his operas（A）

(E) introduce political elements into an art form that had traditionally avoided political content

26. Which of the following best describes the relationship of the first paragraph of the passage to the passage as a whole?

(A) It provides a group of specific examples from which generalizations are drawn later in the passage.

(B) It leads to an assertion that is supported by examples later in the passage.

(C) It defines terms and relationships that are challenged in an argument later in the passage.

(D) It briefly compares and contrasts several achievements that are examined in detail later in the passage.（B）

(E) It explains a method of judging a work of art, a method that is used later in the passage.

27. It can be inferred that the author regards the independence from social class of the heroes and heroines of nineteenth-century opera as

(A) an idealized but fundamentally accurate portrayal of bourgeois life

(B) a plot convention with no real connection to political reality

(C) a plot refinement unique to Verdi

(D) a symbolic representation of the position of the bourgeoisie relative to the aristocracy and the proletariat（B）

(E) a convention largely seen as irrelevant by audiences

## No. 9-4

### SECTION A

(The article from which the passage was taken appeared in 1982.)

Theorists are divided concerning the origin of the Moon. Some hypothesize that the Moon was formed in the same way as were the planets in the inner solar system (Mercury, Venus, Mars, and Earth)—from planet-forming materials in the presolar nebula. But, unlike the cores of the inner planets, the Moon’s core contains little or no iron, while the typical planet-forming materials were quite rich in iron. Other theorists propose that the Moon was ripped out of the Earth’s rocky mantle by the Earth’s collision with another large celestial body after much of the Earth’s iron fell to its core. One problem with the collision hypothesis is the question of how a satellite formed in this way could have settled into the nearly circular orbit that the Moon has today. Fortunately, the collision hypothesis is testable. If it is true, the mantlerocks of the Moon and the Earth should be the same geochemically.

17. The primary purpose of the passage is to

(A) present two hypotheses concerning the origin of the Moon

(B) discuss the strengths and weaknesses of the collision hypothesis concerning the origin of the Moon

(C) propose that hypotheses concerning the Moon’s origin be tested

(D) argue that the Moon could not have been formed out of the typical planet-forming materials of the presolar nebula（A）

(E) describe one reason why the Moon’s geochemical makeup should resemble that of the Earth

18. According to the passage, Mars and the Earth are similar in which of the following ways?

I. Their satellites were formed by collisions with other celestial bodies.

II. Their cores contain iron.

III. They were formed from the presolar nebula.

(A) III only

(B) I and II only

(C) I and III only

(D) II and III only（D）

(E) I, II, and III

19. The author implies that a nearly circular orbit is unlikely for a satellite that

(A) circles one of the inner planets

(B) is deficient in iron

(C) is different from its planet geochemically

(D) was formed by a collision between two celestial bodies（D）

(E) was formed out of the planet-forming materials in the presolar nebula

20. Which of the following, if true, would be most likely to make it difficult to verify the collision hypothesis in the manner suggested by the author?

(A) The Moon’s core and mantlerock are almost inactive geologically.

(B) The mantlerock of the Earth has changed in composition since the formation of the Moon, while the mantlerock of the Moon has remained chemically inert.

(C) Much of the Earth’s iron fell to the Earth’s core long before the formation of the Moon, after which the Earth’s mantlerock remained unchanged.

(D) Certain of the Earth’s elements, such as platinum, gold, and iridium, followed iron to the Earth’s core.（B）

(E) The mantlerock of the Moon contains elements such as platinum, gold, and iridium.

Surprisingly enough, modern historians have rarely interested themselves in the history of the American South in the period before the South began to become self-consciously and distinctively “Southern”—the decades after 1815. Consequently, the cultural history of Britain’s North American empire in the seventeenth and eighteenth centuries has been written almost as if the Southern colonies had never existed. The American culture that emerged during the Colonial and Revolutionary eras has been depicted as having been simply an extension of New England Puritan culture. However, Professor Davis has recently argued that the South stood apart from the rest of American society during this early period, following its own unique pattern of cultural development. The case for Southern distinctiveness rests upon two related premises: first, that the cultural similarities among the five Southern colonies were far more impressive than the differences, and second, that what made those colonies alike also made them different from the other colonies. The first, for which Davis offers an enormous amount of evidence, can be accepted without major reservations; the second is far more problematic.

What makes the second premise problematic is the use of the Puritan colonies as a basis for comparison. Quite properly, Davis decries the excessive influence ascribed by historians to the Puritans in the formation of American culture. Yet Davis inadvertently adds weight to such ascriptions by using the Puritans as the standard against which to assess the achievements and contributions of Southern colonials. Throughout, Davis focuses on the important, and undeniable, differences between the Southern and Puritan colonies in motives for and patterns of early settlement, in attitudes toward nature and Native Americans, and in the degree of receptivity to metropolitan cultural influences.

However, recent scholarship has strongly suggested that those aspects of early New England culture that seem to have been most distinctly Puritan, such as the strong religious orientation and the communal impulse, were not even typical of New England as a whole, but were largely confined to the two colonies of Massachusetts and Connecticut. Thus, what in contrast to the Puritan colonies appears to Davis to be peculiarly Southern—acquisitiveness, a strong interest in politics and the law, and a tendency to cultivate metropolitan cultural models—was not only more typically English than the cultural patterns exhibited by Puritan Massachusetts and Connecticut, but also almost certainly characteristic of most other early modern British colonies from Barbados north to Rhode Island and New Hampshire. Within the larger framework of American colonial life, then, not the Southern but the Puritan colonies appear to have been distinctive, and even they seem to have been rapidly assimilating to the dominant cultural patterns by the late Colonial period.

21. The author is primarily concerned with

(A) refuting a claim about the influence of Puritan culture on the early American South

(B) refuting a thesis about the distinctiveness of the culture of the early American South

(C) refuting the two premises that underlie Davis’ discussion of the culture of the American South in the period before 1815

(D) challenging the hypothesis that early American culture was homogeneous in nature（B）

(E) challenging the contention that the American South made greater contributions to early American culture than Puritan New England did

22. The passage implies that the attitudes toward Native Americans that prevailed in the Southern colonies

(A) were in conflict with the cosmopolitan outlook of the South

(B) derived from Southerners’ strong interest in the law

(C) were modeled after those that prevailed in the North

(D) differed from those that prevailed in the Puritan colonies（D）

(E) developed as a response to attitudes that prevailed in Massachusetts and Connecticut

23. According to the author, the depiction of American culture during the Colonial and Revolutionary eras as an extension of New England Puritan culture reflects the

(A) fact that historians have overestimated the importance of the Puritans in the development of American culture

(B) fact that early American culture was deeply influenced by the strong religious orientation of the colonists

(C) failure to recognize important and undeniable cultural differences between New Hampshire and Rhode Island on the one hand and the Southern colonies on the other

(D) extent to which Massachusetts and Connecticut served as cultural models for the other American colonies（A）

(E) extent to which colonial America resisted assimilating cultural patterns that were typically English

24. The author of the passage is in agreement with which of the following elements of Davis’ book?

I. Davis’ claim that acquisitiveness was a characteristic unique to the South during the Colonial period

II. Davis’ argument that there were significant differences between Puritan and Southern culture during the Colonial period

III. Davis’ thesis that the Southern colonies shared a common culture

(A) I only

(B) II only

(C) III only

(D) I and II only（E）

(E) II and III only

25. It can be inferred from the passage that the author would find Davis’ second premise (lines 18-20) more plausible if it were true that

(A) Puritan culture had displayed the tendency characteristic of the South to cultivate metropolitan cultural models

(B) Puritan culture had been dominant in all the non-Southern colonies during the seventeenth and eighteen centuries

(C) the communal impulse and a strong religious orientation had been more prevalent in the South

(D) the various cultural patterns of the Southern colonies had more closely resembled each other（B）

(E) the cultural patterns characteristic of most early modern British colonies had also been characteristic of the Puritan colonies

26. The passage suggests that by the late Colonial period the tendency to cultivate metropolitan cultural models was a cultural pattern that was

(A) dying out as Puritan influence began to grow

(B) self-consciously and distinctively Southern

(C) spreading to Massachusetts and Connecticut

(D) more characteristic of the Southern colonies than of England（C）

(E) beginning to spread to Rhode Island and New Hampshire

27. Which of the following statements could most logically follow the last sentence of the passage?

(A) Thus, had more attention been paid to the evidence, Davis would not have been tempted to argue that the culture of the South diverged greatly from Puritan culture in the seventeenth century.

(B) Thus, convergence, not divergence, seems to have characterized the cultural development of the American colonies in the eighteenth century.

(C) Thus, without the cultural diversity represented by the America South, the culture of colonial America would certainly have been homogeneous in nature.

(D) Thus, the contribution of Southern colonials to American culture was certainly overshadowed by that of the Puritans.（B）

(E) Thus, the culture of America during the Colonial period was far more sensitive to outside influences than historians are accustomed to acknowledge.

### SECTION B

For some time scientists have believed that cholesterol plays a major role in heart disease because people with familial hypercholesterolemia (hypercholesterolemia: n.[医]血胆脂醇过多), a genetic defect, have six to eight times the normal level of cholesterol in their blood and they invariably develop heart disease. These people lack cell-surface receptors for low-density lipoproteins (LDL’s), which are the fundamental carriers of blood cholesterol to the body cells that use cholesterol. Without an adequate number of cell-surface receptors to remove LDL’s from the blood, the cholesterol-carrying LDL’s remain in the blood, increasing blood cholesterol levels. Scientists also noticed that people with familial hypercholesterolemia appear to produce more LDL’s than normal individuals. How, scientists wondered, could a genetic mutation that causes a slowdown in the removal of LDL’s from the blood also result in an increase in the synthesis of this cholesterol-carrying protein?

Since scientists could not experiment on human body tissue, their knowledge of familial hypercholesterolemia was severely limited. However, a breakthrough came in the laboratories of Yoshio Watanabe of Kobe University in Japan in 1980. Watanabe noticed that a male rabbit in his colony had ten times the normal concentration of cholesterol in its blood. By appropriate breeding, Watanabe obtained a strain of rabbits that had very high cholesterol levels. These rabbits spontaneously developed heart disease. To his surprise, Watanabe further found that the rabbits, like humans with familial hypercholesterolemia, lacked LDL receptors. Thus, scientists could study these Watanabe rabbits to gain a better understanding of familial hypercholesterolemia in humans.

Prior to the breakthrough at Kobe University, it was known that LDL’s are secreted from the liver in the form of a precursor, called very low-density lipoproteins (VLDL’s), which carry triglycerides (triglyceride: n.[化]甘油三酸酯) as well as relatively small amounts of cholesterol. The triglycerides are removed from the VLDL’s by fatty and other tissues. What remains is a remnant particle that must be removed from the blood. What scientists learned by studying the Watanabe rabbits is that the removal of the VLDL remnant requires the LDL receptor. Normally, the majority of the VLDL remnants go to the liver where they bind to LDL receptors and are degraded. In the Watanabe rabbit, due to a lack of LDL receptors on liver cells, the VLDL remnants remain in the blood and are eventually converted to LDL’s. The LDL receptors thus have a dual effect in controlling LDL levels. They are necessary to prevent oversynthesis of LDL’s from VLDL remnants and they are necessary for the normal removal of LDL’s from the blood. With this knowledge, scientists are now well on the way toward developing drugs that dramatically lower cholesterol levels in people afflicted with certain forms of familial hypercholesterolemia.

17. In the passage, the author is primarily concerned with

(A) presenting a hypothesis and describing compelling evidence in support of it

(B) raising a question and describing an important discovery that led to an answer

(C) showing that a certain genetically caused disease can be treated effectively with drugs

(D) explaining what causes the genetic mutation that leads to heart disease（B）

(E) discussing the importance of research on animals for the study of human disease

18. Which of the following drugs, if developed, would most likely be an example of the kind of drug mentioned in line 53?

(A) A drug that stimulates the production of VLDL remnants

(B) A drug that stimulates the production of LDL receptors on the liver

(C) A drug that stimulates the production of an enzyme needed for cholesterol production

(D) A drug that suppresses the production of body cells that use cholesterol（B）

(E) A drug that prevents triglycerides from attaching to VLDL’s

19. The passage supplies information to answer which of the following questions?

(A) Which body cells are the primary users of cholesterol?

(B) How did scientists discover that LDL’s are secreted from the liver in the form of a precursor?

(C) Where in the body are VLDL remnants degraded?

(D) Which body tissues produce triglycerides?（C）

(E) What techniques are used to determine the presence or absence of cell-surface receptors?

20. According to the passage, by studying the Watanabe rabbits scientists learned that

(A) VLDL remnants are removed from the blood by LDL receptors in the liver

(B) LDL’s are secreted from the liver in the form of precursors called VLDL’s

(C) VLDL remnant particles contain small amounts of cholesterol

(D) triglycerides are removed from VLDL’s by fatty tissues（A）

(E) LDL receptors remove LDL’s from the blood

21. The development of drug treatments for some forms of familial hypercholesterolemia is regarded by the author as

(A) possible, but not very important

(B) interesting, but too costly to be practical

(C) promising, but many years off

(D) extremely unlikely（E）

(E) highly probable

22. The passage implies that if the Watanabe rabbits had had as many LDL receptors on their livers as do normal rabbits, the Watanabe rabbits would have been

(A) less likely than normal rabbits to develop heart disease

(B) less likely than normal rabbits to develop high concentrations of cholesterol in their blood

(C) less useful than they actually were to scientists in the study of familial hypercholesterolemia in humans

(D) unable to secrete VLDL’s from their livers（C）

(E) immune to drugs that lower cholesterol levels in people with certain forms of familial hypercholesterolemia

23. The passage implies that Watanabe rabbits differ from normal rabbits in which of the following ways?

(A) Watanabe rabbits have more LDL receptors than do normal rabbits.

(B) The blood of Watanabe rabbits contains more VLDL remnants than does the blood of normal rabbits.

(C) Watanabe rabbits have fewer fatty tissues than do normal rabbits.

(D) Watanabe rabbits secrete lower levels of VLDL’s than do normal rabbits.（B）

(E) The blood of Watanabe rabbits contains fewer LDL’s than does the blood of normal rabbits.

(The article from which this passage was taken appeared in 1981.)

When speaking of Romare Bearden, one is tempted to say, “A great Black American artist.” The subject matter of Bearden’s collages is certainly Black. Portrayals of the folk of Mecklenburg County, North Carolina, whom he remembers from early childhood, of the jazz musicians and tenement roofs of his Harlem days, of Pittsburgh steelworkers, and his reconstruction of classical Greek myths in the guise of (in the guise of: 假借;以...为幌子) the ancient Black kingdom of Benin, attest to this. In natural harmony with this choice of subject matter are the social sensibilities of the artist, who remains active today with the Cinque Gallery in Manhattan, which he helped found and which is devoted to showing the work of minority artists.

Then why not call Bearden a Black American artist? Because ultimately this categorization is too narrow. “What stands up in the end is structure,” Bearden says. “What I try to do is amplify. If I were just creating a picture of a farm woman from back home, it would have meaning to her and people there. But art amplifies itself to something universal.”

24. According to the passage, all of the following are depicted in Bearden’s collages EXCEPT:

(A) workers in Pittsburgh’s steel mills

(B) scenes set in the ancient kingdom of Benin

(C) people Bearden knew as a child

(D) traditional representations of the classical heroes of Greek mythology（D）

(E) the jazz musicians of the Harlem Bearden used to know

25. The author suggests that Bearden should not be called a Black American artist because

(A) there are many collages by Bearden in which the subject matter is not Black

(B) Bearden’s work reflects the Black American experience in a highly individual style

(C) through the structure of Bearden’s art his Black subjects come to represent all of humankind

(D) Bearden’s true significance lies not so much in his own work as in his efforts to help other minority artists（C）

(E) much of Bearden’s work uses the ancient Black kingdom of Benin for its setting

26. Bearden’s social sensibilities and the subject matter of his collages are mentioned by the author in order to explain

(A) why one might be tempted to call Bearden a Black American artist

(B) why Bearden cannot be readily categorized

(C) why Bearden’s appeal is thought by many to be ultimately universal

(D) how deeply an artist’s artistic creations are influenced by he artist’s social conscience（A）

(E) what makes Bearden unique among contemporary Black American artists

27. The author of the passage is chiefly concerned with

(A) discussing Bearden’s philosophy of art

(B) assessing the significance of the ethnic element in Bearden’s work

(C) acknowledging Bearden’s success in giving artistic expression to the Black American experience

(D) pointing out Bearden’s helpfulness to other minority artists（B）

(E) tracing Bearden’s progress toward artistic maturity

## No. 9-5

### SECTION A

Zooplankton, tiny animals adapted to an existence in the ocean, have evolved clever mechanisms for obtaining their food, miniscule phytoplankton (plant plankton). A very specialized feeding adaptation in zooplankton is that of the tadpolelike appendicularian who lives in a walnut-sized (or smaller) balloon of mucus equipped with filters that capture and concentrate phytoplankton. The balloon, a transparent structure that varies in design according to the type of appendicularian in habiting it, also protects the animal and helps to keep it afloat. Water containing phytoplankton is pumped by the appendicularian’s muscular tail into the balloon’s incurrent filters, passes through the feeding filter where the appendicularian sucks the food into its mouth, and then goes through an exit passage. Found in all the oceans of the world, including the Arctic Ocean, appendicularians tend to remain near the water’s surface where the density of phytoplankton is greatest.

17. It can be inferred from the passage that which of the following is true of appendicularians?

(A) They are exclusively carnivorous.

(B) They have more than one method of obtaining food.

(C) They can tolerate frigid water.

(D) They can disguise themselves by secreting mucus.（C）

(E) They are more sensitive to light than are other zooplankton.

18. The author is primarily concerned with

(A) explaining how appendicularians obtain food

(B) examining the flotation methods of appendicularians

(C) mapping the distribution of appendicularians around the world

(D) describing how appendicularians differ from other zooplankton（A）

(E) comparing the various types of balloons formed by appendicularians

19. According to the passage, all of the following are descriptive of appendicularians EXCEPT:

(A) tailed

(B) vegetarian

(C) small-sized

(D) single-celled（D）

(E) ocean-dwelling

20. The passage suggests that appendicularians tend to remain in surface waters because they

(A) prefer the warmer water near the surface

(B) are unable to secrete mucus at the lower levels of the ocean

(C) use the contrast of light and shadow at the surface to hide from predators

(D) live in balloons that cannot withstand he water pressure deeper in the ocean（E）

(E) eat food that grows more profusely near the surface

Students of United States history, seeking to identify the circumstances that encouraged the emergence of feminist movements, have thoroughly investigated the mid-nineteenth-century American economic and social conditions that affected the status of women. These historians, however, have analyzed less fully the development of specifically feminist ideas and activities during the same period. Furthermore, the ideological origins of feminism in the United States have been obscured because, even when historians did take into account those feminist ideas and activities occurring within the United States, they failed to recognize that feminism was then a truly international movement actually centered in Europe. American feminist activists who have been described as “solitary” and “individual theorists” were in reality (in reality: 实际上, 事实上) connected to a movement—utopian socialism—which was already popularizing feminist ideas in Europe during the two decades that culminated in the first women’s rights conference held at Seneca Falls, New York, in 1848. Thus, a complete understanding of the origins and development of nineteenth-century feminism in the United States requires that the geographical focus be widened to include Europe and that the detailed study already made of social conditions be expanded to include the ideological development of feminism.

The earliest and most popular of the utopian socialists were the Saint-Simonians. The specifically feminist part of Saint-Simonianism has, however, been less studied than the group’s contribution to early socialism. This is regrettable on two counts. By (not later than “by 2 p.m.”) 1832 feminism was the central concern of Saint-Simonianism and entirely absorbed its adherents’ energy; hence, by ignoring its feminism, European historians have misunderstood Saint-Simonianism. Moreover, since many feminist ideas can be traced to Saint-Simonianism, European historians’ appreciation of later feminism in France and the United States remained limited.

Saint-Simon’s followers, many of whom were women, based their feminism on an interpretation of his project to reorganize the globe by replacing brute force with the rule of spiritual powers. The new world order would be ruled together by a male, to represent reflection, and a female, to represent sentiment. This complementarity reflects the fact that, while the Saint-Simonians did not reject the belief that there were innate differences between men and women, they nevertheless foresaw an equally important social and political role for both sexes in their utopia.

Only a few Saint-Simonians opposed a definition of sexual equality based on gender distinction. This minority believed that individuals of both sexes were born similar in capacity and character, and they ascribed male-female differences to socialization and education. The envisioned result of both currents of thought, however, was that women would enter public life in the new age and that sexual equality would reward men as well as women with an improved way of life.

21. It can be inferred that the author considers those historians who describe early feminists in the United States as “solitary” to be

(A) insufficiently familiar with the international origins of nineteenth-century American feminist thought

(B) overly concerned with the regional diversity of feminist ideas in the period before 1848

(C) not focused narrowly enough in their geographical scope

(D) insufficiently aware of the ideological consequences of the Seneca Falls conference（A）

(E) insufficiently concerned with the social conditions out of which feminism developed

22. According to the passage, which of the following is true of the Seneca Falls conference on women’s rights?

(A) It was primarily a product of nineteenth-century Saint-Simonian feminist thought.

(B) It was the work of American activists who were independent of feminists abroad.

(C) It was the culminating achievement of the utopian socialist movement.

(D) It was a manifestation of an international movement for social change and feminism.（D）

(E) It was the final manifestation of the women’s rights movement in the United States in the nineteenth century.

23. The author’s attitude toward most European historians who have studied the Saint-Simonians is primarily one of(B选项中的AFTER是否应该是BEFORE)

(A) approval of the specific focus of their research

(B) disapproval of their lack of attention to the issue that absorbed most of the Saint-Simonians’ energy after 1832

(C) approval of their general focus on social conditions

(D) disapproval of their lack of attention to links between the Saint-Simonians and their American counterparts（B）

(E) disagreement with their interpretation of the Saint-Simonian belief in sexual equality

24. The author mentions all of the following as characteristic of the Saint-Simonians EXCEPT:

(A) The group included many women among its members.

(B) The group believed in a world that would be characterized by sexual equality.

(C) The group was among the earliest European socialist groups.

(D) Most members believed that women should enter public life.（E）

(E) Most members believed that women and men were inherently similar in ability and character.

25. It can be inferred from the passage that the Saint-Simonians envisioned a utopian society having which of the following characteristics?

(A) It would be worldwide.

(B) It would emphasize dogmatic religious principles.

(C) It would most influence the United States.

(D) It would have armies composed of women rather than of men.（A）

(E) It would continue to develop new feminist ideas.

26. It can be inferred from the passage that the author believes that study of Saint-Simonianism is necessary for historians of American feminism because such study

(A) would clarify the ideological origins of those feminist ideas that influenced American feminism

(B) would increase understanding of a movement that deeply influenced the utopian socialism of early American feminists

(C) would focus attention on the most important aspect of Saint-Simonian thought before 1832

(D) promises to offer insight into a movement that was a direct outgrowth of the Seneca Falls conference of 1848（A）

(E) could increase understanding of those ideals that absorbed most of the energy of the earliest American feminists

27. According to the passage, which of the following would be the most accurate description of the society envisioned by most Saint-Simonians?

(A) A society in which women were highly regarded for their extensive education

(B) A society in which the two genders played complementary roles and had equal status

(C) A society in which women did not enter public life

(D) A social order in which a body of men and women would rule together on the basis of their spiritual power（B）

(E) A social order in which distinctions between male and female would not exist and all would share equally in political power

### SECTION B

Historically, a cornerstone of classical empiricism has been the notion that every true generalization must be confirmable by specific observations. In classical empiricism, the truth of “All balls are red,” for example, is assessed by inspecting balls; any observation of a *non* red ball refutes unequivocally the proposed generalization.

For W. V. O. Quine, however, this constitutes an overly “narrow” conception of empiricism. “All balls are red,” he maintains, forms one strand within an entire web of statements (our knowledge); individual observations can be referred only to this web as a whole. As new observations are collected, he explains, they must be integrated into the web. Problems occur only if a contradiction develops between a new observation, say, “That ball is blue,” and the preexisting statements. In that case, he argues, *any* statement or combination of statements (not merely the “offending” generalization, as in classical empiricism) can be altered to achieve the fundamental requirement, a system free of contradictions, even if, in some cases, the alteration consists of labeling the new observation a “hallucination.”

17. The author of the passage is primarily concerned with presenting

(A) criticisms of Quine’s views on the proper conceptualization of empiricism

(B) evidence to support Quine’s claims about the problems inherent in classical empiricism

(C) an account of Quine’s counterproposal to one of the traditional assumptions of classical empiricism

(D) an overview of classical empiricism and its contributions to Quine’s alternate understanding of empiricism（C）

(E) a history of classical empiricism and Quine’s reservations about it

18. According to Quine’s conception of empiricism, if a new observation were to contradict some statement already within our system of knowledge, which of the following would be true?

(A) The new observation would be rejected as untrue.

(B) Both the observation and the statement in our system that it contradicted would be discarded.

(C) New observations would be added to our web of statements in order to expand our system of knowledge.

(D) The observation or some part of our web of statements would need to be adjusted to resolve the contradiction.（D）

(E) An entirely new field of knowledge would be created.

19. As described in the passage, Quine’s specific argument against classical empiricism would be most strengthened if he did which of the following?

(A) Provided evidence that many observations are actually hallucinations.

(B) Explained why new observations often invalidate preexisting generalizations.

(C) Challenged the mechanism by which specific generalizations are derived from collections of particular observations.

(D) Mentioned other critics of classical empiricism and the substance of their approaches.（E）

(E) Gave an example of a specific generalization that has not been invalidated despite a contrary observation.

20. It can be inferred from the passage that Quine considers classical empiricism to be “overly ‘narrow’ ” (lines 7-8) for which of the following reasons?

I. Classical empiricism requires that our system of generalizations be free of contradictions.

II. Classical empiricism demands that in the case of a contradiction between an individual observation and a generalization, the generalization must be abandoned.

III. Classical empiricism asserts that every observation will either confirm an existing generalization or initiate a new generalization.

(A) II only

(B) I and II only

(C) I and III only

(D) II and III only（A）

(E) I, II, and III

Until recently astronomers have been puzzled by the fate of red giant (red giant: n. 〈天〉红巨星a star that has low surface temperature and a diameter that is large relative to the sun) and supergiant stars. When the core of a giant star whose mass surpasses 1.4 times the present mass of our Sun (M⊙) exhausts its nuclear fuel, it is unable to support its own weight and collapses into a tiny neutron star (a hypothetical dense celestial object that consists primarily of closely packed neutrons and that results from the collapse of a much larger stellar body). The gravitational energy released during this implosion of the core blows off (blow off: v.吹掉, 放出) the remainder of the star in a gigantic explosion, or a supernova. Since around 50 percent of all stars are believed to begin their lives with masses greater than 1.4M⊙, we might expect that one out of every two stars would die as a supernova. But in fact, only one star in thirty dies such a violent death. The rest expire much more peacefully as planetary nebulas. Apparently most massive stars manage to lose sufficient material that their masses drop below the critical value of 1.4 M⊙ before they exhaust their nuclear fuel.

Evidence supporting this view comes from observations of IRC+10216, a pulsating giant star (a star of great luminosity and of large mass) located 700 light-years away from Earth. A huge rate of mass loss (1 M⊙ every 10,000 years) has been deduced from infrared observations of ammonia (NH3) molecules located in the circumstellar cloud around IRC+10216. Recent microwave observations of carbon monoxide (CO) molecules indicate a similar rate of mass loss and demonstrate that the escaping material extends outward from the star for a distance of at least one light-year. Because we know the size of the cloud around IRC+10216 and can use our observations of either NH3 or CO to measure the outflow velocity, we can calculate an age for the circumstellar cloud. IRC+10216 has apparently expelled, in the form of molecules and dust grains, a mass equal to that of our entire Sun within the past ten thousand years. This implies that some stars can shed huge amounts of matter very quickly and thus may never expire as supernovas. Theoretical models as well as statistics on supernovas and planetary nebulas suggest that stars that begin their lives with masses around 6 M⊙ shed sufficient material to drop below the critical value of 1.4 M⊙. IRC+10216, for example, should do this in a mere 50,000 years from its birth, only an instant in the life of a star.

But what place does IRC+10216 have in stellar evolution? Astronomers suggest that stars like IRC+10216 are actually “protoplanetary nebulas”—old giant stars whose dense cores have almost but not quite rid themselves of the fluffy envelopes of gas around them. Once the star has lost the entire envelope, its exposed core becomes the central star of the planetary nebula (a usually compact luminous ring-shaped nebula that is composed of matter which has been ejected from a hot star at its center) and heats and ionizes the last vestiges of the envelope as it flows away into space. This configuration is a full-fledged planetary nebula, long familiar to optical astronomers.

21. The primary purpose of the passage is to

(A) offer a method of calculating the age of circumstellar clouds

(B) describe the conditions that result in a star’s expiring as a supernova

(C) discuss new evidence concerning the composition of planetary nebulas

(D) explain why fewer stars than predicted expire as supernovas（D）

(E) survey conflicting theories concerning the composition of circumstellar clouds

22. The passage implies that at the beginning of the life of IRC+10216, its mass was approximately

(A) 7.0 M⊙

(B) 6.0 M⊙

(C) 5.0 M⊙

(D) 1.4 M⊙（B）

(E) 1.0 M⊙

23. The view to which line 18 refers serves to

(A) reconcile seemingly contradictory facts

(B) undermine a previously held theory

(C) take into account data previously held to be insignificant

(D) resolve a controversy（A）

(E) question new methods of gathering data

24. It can be inferred from the passage that the author assumes which of the following in the discussion of the rate at which IRC+10216 loses mass?

(A) The circumstellar cloud surrounding IRC+10216 consists only of CO and NH3 molecules.

(B) The circumstellar cloud surrounding IRC+10216 consists of material expelled from that star.

(C) The age of a star is equal to that of its circumstellar cloud.

(D) The rate at which IRC+10216 loses mass varies significantly from year to year.（B）

(E) Stars with a mass greater than 6 M⊙ lose mass at a rate faster than stars with a mass less than 6 M⊙ do.

25. According to information provided by the passage, which of the following stars would astronomers most likely describe as a planetary nebula?

(A) A star that began its life with a mass of 5.5 M⊙, has exhausted its nuclear fuel, and has a core that is visible to astronomers

(B) A star that began its life with a mass of 6 M⊙, lost mass at a rate of 1 M⊙ per 10,000 years, and exhausted its nuclear fuel in 40,000 years

(C) A star that has exhausted its nuclear fuel, has a mass of 1.2 M⊙, and is surrounded by a circumstellar cloud that obscures its core from view

(D) A star that began its life with a mass greater than 6 M⊙, has just recently exhausted its nuclear fuel, and is in the process of releasing massive amounts of gravitational energy（A）

(E) A star that began its life with a mass of 5.5 M⊙, has yet to exhaust its nuclear fuel, and exhibits a rate of mass loss similar to that of IRC+10216

26. Which of the following statements would be most likely to follow the last sentence of the passage?

(A) Supernovas are not necessarily the most spectacular events that astronomers have occasion to observe.

(B) Apparently, stars that have a mass of greater than 6 M⊙ are somewhat rare.

(C) Recent studies of CO and NH3 in the circumstellar clouds of stars similar to IRC+10216 have led astronomers to believe that the formation of planetary nebulas precedes the development of supernovas.

(D) It appears, then, that IRC+10216 actually represents an intermediate step in the evolution of a giant star into a planetary nebula.（D）

(E) Astronomers have yet to develop a consistently accurate method for measuring the rate at which a star exhausts its nuclear fuel.

27. Which of the following titles best summarizes the content of the passage?

(A) New Methods of Calculating the Age of Circumstellar Clouds

(B) New Evidence Concerning the Composition of Planetary Nebulas

(C) Protoplanetary Nebula: A Rarely Observed Phenomenon

(D) Planetary Nebulas: An Enigma to Astronomers（E）

(E) The Diminution of a Star’s Mass: A Crucial Factor in Stellar Evolution

## No. 9-6

### SECTION A

(This passage is from an article published in 1973)

The recent change to all-volunteer armed forces in the United States will eventually produce a gradual increase in the proportion of women in the armed forces and in the variety of women’s assignments, but probably not the dramatic gains for women that might have been expected. This is so even though the armed forces operate in an ethos of institutional change oriented toward occupational equality and under the federal sanction of equal pay for equal work. The difficulty is that women are unlikely to be trained for any direct combat operations. A significant portion of the larger society remains uncomfortable as yet with extending equality in this direction. Therefore, for women in the military, the search for equality will still be based on functional equivalence, not identity or even similarity of task. Opportunities seem certain to arise. The growing emphasis on deterrence is bound to offer increasing scope for women to become involved in novel types of noncombat military assignments.

17. The primary purpose of the passage is to

(A) present an overview of the different types of assignments available to women in the new United States all-volunteer armed forces

(B) present a reasoned (reasoned: adj.详尽论述的, 理由充分的) prognosis of the status of women in the new United States all-volunteer armed forces

(C) present the new United States all-volunteer armed forces as a model case of equal employment policies in action

(D) analyze reforms in the new United States all-volunteer armed forces necessitated by the increasing number of women in the military（B）

(E) analyze the use of functional equivalence as a substitute for occupational equality in the new United States all-volunteer armed forces

18. According to the passage, despite the United States armed forces’ commitment to occupational equality for women in the military, certain other factors preclude women’s

(A) receiving equal pay for equal work

(B) having access to positions of responsibility at most levels

(C) drawing assignments from a wider range of assignments than before

(D) benefiting from opportunities arising from new noncombat functions（E）

(E) being assigned all of the military tasks that are assigned to men

19. The passage implies that which of the following is a factor conducive to a more equitable representation of women in the United States armed forces than has existed in the past?

(A) The all-volunteer character of the present armed forces

(B) The past service records of women who had assignments functionally equivalent to men’s assignments

(C) The level of awareness on the part of the larger society of military issues

(D) A decline in the proportion of deterrence oriented noncombat assignments（A）

(E) Restrictive past policies governing the military assignments open to women

20. The “dramatic gains for women” (line 5) and the attitude, as described in lines 11-12, of a “significant portion of the larger society” are logically related to each other inasmuch as (inasmuch as: 因为, 由于) the author puts forward the latter as

(A) a public response to achievement of the former

(B) the major reason for absence of the former

(C) a precondition for any prospect of achieving the former

(D) a catalyst for a further extension of the former（B）

(E) a reason for some of the former being lost again

Of the thousands of specimens of meteorites found on Earth and known to science, only about 100 are igneous; that is, they have undergone melting by volcanic action at some time since the planets were first formed. These igneous meteorites are known as achondrites because they lack chondrules—small stony spherules found in the thousands of meteorites (called “chondrites”) composed primarily of unaltered minerals that condensed from dust and gas at the origin of the solar system. Achondrites are the only known samples of volcanic rocks originating outside the Earth-Moon system. Most are thought to have been dislodged by interbody impact from asteroids, with diameters of from 10 to 500 kilometers, in solar orbit between Mars and Jupiter.

Shergottites, the name given to three anomalous achondrites so far discovered on Earth, present scientists with a genuine enigma. Shergottites crystallized from molten rock less than 1.1 billion years ago (some 3.5 billion years later than typical achondrites) and were presumably ejected into space when an object impacted on a body similar in chemical composition to Earth.

While most meteorites appear to derive from comparatively small bodies, shergottites exhibit properties that indicate that their source was a large planet, conceivably Mars. In order to account for such an unlikely source, some unusual factor must be invoked, because the impact needed to accelerate a fragment of rock to escape the gravitational field of a body even as small as the Moon is so great that no meteorites of lunar origin have been discovered.

While some scientists speculate that shergottites derive from Io (a volcanically active moon of Jupiter), recent measurements suggest that since Io’s surface is rich in sulfur and sodium, the chemical composition of its volcanic products would probably be unlike that of the shergottites. Moreover, any fragments dislodged from Io by interbody impact would be unlikely to escape the gravitational pull of Jupiter.

The only other logical source of shergottites is Mars. Space-probe photographs indicate the existence of giant volcanoes on the Martian surface. From the small number of impact craters that appear on Martian lava flows, one can estimate that the planet was volcanically active as recently as a half-billion years ago—and may be active today. The great objection to the Martian origin of shergottites is the absence of lunar meteorites on Earth. An impact capable of ejecting a fragment of the Martian surface into an Earth-intersecting orbit is even less probable than such an event on the Moon, in view of (in view of: adv.考虑到, 由于) the Moon’s smaller size and closer proximity to Earth. A recent study suggests, however, that permafrost ices below the surface of Mars may have altered the effects of impact on it. If the ices had been rapidly vaporized by an impacting object, the expanding gases might have helped the ejected fragments reach escape velocity (escape velocity: n.逃逸速度). Finally, analyses performed by space probes show a remarkable chemical similarity between Martian soil and the shergottites.

21. The passage implies which of the following about shergottites?

I. They are products of volcanic activity.

II. They derive from a planet larger than Earth.

III. They come from a planetary body with a chemical composition similar to that of Io.

(A) I only

(B) II only

(C) I and II only

(D) II and III only（A）

(E) I, II, and III

22. According to the passage, a meteorite discovered on Earth is unlikely to have come from a large planet for which of the following reasons?

(A) There are fewer large planets in the solar system than there are asteroids.

(B) Most large planets have been volcanically inactive for more than a billion years.

(C) The gravitational pull of a large planet would probably prohibit fragments from escaping its orbit.

(D) There are no chondrites occurring naturally on Earth and probably none on other large planets.（C）

(E) Interbody impact is much rarer on large than on small planets because of the density of the atmosphere on large planets.

23. The passage suggests that the age of shergottites is probably

(A) still entirely undetermined

(B) less than that of most other achondrites

(C) about 3.5 billion years

(D) the same as that of typical achondrites（B）

(E) greater than that of the Earth

24. According to the passage, the presence of chondrules in a meteorite indicates that the meteorite

(A) has probably come from Mars

(B) is older than the solar system itself

(C) has not been melted since the solar system formed

(D) is certainly less than 4 billion years old（C）

(E) is a small fragment of an asteroid

25. The passage provides information to answer which of the following questions?

(A) What is the precise age of the solar system?

(B) How did shergottites get their name?

(C) What are the chemical properties shared by shergottites and Martian soils?

(D) How volcanically active is the planet Jupiter?（E）

(E) What is a major feature of the Martian surface?

26. It can be inferred from the passage that each of the following is a consideration in determining whether a particular planet is a possible source of shergottites that have been discovered on Earth EXCEPT the

(A) planet’s size

(B) planet’s distance from Earth

(C) strength of the planet’s field of gravity

(D) proximity of the planet to its moons（D）

(E) chemical composition of the planet’s surface

27. It can be inferred from the passage that most meteorites found on Earth contain which of the following?

(A) Crystals

(B) Chondrules

(C) Metals

(D) Sodium（B）

(E) Sulfur

### SECTION B

The transplantation of organs from one individual to another normally involves two major problems: (1) organ rejection is likely unless the transplantation antigens (a usually protein or carbohydrate substance (as a toxin or enzyme) capable of stimulating an immune response) of both individuals are nearly identical, and (2) the introduction of any unmatched transplantation antigens induces the development by the recipient of donor-specific lymphocytes that will produce violent rejection of further transplantations from that donor. However, we have found that among many strains of rats these “normal” rules of transplantation are not obeyed by liver transplants. Not only are liver transplants never rejected, but they even induce a state of donor-specific unresponsiveness in which subsequent transplants of other organs, such as skin, from that donor are accepted permanently. Our hypothesis is that (1) many strains of rats simply cannot mount a sufficiently vigorous destructive immune-response (using lymphocytes) to outstrip the liver’s relatively great capacity to protect itself from immune-response damage and that (2) the systemic unresponsiveness observed is due to concentration of the recipient’s donor-specific lymphocytes at the site of the liver transplant.

17. The primary purpose of the passage is to treat the accepted generalizations about organ transplantation in which of the following ways?

(A) Explicate their main features

(B) Suggest an alternative to them

(C) Examine their virtues and limitations

(D) Criticize the major evidence used to support them（E）

(E) Present findings that qualify them

18. It can be inferred from the passage that the author believes that an important difference among strains of rats is the

(A) size of their livers

(B) constitution of their skin

(C) strength of their immune-response reactions

(D) sensitivity of their antigens（C）

(E) adaptability of their lymphocytes

19. According to the hypothesis of the author, after a successful liver transplant, the reason that rats do not reject further transplants of other organs from the same donor is that the

(A) transplantation antigens of the donor and the recipient become matched

(B) lymphocytes of the recipient are weakened by the activity of the transplanted liver

(C) subsequently transplanted organ is able to repair the damage caused by the recipient’s immune-response reaction

(D) transplanted liver continues to be the primary locus for the recipient’s immune-response reaction（D）

(E) recipient is unable to manufacture the lymphocytes necessary for the immune-response reaction

20. Which of the following new findings about strains of rats that do not normally reject liver transplants, if true, would support the authors’ hypothesis?

I. Stomach transplants are accepted by the recipients in all cases.

II. Increasing the strength of the recipient’s immune-response reaction can induce liver-transplant rejection.

III. Organs from any other donor can be transplanted without rejection after liver transplantation.

IV. Preventing lymphocytes from being concentrated at the liver transplant produces acceptance of skin transplants.

(A) II only

(B) I and III only

(C) II and IV only

(D) I, II, and III only（A）

(E) I, III, and IV only

Practically speaking, the artistic maturing of the cinema was the single-handed achievement of David W. Griffith (1875-1948). Before Griffith, photography in dramatic films consisted of little more than (little more than: 和...无差别[一样]) placing the actors before a stationary camera and showing them in full length as they would have appeared on stage. From the beginning of his career as a director, however, Griffith, because of his love of Victorian painting, employed composition. He conceived of the camera image as having a foreground and a rear ground, as well as the middle distance preferred by most directors. By 1910 he was using close-ups to reveal significant details of the scene or of the acting and extreme long shots to achieve a sense of spectacle and distance. His appreciation of the camera’s possibilities produced novel dramatic effects. By splitting an event into fragments and recording each from the most suitable camera position, he could significantly vary the emphasis from camera shot to camera shot.

Griffith also achieved dramatic effects by means of creative editing. By juxtaposing images and varying the speed and rhythm of their presentation, he could control the dramatic intensity of the events as the story progressed. Despite the reluctance of his producers, who feared that the public would not be able to follow a plot that was made up of such juxtaposed images, Griffith persisted, and experimented as well with other elements of cinematic syntax that have become standard ever since (ever since: adv.从那时到现在). These included the flashback, permitting broad psychological and emotional exploration as well as narrative that was not chronological, and the crosscut between two parallel actions to heighten suspense and excitement. In thus exploiting fully the possibilities of editing, Griffith transposed devices of the Victorian novel to film and gave film mastery of time as well as space.

Besides developing the cinema’s language, Griffith immensely broadened its range and treatment of subjects. His early output was remarkably eclectic: it included not only the standard comedies, melodramas, westerns, and thrillers, but also such novelties as adaptations from Browning and Tennyson, and treatments of social issues. As his successes mounted, his ambitions grew, and with them the whole of American cinema. When he remade *Enoch Arden* in 1911, he insisted that a subject of such importance could not be treated in the then conventional length of one reel. Griffith’s introduction of the American-made multireel picture began an immense revolution. Two years later, *Judith of Bethulia*, an elaborate historicophilosophical spectacle, reached the unprecedented length of four reels, or one hour’s running time (running time: (程序)执行时间, 运行时间). From our contemporary viewpoint, the pretensions of this film may seem a trifle ludicrous, but at the time it provoked endless debate and discussion and gave a new intellectual respectability to the cinema.

21. The primary purpose of the passage is to

(A) discuss the importance of Griffith to the development of the cinema

(B) describe the impact on cinema of the flashback and other editing innovations

(C) deplore the state of American cinema before the advent of Griffith

(D) analyze the changes in the cinema wrought by the introduction of the multireel film（A）

(E) document Griffith’s impact on the choice of subject matter in American films

22. The author suggests that Griffith’s film innovations had a direct effect on all of the following EXCEPT:

(A) film editing

(B) camera work

(C) scene composing

(D) sound editing（D）

(E) directing

23. It can be inferred from the passage that before 1910 the normal running time of a film was

(A) 15 minutes or less

(B) between 15 and 30 minutes

(C) between 30 and 45 minutes

(D) between 45 minutes and 1 hour（A）

(E) 1 hour or more

24. The author asserts that Griffith introduced all of the following into American cinema EXCEPT:

(A) consideration of social issues

(B) adaptations from Tennyson

(C) the flashback and other editing techniques

(D) photographic approaches inspired by Victorian painting（E）

(E) dramatic plots suggested by Victorian theater

25. The author suggests that Griffith’s contributions to the cinema had which of the following results?

I. Literary works, especially Victorian novels, became popular sources for film subjects.

II. Audience appreciation of other film directors’ experimentations with cinematic syntax was increased.

III. Many of the artistic limitations thought to be inherent in filmmaking were shown to be really nonexistent.

(A) II only

(B) III only

(C) I and II only

(D) II and III only（B）

(E) I, II, and III

26. It can be inferred from the passage that Griffith would be most likely to agree with which of the following statements?

(A) The good director will attempt to explore new ideas as quickly as possible.

(B) The most important element contributing to a film’s success is the ability of the actors.

(C) The camera must be considered an integral and active element in the creation of a film.

(D) The cinema should emphasize serious and sober examinations of fundamental human problems.（C）

(E) The proper composition of scenes in a film is more important than the details of their editing.

27. The author’s attitude toward photography in the cinema before Griffith can best be described as

(A) sympathetic

(B) nostalgic

(C) amused

(D) condescending（D）

(E) hostile

**ANSWERS**

## No. 9-1

### SECTION A

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. D
 | 1. B
 | 1. B
 | 1. B
 | 1. B
 |
| 1. A
 | 1. D
 | 1. E
 | 1. D
 | 1. A
 |
| 1. D
 |  |  |  |  |

### SECTION B

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. B
 | 1. D
 | 1. A
 | 1. D
 | 1. C
 |
| 1. D
 | 1. A
 | 1. B
 | 1. B
 | 1. B
 |
| 1. C
 |  |  |  |  |

## No. 9-2

### SECTION A

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. B
 | 1. B
 | 1. A
 | 1. D
 | 1. A
 |
| 1. B
 | 1. E
 | 1. C
 | 1. D
 | 1. A
 |
| 1. B
 |  |  |  |  |

### SECTION B

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. D
 | 1. C
 | 1. E
 | 1. B
 | 1. D
 |
| 1. E
 | 1. A
 | 1. A
 | 1. E
 | 1. C
 |
| 1. D
 |  |  |  |  |

## No. 9-3

### SECTION A

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. A
 | 1. E
 | 1. B
 | 1. B
 | 1. E
 |
| 1. E
 | 1. C
 | 1. E
 | 1. C
 | 1. C
 |
| 1. B
 |  |  |  |  |

### SECTION B

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. B
 | 1. D
 | 1. B
 | 1. D
 | 1. E
 |
| 1. A
 | 1. E
 | 1. C
 | 1. A
 | 1. B
 |
| 1. B
 |  |  |  |  |

## No. 9-4

### SECTION A

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. A
 | 1. D
 | 1. D
 | 1. B
 | 1. B
 |
| 1. D
 | 1. A
 | 1. E
 | 1. B
 | 1. C
 |
| 1. B
 |  |  |  |  |

### SECTION B

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. B
 | 1. B
 | 1. C
 | 1. A
 | 1. E
 |
| 1. C
 | 1. B
 | 1. D
 | 1. C
 | 1. A
 |
| 1. B
 |  |  |  |  |

## No. 9-5

### SECTION A

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. C
 | 1. A
 | 1. D
 | 1. E
 | 1. A
 |
| 1. D
 | 1. B
 | 1. E
 | 1. A
 | 1. A
 |
| 1. B
 |  |  |  |  |

### SECTION B

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. C
 | 1. D
 | 1. E
 | 1. A
 | 1. D
 |
| 1. B
 | 1. A
 | 1. B
 | 1. A
 | 1. D
 |
| 1. E
 |  |  |  |  |

## No. 9-6

### SECTION A

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. B
 | 1. E
 | 1. A
 | 1. B
 | 1. A
 |
| 1. C
 | 1. B
 | 1. C
 | 1. E
 | 1. D
 |
| 1. B
 |  |  |  |  |

### SECTION B

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. E
 | 1. C
 | 1. D
 | 1. A
 | 1. A
 |
| 1. D
 | 1. A
 | 1. E
 | 1. B
 | 1. C
 |
| 1. D
 |  |  |  |  |