

GRE

阅读理解教程

○ 本书编写组编

中国环境科学出版社

• 北京 •

教材说明

本GRE系列由《GRE 填空教程》、《GRE 数学教程》、《GRE 阅读理解教程》和《GRE 写作教程》构成，由全国数十名著名GRE教学和研究专家经历数年集体编撰而成。

由于2011年GRE考试即将发生一些变化，例如：语文部分的类比反义词取消，填空和阅读都增加了新题型，数学部分增加了填空题，以及写作部分的提问方式有所改变。为了帮助广大同学适应上述变化，因此本系列涵盖了近十年的考试精华，尤其是涵盖了2011年的最新考试趋势，真实地剖析和反映了ETS的出题思路及最新动态。

总之，本系列教材的实效性和实战性极强。广大同学只要使用本系列进行艰苦卓越的训练，就一定能获得较理想的成绩。

2011年7月

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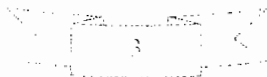
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第一部分

Exercise One

Great comic art is never otherworldly, it does not seek to mystify us, and it does not deny ambiguity by branding as evil whatever differs from good. Great comic artists assume that truth may bear all lights, and thus they seek to accentuate contradictions in social action, not gloss over or transcend them by appeals to extra-social symbols of divine ends, cosmic purpose, or laws of nature. The moment of transcendence in great comic art is a social moment, born out of the conviction that we are human, even though we try to be gods. The comic community to which artists address themselves is a community of reasoning, loving, joyful, compassionate beings, who are willing to assume the human risks of acting rationally. Without invoking gods or demons, great comic art arouses courage in reason, courage which grows out of trust in what human beings can do as humans.

1. Which of the following is the most accurate description of the organization of the passage?
 - (A) A sequence of observations leading to a prediction
 - (B) A list of inferences drawn from facts stated at the beginning of the passage
 - (C) A series of assertions related to one general subject
 - (D) A statement of the major idea, followed by specific examples
 - (E) A succession of ideas moving from specific to general
2. In the context of the passage, "accentuate" is closest in meaning to :
 - (A) emphasize
 - (B) overlook
 - (C) deemphasize
 - (D) realize
 - (E) apprehend



Exercise two

The evolution of sex ratios has produced, in most plants and animals with separate sexes, approximately equal numbers of males and females. Why should this be so? Two main kinds of answers have been offered. One is couched in terms of advantage to population. It is argued that the sex ratio will evolve so as to maximize the number of meetings between individuals of the opposite sex. This is essentially a group selection argument. The other, and in my view correct, type of answer was first put forward by Fisher in 1930. This "genetic" argument starts from the assumption that genes can influence the relative numbers of male and female offspring produced by an individual carrying the genes. That sex ratio will be favored which maximizes the number of descendants an individual will have and hence the number of gene copies transmitted. Suppose that the population consisted mostly of females: then an individual who produced sons only would have more grand children. In contrast, if the population consisted mostly of males, it would pay to have daughters. If, however, the population consisted of equal numbers of males and females, sons and daughters would be equally valuable. Thus a one-to-one sex ratio is the only stable ratio; it is an evolutionarily stable strategy. Although Fisher wrote before the mathematical theory of games had been developed, his theory incorporates the essential feature of a game—that the best strategy to adopt depends on what others are doing.

Since Fisher's time, it has been realized that genes can sometimes influence the chromosome or gamete in which they find themselves so that the gamete will be more likely to participate in fertilization. If such a gene occurs on a sex-determining (X or Y) chromosome, then highly aberrant sex ratios can occur. But more immediately relevant to game theory are the sex ratios in certain parasitic wasp species that have a large excess of females. In these species, fertilized eggs develop into females and unfertilized eggs into males. A female stores sperm and can determine the sex of each egg she lays by fertilizing it or leaving it unfertilized. By Fisher's argument, it should still pay a female to produce equal numbers of sons and daughters. Hamilton, noting that the eggs develop within their host—the larva of another insect—and that the newly emerged adult wasps mate immediately and disperse, offered a remarkably cogent analysis. Since only one female usually lays eggs in a given larva, it would pay her to produce one male only, because this one male could fertilize all his sisters on emergence. Like Fisher, Hamilton looked for an evolutionarily stable strategy, but he went a step further in recognizing that he was looking for a strategy.

1. The author suggests that the work of Fisher and Hamilton was similar in that both scientists
 - (A) conducted their research at approximately the same time
 - (B) sought to manipulate the sex ratios of some of the animals they studied
 - (C) sought an explanation of why certain sex ratios exist and remain stable
 - (D) studied game theory, thereby providing important groundwork for the later development of strategy theory
 - (E) studied reproduction in the same animal species

2. It can be inferred from the passage that the author considers Fisher's work to be
 - (A) fallacious and unprofessional
 - (B) definitive and thorough
 - (C) inaccurate but popular, compared with Hamilton's work
 - (D) admirable, but not as up-to-date as Hamilton's work
 - (E) accurate, but trivial compared with Hamilton's work

3. The passage contains information that would answer which of the following questions about wasps?
 - A How many eggs does the female wasp usually lay in a single host larva?
 - B Can some species of wasp determine sex ratios among their offspring?
 - C What is the approximate sex ratio among the offspring of parasitic wasps?

4. It can be inferred that the author discusses the genetic theory in greater detail than the group selection theory primarily *because* he believes that the genetic theory is more
 - (A) complicated
 - (B) accurate
 - (C) popular
 - (D) comprehensive
 - (E) accessible

Exercise Three

By the time the American colonists took up arms against Great Britain in order to secure their independence, the institution of Black slavery was deeply entrenched. But the contradiction inherent in this situation was, for many, a source of constant embarrassment. “It always appeared a most iniquitous scheme to me,” Abigail Adams wrote her husband in 1774, “to fight ourselves for what we are daily robbing and plundering from those who have as good a right to freedom as we have.”

Many Americans besides Abigail Adams were struck by the inconsistency of their stand during the War of Independence, and they were not averse to making moves to emancipate the slaves. Quakers and other religious groups organized antislavery societies, while numerous individuals manumitted their slaves. In fact, within several years of the end of the War of Independence, most of the Eastern states had made provisions for the gradual emancipation of slaves.

1. Which of the following best states the central idea of the passage?
 - (A) The War of Independence produced among many Black Americans a heightened consciousness of the inequities in American society.
 - (B) The War of Independence strengthened the bonds of slavery of many Black Americans while intensifying their desire to be free.
 - (C) The War of Independence exposed to many Americans the contradiction of slavery in a country seeking its freedom and resulted in efforts to resolve that contradiction.
 - (D) The War of Independence provoked strong criticisms by many Americans of the institution of slavery, but produced little substantive action against it.
 - (E) The War of Independence renewed the efforts of many American groups toward achieving Black emancipation.

2. According to the passage, the War of Independence was embarrassing to some Americans for which of the following reasons?
 - (A) It involved a struggle for many of the same liberties that Americans were denying to others.

- B It involved a struggle for independence from the very nation that had founded the colonies.
- C It involved a struggle based on inconsistencies in the participants' conceptions of freedom.

Exercise Four

A Marxist sociologist has argued that racism stems from the class struggle that is unique to the capitalist system—that racial prejudice is generated by capitalists as a means of controlling workers. His thesis works relatively well when applied to discrimination against Blacks in the United States, but his definition of racial prejudice as “racially based negative prejudgments against a group generally accepted as a race in any given region of ethnic competition,” can be interpreted as also including hostility toward such ethnic groups as the Chinese in California and the Jews in medieval Europe. However, since prejudice against these latter peoples was not inspired by capitalists, he has to reason that such antagonisms were not really based on race. He disposes thusly (albeit unconvincingly) of both the intolerance faced by Jews before the rise of capitalism and the early twentieth-century discrimination against Oriental people in California, which, inconveniently, was instigated by workers.

1. The author considers the Marxist sociologist's thesis about the origins of racial prejudice to be
 - (A) unoriginal
 - (B) unpersuasive
 - (C) offensive
 - (D) obscure
 - (E) speculative
2. It can be inferred from the passage that the Marxist sociologist would argue that in a noncapitalist society racial prejudice would be
 - (A) pervasive
 - (B) tolerated
 - (C) ignored
 - (D) forbidden

(E) nonexistent

Exercise Five

In his 1976 study of slavery in the United States, Herbert Gutman, like Fogel, Engerman, and Genovese, has rightly stressed the slaves' achievements. But unlike these historians, Gutman gives plantation owners little credit for these achievements. Rather, Gutman argues that one must look to the Black family and
5 the slaves' extended kinship system to understand how crucial achievements, such as the maintenance of a cultural heritage and the development of a communal consciousness, were possible. His findings compel attention.

Gutman recreates the family and extended kinship structure mainly through an ingenious use of what any historian should draw upon, quantifiable data,
10 derived in this case mostly from plantation birth registers. He also uses accounts of ex-slaves to probe the human reality behind his statistics. These sources indicate that the two-parent household predominated in slave quarters just as it did among freed slaves after emancipation. Although Gutman admits that forced separation by sale was frequent, he shows that the slaves' preference, revealed
15 most clearly on plantations where sale was infrequent, was very much for stable monogamy. In less conclusive fashion Fogel, Engerman, and Genovese had already indicated the predominance of two-parent households; however, only Gutman emphasizes the preference for stable monogamy and points out what stable monogamy meant for the slaves' cultural heritage. Gutman argues
20 convincingly that the stability of the Black family encouraged the transmission of—and so was crucial in sustaining—the Black heritage of folklore, music, and religious expression from one generation to another, a heritage that slaves were continually fashioning out of their African and American experiences.

Gutman's examination of other facets of kinship also produces important
25 findings. Gutman discovers that cousins rarely married, an exogamous tendency that contrasted sharply with the endogamy practiced by the plantation owners. This preference for exogamy, Gutman suggests, may have derived from West African rules governing marriage, which, though they differed from one tribal group to another, all involved some kind of prohibition against unions with close
30 kin. This taboo against cousins' marrying is important, argues Gutman, because it

is one of many indications of a strong awareness among slaves of an extended kinship network. The fact that distantly related kin would care for children separated from their families also suggests this awareness. When blood relationships were few, as in newly created plantations in the Southwest, “fictive” kinship arrangements took their place until a new pattern of consanguinity developed. Gutman presents convincing evidence that this extended kinship structure—which he believes developed by the mid-to-late eighteenth century—provided the foundations for the strong communal consciousness that existed among slaves.

In sum, Gutman's study is significant because it offers a closely reasoned and original explanation of some of the slaves' achievements, one that correctly emphasizes the resources that slaves themselves possessed.

1. According to the passage, Fogel, Engerman, Genovese, and Gutman have all done which of the following?

- A. Discounted the influence of plantation owners on slaves' achievements.
- B. Emphasized the achievements of slaves.
- C. Pointed out the prevalence of the two-parent household among slaves.

2. Select one sentence in the passage in which author of the passage introduces the resources that historians ought to use?

“Gutman recreates the family and extended kinship structure mainly through an ingenious use of what any historian should draw upon, quantifiable data, derived in this case mostly from plantation birth registers.”

3. It can be inferred from the passage that, of the following, the most probable reason why a historian of slavery might be interested in studying the type of plantations mentioned in line 14 is that this type would

- (A) give the historian access to the most complete plantation birth registers
- (B) permit the historian to observe the kinship patterns that had been most popular among West African tribes
- (C) provide the historian with evidence concerning the preference of freed slaves for stable monogamy
- (D) furnish the historian with the opportunity to discover the kind of marital commitment that slaves themselves chose to have
- (E) allow the historian to examine the influence of slaves' preferences on the

actions of plantation owners

4. According to the passage, all of the following are true of the West African rules governing marriage mentioned in lines 27-29:
- A The rules were derived from rules governing fictive kinship arrangements.
 - B The rules forbade marriages between close kin.
 - C The rules were not uniform in all respects from one West African tribe to another.

Exercise Six

- A mysterious phenomenon is the ability of over-water migrants to travel on course. Birds, bees, and other species can keep track of time without any sensory cues from the outside world, and such “biological clocks” clearly contribute to their “compass sense.” For example, they can use the position of the Sun or stars, along with the time of day, to find north. But compass sense alone cannot explain how birds navigate the ocean: after a flock traveling east is blown far south by a storm, it will assume the proper northeasterly course to compensate. Perhaps, some scientists thought, migrants determine their geographic position on Earth by celestial navigation, almost as human navigators use stars and planets, but this would demand of the animals a fantastic map sense. Researchers now know that some species have a magnetic sense, which might allow migrants to determine their geographic location by detecting variations in the strength of the Earth's magnetic field.

1. The main idea of the passage is that
- (A) migration over land requires a simpler explanation than migration over water does
 - (B) the means by which animals migrate over water are complex and only partly understood
 - (C) the ability of migrant animals to keep track of time is related to their magnetic sense
 - (D) knowledge of geographic location is essential to migrants with little or no compass sense
 - (E) explanations of how animals migrate tend to replace, rather than build on, one another

2. The author maintains that migrating animals would need “a fantastic map sense” (line 10) to determine their geographic position by celestial navigation mostly likely in order to express:
- (A) admiration for the ability of the migrants
 - (B) skepticism about celestial navigation as an explanation
 - (C) certainty that the phenomenon of migration will remain mysterious
 - (D) interest in a new method of accounting for over-water migration
 - (E) surprise that animals apparently navigate in much the same way that human beings do



Exercise Seven

Roger Rosenblatt's book *Black Fiction*, in attempting to apply literary rather than sociopolitical criteria to its subject, successfully alters the approach taken by most previous studies. As Rosenblatt notes, criticism of Black writing has often served as a pretext for expounding on Black history. Addison Gayle's
5 recent work, for example, judges the value of Black fiction by overtly political standards, rating each work according to the notions of Black identity which it propounds.

Although fiction assuredly springs from political circumstances, its authors react to those circumstances in ways other than ideological, and talking about
10 novels and stories primarily as instruments of ideology circumvents much of the fictional enterprise. Rosenblatt's literary analysis discloses affinities and connections among works of Black fiction which solely political studies have overlooked or ignored.

Writing acceptable criticism of Black fiction, however, presupposes giving
15 satisfactory answers to a number of questions. First of all, is there a sufficient reason, other than the racial identity of the authors, to group together works by Black authors? Second, how does Black fiction make itself distinct from other modern fiction with which it is largely contemporaneous? Rosenblatt shows that Black fiction constitutes a distinct body of writing that has an identifiable,
20 coherent literary tradition. Looking at novels written by Blacks over the last eighty years, he discovers recurring concerns and designs independent of chronology. These structures are thematic, and they spring, not surprisingly, from the central fact that the Black characters in these novels exist in a predominantly white culture, whether they try to conform to that culture or rebel
25 against it.

Black Fiction does leave some aesthetic questions open. Rosenblatt's thematic analysis permits considerable objectivity; he even explicitly states that it is not his intention to judge the merit of the various works yet his reluctance seems misplaced, especially since an attempt to appraise might have led to
30 interesting results. For instance, some of the novels appear to be structurally diffuse. Is this a defect, or are the authors working out of, or trying to forge, a

different kind of aesthetic? In addition, the style of some Black novels, like Jean Toomer's *Cane*, verges on expressionism or surrealism; does this technique provide a counterpoint to the prevalent theme that portrays the fate against which Black heroes are pitted, a theme usually conveyed by more naturalistic modes of expression?

In spite of such omissions, what Rosenblatt does include in his discussion makes for an astute and worthwhile study. *Black Fiction* surveys a wide variety of novels, bringing to our attention in the process some fascinating and little-known works like James Weldon Johnson's *Autobiography of an Ex-Colored Man*. Its argument is tightly constructed, and its forthright, lucid style exemplifies levelheaded and penetrating criticism.

1. The author of the passage objects to criticism of Black fiction like that by Addison Gayle because it
 - (A) emphasizes purely literary aspects of such fiction
 - (B) misinterprets the ideological content of such fiction
 - (C) misunderstands the notions of Black identity contained in such fiction
 - (D) substitutes political for literary criteria in evaluating such fiction
 - (E) ignores the interplay between Black history and Black identity displayed in such fiction

2. The author of the passage is primarily concerned with
 - (A) evaluating the soundness of a work of criticism
 - (B) comparing various critical approaches to a subject
 - (C) discussing the limitations of a particular kind of criticism
 - (D) summarizing the major points made in a work of criticism
 - (E) explaining the theoretical background of a certain kind of criticism

3. The author of the passage believes that *Black Fiction* would have been improved had Rosenblatt
 - (A) evaluated more carefully the ideological and historical aspects of Black fiction
 - (B) attempted to be more objective in his approach to novels and stories by Black authors
 - (C) explored in greater detail the recurrent thematic concerns of Black fiction throughout its history
 - (D) established a basis for placing Black fiction within its own unique literary tradition

- (E) assessed the relative literary merit of the novels he analyzes thematically
4. The author's discussion of *Black Fiction* can be best described as
- (A) pedantic and contentious
 - (B) critical but admiring
 - (C) ironic and deprecating
 - (D) argumentative but unfocused
 - (E) stilted and insincere
5. The author of the passage refers to James Weldon Johnson's *Autobiography of an Ex Colored Man* most probably in order to
- (A) point out affinities between Rosenblatt's method of thematic analysis and earlier criticism
 - (B) clarify the point about expressionistic style made earlier in the passage
 - (C) qualify the assessment of Rosenblatt's book made in the first paragraph of the passage
 - (D) illustrate the affinities among Black novels disclosed by Rosenblatt's literary analysis
 - (E) give a specific example of one of the accomplishments of Rosenblatt's work

Exercise Eight

- Whether the languages of the ancient American peoples were used for expressing abstract universal concepts can be clearly answered in the case of Nahuatl. Nahuatl, like Greek and German, is a language that allows the formation of extensive compounds. By the combination of radicals or semantic elements, single compound words can express complex conceptual relations, often of an abstract universal character.
- 5

- The *tlamatinime* ("those who know") were able to use this rich stock of abstract terms to express the nuances of their thought. They also availed themselves of other forms of expression with metaphorical meaning, some probably original, some derived from Toltec coinages. Of these forms the most characteristic in Nahuatl is the juxtaposition of two words that, because they are
- 10

15 synonyms, associated terms, or even contraries, complement each other to evoke one single idea. Used as metaphor, the juxtaposed terms connote specific or essential traits of the being they refer to, introducing a mode of poetry as an almost habitual form of expression.

For the following question, consider each of the choices separately and select all that apply.

1. Which of the following can be inferred from the passage regarding present-day research relating to Nahuatl?

- A Some record or evidence of the thought of the *tlamatinime* is available.
- B For at least some Nahuatl expressions, researchers are able to trace their derivation from another ancient American language.
- C Researchers believe that in Nahuatl, abstract universal concepts are always expressed metaphorically.

2. Select the sentence in the passage in which the author introduces a specific Nahuatl mode of expression that is not identified as being shared with certain European languages.

3. In the context in which it appears, “coinages” (line 10) most nearly means

- (A) adaptations
- (B) creations
- (C) idiosyncrasies
- (D) pronunciations
- (E) currencies

Exercise Nine

Hydrogeology is a science dealing with the properties, distribution, and circulation of water on the surface of the land, in the soil and underlying rocks, and in the atmosphere. The hydrologic cycle, a major topic in this science, is the complete cycle of phenomena through which water passes, beginning as atmospheric water vapor, passing into liquid and solid form as precipitation, thence along and into the ground surface, and finally again returning to the form of atmospheric water vapor by means of evaporation and transpiration.

The term "geohydrology" is sometimes erroneously used as a synonym for "hydrogeology." Geohydrology is concerned with underground water. There are many formations that contain water but are not part of the hydrologic cycle because of geologic changes that have isolated them underground. These systems are properly termed geohydrologic but not hydrogeologic. Only when a system possesses natural or artificial boundaries that associate the water within it with the hydrologic cycle may the entire system properly be termed hydrogeologic.

1. The author's primary purpose is most probably to
 - (A) present a hypothesis
 - (B) refute an argument
 - (C) correct a misconception
 - (D) predict an occurrence
 - (E) describe an enigma
2. It can be inferred that which of the following is most likely to be the subject of study by a geohydrologist?
 - (A) Soft, porous rock being worn away by a waterfall
 - (B) Water depositing minerals on the banks of a gorge through which the water runs
 - (C) The trapping of water in a sealed underground rock cavern through the action of an earthquake
 - (D) Water becoming unfit to drink through the release of pollutants into it from a manufacturing plant

- (E) The changing course of a river channel as the action of the water wears away the rocks past which the river flows
3. The author refers to “many formations” (line 10) primarily in order to
- (A) clarify a distinction
 - (B) introduce a subject
 - (C) draw an analogy
 - (D) emphasize a similarity
 - (E) resolve a conflict
4. In the context in which it appears, “formation” is closest in meaning to
- (A) foundation
 - (B) emergence
 - (C) disappearance
 - (D) destruction
 - (E) order

Exercise Ten

- Flatfish, such as the flounder, are among the few vertebrates that lack approximate bilateral symmetry (symmetry in which structures to the left and right of the body's midline are mirror images). Most striking among the many asymmetries evident in an adult flatfish is eye placement: before maturity one eye migrates, so that in an adult flatfish both eyes are on the same side of the head. While in most species with asymmetries virtually all adults share the same asymmetry, members of the starry flounder species can be either left-eyed (both eyes on the left side of head) or right-eyed.
- 5
1. According to the passage, starry flounder differ from most other species of flatfish in that starry flounder
- (A) are not basically bilaterally symmetric
 - (B) do not become asymmetric until adulthood
 - (C) do not all share the same asymmetry
 - (D) have both eyes on the same side of the head
 - (E) tend to cluster in only certain geographic regions

Exercise Eleven

Of Homer's two epic poems, the *Odyssey* has always been more popular than the *Iliad*, perhaps because it includes more features of mythology that are accessible to readers. Its subject (to use Maynard Mack's categories) is "life-as-spectacle," for readers, diverted by its various incidents, observe its hero
5 Odysseus primarily from without; the tragic *Iliad*, however, presents "life-as-experience": readers are asked to identify with the mind of Achilles, whose motivations render him a not particularly likable hero. In addition, the *Iliad*, more than the *Odyssey*, suggests the complexity of the gods' involvement in human actions, and to the extent that modern readers find this complexity a
10 needless complication, the *Iliad* is less satisfying than the *Odyssey*, with its simpler 'scheme of divine justice. Finally, since the *Iliad* presents a historically verifiable action, Troy's siege, the poem raises historical questions that are absent from the *Odyssey's* blithely imaginative world.

1. The author uses Mack's "categories" (lines 3) most probably in order to
 - (A) argue that the *Iliad* should replace the *Odyssey* as the more popular poem
 - (B) indicate Mack's importance as a commentator on the *Iliad* and the *Odyssey*
 - (C) suggest one way in which the *Iliad* and the *Odyssey* can be distinguished
 - (D) point out some of the difficulties faced by readers of the *Iliad* and the *Odyssey*
 - (E) demonstrate that the *Iliad* and the *Odyssey* can best be distinguished by comparing their respective heroes
2. The passage is primarily concerned with
 - (A) distinguishing arguments
 - (B) applying classifications
 - (C) initiating a debate
 - (D) resolving a dispute
 - (E) developing a contrast

3. Select a sentence in the passage in which the author introduces the reason that a reader of the *Iliad* is likely to have trouble identifying with the poem's hero

Exercise Twelve

In the early 1950's, historians who studied preindustrial Europe (which we may define here as Europe in the period from roughly 1300 to 1800) began, for the first time in large numbers, to investigate more of the preindustrial European population than the 2 or 3 percent who comprised the political and social elite:
5 the kings, generals, judges, nobles, bishops, and local magnates who had hitherto usually filled history books. One difficulty, however, was that few of the remaining 97 percent recorded their thoughts or had them chronicled by contemporaries. Faced with this situation, many historians based their investigations on the only records that seemed to exist: birth, marriage, and death
10 records. As a result, much of the early work on the non-elite was aridly statistical in nature; reducing the vast majority of the population to a set of numbers was hardly more enlightening than ignoring them altogether. Historians still did not know what these people thought or felt.

1. The author suggests that, before the early 1950's, most historians who studied preindustrial Europe did which of the following?
 - (A) Failed to make distinctions among members of the preindustrial European political and social elite.
 - (B) Used investigatory methods that were almost exclusively statistical in nature.
 - (C) Inaccurately estimated the influence of the preindustrial European political and social elite.
 - (D) Confined their work to a narrow range of the preindustrial European population.
 - (E) Tended to rely heavily on birth, marriage, and death records.
2. In the context in which it appears, "comprise" (line 4) is closest in meaning to :
 - (A) consist

- (B) understand
- (C) combine
- (D) dissolve
- (E) apprise

Exercise Thirteen

Jean Wagner's most enduring contribution to the study of Afro-American poetry is his insistence that it be analyzed in a religious, as well as secular, frame of reference. The appropriateness of such an approach may seem self-evident for a tradition commencing with spirituals and owing its early forms, rhythms, vocabulary, and evangelical fervor to Wesleyan hymnals. But before Wagner a secular outlook that analyzed Black poetry solely within the context of political and social protest was dominant in the field.

It is Wagner who first demonstrated the essential fusion of racial and religious feeling in Afro-American poetry. The two, he argued, form a symbiotic union in which religious feelings are often applied to racial issues and racial problems are often projected onto a metaphysical plane. Wagner found this most eloquently illustrated in the Black spiritual, where the desire for freedom in this world and the hope for salvation in the next are inextricably intertwined.

1. The primary purpose of the passage is to
 - (A) contrast the theories of Jean Wagner with those of other contemporary critics
 - (B) document the influence of Jean Wagner on the development of Afro-American poetry
 - (C) explain the relevance of Jean Wagner's work to the study of Afro-American religion
 - (D) indicate the importance of Jean Wagner's analysis of Afro-American poetry
 - (E) present the contributions of Jean Wagner to the study of Black spirituals

2. All of the following aspects of Afro-American poetry are referred to in the passage as having been influenced by Wesleyan hymnals
 - A subject matter
 - B word choice
 - C structure

Exercise Fourteen

Mycorrhizal fungi infect more plants than do any other fungi and are necessary for many plants to thrive, but they have escaped widespread investigation until recently for two reasons. First, the symbiotic association is so well-balanced that the roots of host plants show no damage even when densely infected. Second, the fungi cannot as yet be cultivated in the absence of a living root. Despite these difficulties, there has been important new work that suggests that this symbiotic association can be harnessed to achieve more economical use of costly superphosphate fertilizer and to permit better exploitation of cheaper, less soluble rock phosphate. Mycorrhizal benefits are not limited to improved phosphate uptake in host plants. In legumes, mycorrhizal inoculation has increased nitrogen fixation beyond levels achieved by adding phosphate fertilizer alone. Certain symbiotic associations also increase the host plant's resistance to harmful root fungi. Whether this resistance results from exclusion of harmful fungi through competition for sites, from metabolic change involving antibiotic production, or from increased vigor is undetermined.

1. Which of the following most accurately describes the passage?
 - (A) A description of a replicable experiment
 - (B) A summary report of new findings
 - (C) A recommendation for abandoning a difficult area of research
 - (D) A refutation of an earlier hypothesis
 - (E) A confirmation of earlier research
2. The level of information in the passage above is suited to the needs of all of the following people
 - a researcher whose job is to identify potentially profitable areas for research and product development
 - a biologist attempting to keep up with scientific developments in an area outside of his immediate area of specialization
 - a botanist conducting experiments to determine the relationship between degree of mycorrhizal infection and expected uptake of phosphate

Exercise Fifteen

This possibility has important ramifications. If from the outset Black people were discriminated against, then legal slavery should be viewed as a reflection and an extension of racial prejudice rather than, as many historians including the Handlins have argued, the cause of prejudice. In addition, the existence of
5 discrimination before the advent of legal slavery offers a further explanation for the harsher treatment of Black slaves in North than in South America. Freyre and Tannenbaum have rightly argued that the lack of certain traditions in North America—such as a Roman conception of slavery and a Roman Catholic emphasis on equality—explains why the treatment of Black slaves was more severe there
10 than in the Spanish and Portuguese colonies of South America. But this cannot be the whole explanation since it is merely negative, based only on a lack of something.

1. According to the passage, the Handlins have argued which of the following about the relationship between racial prejudice and the institution of legal slavery in the English colonies of North America?
 - (A) Racial prejudice and the institution of slavery arose simultaneously.
 - (B) Racial prejudice most often took the form of the imposition of inherited status, one of the attributes of slavery.
 - (C) The source of racial prejudice was the institution of slavery.
 - (D) Because of the influence of the Roman Catholic church, racial prejudice sometimes did not result in slavery.
 - (E) Although existing in a lesser form before the 1660's, racial prejudice increased sharply after slavery was legalized.
2. The author considers the explanation put forward by Freyre and Tannenbaum for the treatment accorded Black slaves in the English colonies of North America to be
 - (A) ambitious but misguided
 - (B) valid but limited
 - (C) popular but suspect

- (D) anachronistic and controversial
 - (E) premature and illogical
3. In the context of the passage, “ramification” is closest in meaning to
- (A) meaning
 - (B) consequence
 - (C) causes
 - (D) origin
 - (E) acceleration

Exercise Sixteen

5 Currently, the paramount problem in the field of biomaterials, the science of replacing diseased tissue with human-made implants, is control over the interface, or surface, between implanted biomaterials and living tissues. The physical properties of most tissues can be matched by careful selection of raw materials: metals, ceramics, or several varieties of polymer materials. Even the requirement that biomaterials processed from these materials be nontoxic to host tissue can be met by techniques derived from studying the reactions of tissue cultures to biomaterials or from short-term implants. But achieving necessary matches in physical properties across interfaces between living and nonliving matter requires knowledge of which molecules control the bonding of cells to each other—an area that we have not yet explored thoroughly. Although recent research has allowed us to stabilize the tissue-biomaterial interface by controlling either the chemical reactions or the microstructure of the biomaterials, our fundamental understanding of how implant devices adhere to tissues remains

10

15 woefully incomplete.

1. According to the passage, the major problem currently facing scientists in the field of bio materials is
- (A) assessing and regulating the bonding between host tissue and implants
 - (B) controlling the transfer of potentially toxic materials across the interface of tissue and implant
 - (C) discovering new materials from which to construct implant devices

- (D) deciding in what situations implants are needed
 - (E) determining the importance of short-term implants to long-term stability of tissue implant interfaces
2. Select a sentence in the passage that describe one achievement by the current academic development aiming to solve the problem in question.
3. The author's primary purpose is to
- (A) answer a theoretical question in the field of biomaterials
 - (B) discuss the current state of technology in the field of biomaterials
 - (C) resolve a research dispute in the field of biomaterials
 - (D) predict an ethical crisis for biomaterials researchers
 - (E) suggest some practical benefits of biomaterial implants

Exercise Seventeen

Throughout human history there have been many stringent taboos concerning watching other people eat or eating in the presence of others. There have been attempts to explain these taboos in terms of inappropriate social relationships either between those who are involved and those who are not simultaneously
5 involved in the satisfaction of a bodily need, or between those already satiated and those who appear to be shamelessly gorging. Undoubtedly such elements exist in the taboos, but there is an additional element with a much more fundamental importance. In prehistoric times, when food was so precious and the on-lookers so hungry, not to offer half of the little food one had was unthinkable,
10 since every glance was a plea for life. Further, during those times, people existed in nuclear or extended family groups, and the sharing of food was quite literally supporting one's family or, by extension, preserving one's self.

1. If the argument in the passage is valid, taboos against eating in the presence of others who are not also eating would be likely in a society that
- A had always had a limited supply of food
 - B emphasized the need to share worldly goods

C had a nomadic rather than an agricultural way of life

2. According to the passage, the author believes that past attempts to explain some taboos concerning eating are
- (A) unimaginative
 - (B) implausible
 - (C) inelegant
 - (D) incomplete
 - (E) unclear

Exercise Eighteen

(This passage is excerpted from an article that was published in 1981.)

The deep sea typically has a sparse fauna dominated by tiny worms and crustaceans, with an even sparser distribution of larger animals. However, near hydrothermal vents, areas of the ocean where warm water emerges from subterranean sources, live remarkable densities of huge clams, blind crabs, and fish.

5 Most deep-sea faunas rely for food on particulate matter, ultimately derived from photosynthesis, falling from above. The food supplies necessary to sustain the large vent communities, however, must be many times the ordinary fallout. The first reports describing vent faunas proposed two possible sources of
10 nutrition: bacterial chemosynthesis, production of food by bacteria using energy derived from chemical changes, and advection, the drifting of food materials from surrounding regions. Later, evidence in support of the idea of intense local chemosynthesis was accumulated: hydrogen sulfide was found in vent water; many vent-site bacteria were found to be capable of chemosynthesis; and
15 extremely large concentrations of bacteria were found in samples of vent water thought to be pure. This final observation seemed decisive. If such astonishing concentrations of bacteria were typical of vent outflow, then food within the vent would dwarf any contribution from advection. Hence, the widely quoted

20 conclusion was reached that bacterial chemosynthesis provides the foundation
for hydrothermal-vent food chains—an exciting prospect because no other
communities on Earth are independent of photosynthesis.

25 There are, however, certain difficulties with this interpretation. For example,
some of the large sedentary organisms associated with vents are also found at
ordinary deep-sea temperatures many meters from the nearest hydrothermal
sources. This suggests that bacterial chemosynthesis is not a sufficient source of
nutrition for these creatures. Another difficulty is that similarly dense
30 populations of large deep-sea animals have been found in the proximity of
smokers -vents where water emerges at temperatures up to 350°C. No bacteria
can survive such heat, and no bacteria were found there. Unless smokers are
consistently located near more hospitable warm-water vents, chemosynthesis can
account for only a fraction of the vent faunas. It is conceivable, however, that
these large, sedentary organisms do in fact feed on bacteria that grow in
warm-water vents, rise in the vent water, and then rain in peripheral areas to
nourish animals living some distance from the warm-water vents.

35 Nonetheless advection is a more likely alternative food source. Research has
demonstrated that advective flow, which originates near the surface of the ocean
where suspended particulate matter accumulates, transports some of that matter
and water to the vents. Estimates suggest that for every cubic meter of vent
discharge, 350 milligrams of particulate organic material would be advected into
40 the vent area. Thus, for an average-sized vent, advection could provide more
than 30 kilograms of potential food per day. In addition, it is likely that small
live animals in the advected water might be killed or stunned by thermal and/or
chemical shock, thereby contributing to the food supply of vents.

1. The primary purpose of the passage is to
 - (A) describe a previously unknown natural phenomenon
 - (B) reconstruct the evolution of a natural phenomenon
 - (C) establish unequivocally the accuracy of a hypothesis
 - (D) survey explanations for a natural phenomenon and determine which is best supported by evidence
 - (E) entertain criticism of the author's research and provide an effective response

2. Select one sentence in the passage that describe the first weakness in the argument that bacterial chemosynthesis provides the foundation for the food

chains at deep-sea vents?

3. Which of the following is information supplied in the passage that would support the statement that the food supplies necessary to sustain vent communities must be many times that of ordinary fallout?
- A Large vent faunas move from vent to vent in search of food
 - B Vent faunas are not able to consume food produced by photosynthesis.
 - C Vents are more densely populated than are other deep-sea areas.
4. The author refers to smokers(line 29) most probably in order to
- (A) show how thermal shock can provide food for some vent faunas by stunning small animals
 - (B) prove that the habitat of most deep-sea animals is limited to warm-water vents
 - (C) explain how bacteria carry out chemosynthesis
 - (D) demonstrate how advection compensates for the lack of food sources on the seafloor
 - (E) present evidence that bacterial chemosynthesis may be an inadequate source of food for some vent faunas

Exercise Nineteen

Geologists have long known that the Earth's mantle is heterogeneous, but its spatial arrangement remains unresolved—is the mantle essentially layered or irregularly heterogeneous? The best evidence for the layered mantle thesis is the well-established fact that volcanic rocks found on oceanic islands, islands
5 believed to result from mantle plumes arising from the lower mantle, are composed of material fundamentally different from that of the mid-ocean ridge system, whose source, most geologists contend, is the upper mantle.

Some geologists, however, on the basis of observations concerning mantle xenoliths, argue that the mantle is not layered, but that heterogeneity is created
10 by fluids rich in incompatible elements (elements tending toward liquid rather

than solid state) percolating upward and transforming portions of the upper mantle irregularly, according to the vagaries of the fluids' pathways. We believe, perhaps unimaginatively, that this debate can be resolved through further study, and that the underexplored mid-ocean ridge system is the key.

1. Which of the following best expresses the main idea of the passage?
 - (A) Current theories regarding the structure of the Earth's mantle cannot account for new discoveries regarding the composition of mantle xenoliths.
 - (B) There are conflicting hypotheses about the heterogeneity of the Earth's mantle because few mantle elements have been thoroughly studied.
 - (C) Further research is needed to resolve the debate among geologists over the composition of the mid-ocean ridge system.
 - (D) There is clear-cut disagreement within the geological community over the structure of the Earth's mantle.
 - (E) There has recently been a strong and exciting challenge to geologists' long-standing belief in the heterogeneity of the Earth's mantle.

2. It can be inferred from the passage that the supporters of the layered-mantle theory believe which of the following?
 - A The volcanic rocks on oceanic islands are composed of material derived from the lower part of the mantle.
 - B The materials of which volcanic rocks on oceanic islands and mid-ocean ridges are composed are typical of the layers from which they are thought to originate.
 - C The differences in composition between volcanic rocks on oceanic islands and the mid-ocean ridges are a result of different concentrations of incompatible elements.

3. In the context of the passage, "unimaginative"(line 13) is closest in meaning to:
 - (A) pedestrian
 - (B) controversial
 - (C) unrealistic
 - (D) novel
 - (E) paradoxical

Exercise Twenty

Traditional research has confronted only Mexican and United States interpretations of Mexican-American culture. Now we must also examine the culture as we Mexican Americans have experienced it, passing from a sovereign people to compatriots with newly arriving settlers to, finally, a conquered
5 people—a charter minority on our own land.

When the Spanish first came to Mexico, they intermarried with and absorbed the culture of the indigenous Indians. This policy of colonization through acculturation was continued when Mexico acquired Texas in the early 1800's and brought the indigenous Indians into Mexican life and government. In the 1820's,
10 United States citizens migrated to Texas, attracted by land suitable for cotton. As their numbers became more substantial, their policy of acquiring land by subduing native populations began to dominate. The two ideologies clashed repeatedly, culminating in a military conflict that led to victory for the United States. Thus, suddenly deprived of our parent culture, we had to evolve uniquely
15 Mexican-American modes of thought and action in order to survive.

1. The author's purpose in writing this passage is primarily to
 - (A) suggest the motives behind Mexican and United States intervention in Texas
 - (B) document certain early objectives of Mexican American society
 - (C) provide a historical perspective for a new analysis of Mexican-American culture
 - (D) appeal to both Mexican and United States scholars to give greater consideration to economic interpretations of history
 - (E) bring to light previously overlooked research on Mexican Americans
2. The author most probably uses the phrase "charter minority" (lines 5) to reinforce the idea that Mexican Americans
 - (A) are a native rather than an immigrant group in the United States
 - (B) played an active political role when Texas first became part of the United States
 - (C) recognized very early in the nineteenth century the need for official confirmation of their rights of citizenship
 - (D) have been misunderstood by scholars trying to interpret their culture
 - (E) identify more closely with their Indian heritage than with their Spanish

heritage

3. Which of the following statements *most clearly contradicts* the information in this passage?
- (A) In the early 1800's, the Spanish committed more resources to settling California than to developing Texas.
 - (B) While Texas was under Mexican control, the population of Texas quadrupled, in spite of the fact that Mexico discouraged immigration from the United States.
 - (C) By the time Mexico acquired Texas, many Indians had already married people of Spanish heritage.
 - (D) Many Mexicans living in Texas returned to Mexico after Texas was annexed by the United States.
 - (E) Most Indians living in Texas resisted Spanish acculturation and were either killed or enslaved.

Exercise Twenty-one

The social sciences are less likely than other intellectual enterprises to get credit for their accomplishments. Arguably, this is so because the theories and conceptual constructs of the social sciences are especially accessible: human intelligence apprehends truths about human affairs with particular facility. And the discoveries of the social sciences, once isolated and labeled, are quickly absorbed into conventional wisdom, whereupon they lose their distinctiveness as scientific advances.

This underappreciation of the social sciences contrasts oddly with what many see as their overutilization. Game theory is pressed into service in studies of shifting international alliances. Evaluation research is called upon to demonstrate successes or failures of social programs. Models from economics and demography become the definitive tools for examining the financial base of social security. Yet this rush into practical applications is itself quite understandable: public policy must continually be made, and policymakers rightly feel that even tentative findings and untested theories are better guides to

decision-making than no findings and no theories at all.

1. The author is primarily concerned with
 - (A) advocating a more modest view, and less wide spread utilization, of the social sciences
 - (B) analyzing the mechanisms for translating discoveries into applications in the social sciences
 - (C) dissolving the air of paradox inherent in human beings studying themselves
 - (D) explaining a peculiar dilemma that the social sciences are in
 - (E) maintaining a strict separation between pure and applied social science

2. Which of the following is a social science discipline that the author mentions as being possibly overutilized?
 - (A) Conventional theories of social change
 - (B) Game theory
 - (C) Decision-making theory
 - (D) Economic theories of international alliances
 - (E) Systems analysis

3. It can be inferred from the passage that, when speaking of the “overutilization” (line 9) of the social sciences, the author is referring to the
 - A premature practical application of social science advances
 - B habitual reliance on the social sciences even where common sense would serve equally well
 - C practice of bringing a greater variety of social science disciplines to bear on a problem than the nature of the problem warrants

4. In the context of the passage, “apprehend ” is closest in meaning to :
 - (A) underestimate
 - (B) exaggerate
 - (C) outweigh
 - (D) arrest
 - (E) comprehend

Exercise Twenty-two

The common belief of some linguists that each language is a perfect vehicle for the thoughts of the nation speaking it is in some ways the exact counterpart of the conviction of the Manchester school of economics that supply and demand will regulate everything for the best. Just as economists were blind to the numerous cases in which the law of supply and demand left actual wants unsatisfied, so also many linguists are deaf to those instances in which the very nature of a language calls for the misunderstandings in everyday conversation, and in which, consequently, a word has to be modified or defined in order to present the idea intended by the speaker: "He took his stick-no, not John's, but his own." No language is perfect, and if we admit this truth, we must also admit that it is not unreasonable to investigate the relative merits of different languages or of different details in languages.

1. The primary purpose of the passage is to
 - (A) analyze an interesting feature of the English language
 - (B) refute a belief held by some linguists
 - (C) show that economic theory is relevant to linguistic study
 - (D) illustrate the confusion that can result from the improper use of language
 - (E) suggest a way in which languages can be made more nearly perfect
2. The misunderstanding presented by the author in lines 9-10 is similar to which of the following?
 - (A) X uses the word "you" to refer to a group, but Y thinks that X is referring to one person only.
 - (B) X mistakenly uses the word "anomaly" to refer to a typical example, but Y knows that "anomaly" means "exception."
 - (C) X uses the word "bachelor" to mean "unmarried man," but Y mistakenly thinks that bachelor means "unmarried woman."

Exercise Twenty-three

In *Raisin in the Sun*, Lorraine Hansberry does not reject integration or the

economic and moral promise of the American dream; rather, she remains loyal to this dream while looking, realistically, at its incomplete realization. Once we recognize this dual vision, we can accept the play's ironic nuances as deliberate social commentaries by Hansberry rather than as the "unintentional" irony that Bigsby attributes to the work. Indeed a curiously persistent refusal to credit Hansberry with a capacity for intentional irony has led some critics to interpret the play's thematic conflicts as mere confusion, contradiction, or eclecticism. Isaacs, for example, cannot easily reconcile Hansberry's intense concern for her race with her ideal of human reconciliation. But the play's complex view of Black self-esteem and human solidarity as compatible is no more "contradictory" than Du Bois' famous, well-considered ideal of ethnic self-awareness coexisting with human unity, or Fanon's emphasis on an ideal internationalism that also accommodates national identities and roles.

1. The author's primary purpose in this passage is to
 - (A) explain some critics' refusal to consider *Raisin in the Sun* a deliberately ironic play
 - (B) suggest that ironic nuances ally *Raisin in the Sun* with Du Bois' and Fanon's writings
 - (C) analyze the fundamental dramatic conflicts in *Raisin in the Sun*
 - (D) justify the inclusion of contradictory elements in *Raisin in the Sun*
 - (E) affirm the thematic coherence underlying *Raisin in the Sun*

2. It can be inferred from the passage that the author believes which of the following about Hansberry's use of irony in *Raisin in the Sun*?
 - (A) It derives from Hansberry's eclectic approach to dramatic structure.
 - (B) It is justified by Hansberry's loyalty to a favorable depiction of American life.
 - (C) It is influenced by the themes of works by Du Bois and Fanon.
 - (D) It is more consistent with Hansberry's concern for Black Americans than with her ideal of human reconciliation.
 - (E) It reflects Hansberry's reservations about the extent to which the American dream has been realized.

3. Select a sentence in the passage that reinforce the author's criticism of responses such as Isaacs' to *Raisin in the Sun*?

Exercise Twenty-four

As Gilbert White, Darwin, and others observed long ago, all species appear to have the innate capacity to increase their numbers from generation to generation. The task for ecologists is to untangle the environmental and biological factors that hold this intrinsic capacity for population growth in check over the long run. The great variety of dynamic behaviors exhibited by different populations makes this task more difficult: some populations remain roughly constant from year to year; others exhibit regular cycles of abundance and scarcity; still others vary wildly, with outbreaks and crashes that are in some cases plainly correlated with the weather, and in other cases not.

To impose some order on this kaleidoscope of patterns, one school of thought proposes dividing populations into two groups. These ecologists posit that the relatively steady populations have "density-dependent" growth parameters; that is, rates of birth, death, and migration which depend strongly on population density. The highly varying populations have "density-independent" growth parameters, with vital rates buffeted by environmental events; these rates fluctuate in a way that is wholly independent of population density.

This dichotomy has its uses, but it can cause problems if taken too literally. For one thing, no population can be driven entirely by density-independent factors all the time. No matter how severely or unpredictably birth, death and migration rates may be fluctuating around their long-term averages, if there were no density-dependent effects, the population would, in the long run, either increase or decrease without bound (barring a miracle by which gains and losses canceled exactly). Put another way, it may be that on average 99 percent of all deaths in a population arise from density-independent causes, and only one percent from factors varying with density. The factors making up the one percent may seem unimportant, and their cause may be correspondingly hard to determine. Yet, whether recognized or not, they will usually determine the long-term average population density.

In order to understand the nature of the ecologist's investigation, we may think of the density-dependent effects on growth parameters as the "signal" ecologists are trying to isolate and interpret, one that tends to make the population increase from relatively low values or decrease from relatively high

ones, while the density independent effects act to produce "noise" in the population dynamics. For populations that remain relatively constant, or that oscillate around repeated cycles, the signal can be fairly easily characterized and its effects described, even though the causative biological mechanism may remain unknown. For irregularly fluctuating populations, we are likely to have too few observations to have any hope of extracting the signal from the overwhelming noise. But it now seems clear that all populations are regulated by a mixture of density-dependent and density-independent effects in varying proportions.

1. The author of the passage is primarily concerned with
 - (A) discussing two categories of factors that control population growth and assessing their relative importance
 - (B) describing how growth rates in natural populations fluctuate over time and explaining why these changes occur
 - (C) proposing a hypothesis concerning population sizes and suggesting ways to test it
 - (D) posing a fundamental question about environmental factors in population growth and presenting some currently accepted answers
 - (E) refuting a commonly accepted theory about population density and offering a new alternative

2. In the context in which it appears, "dichotomy" discussed in the third paragraph most nearly means
 - (A) separation
 - (B) limitations
 - (C) circumstances
 - (D) observed phenomena
 - (E) practical basis

3. Which of the following statements can be inferred from the last paragraph?
 - (A) For irregularly fluctuating populations, doubling the number of observations made will probably result in the isolation of density dependent effects.
 - (B) Density-dependent effects on population dynamics do not occur as frequently as do density-independent effects.
 - (C) At present, ecologists do not understand any of the underlying causes of

- the density dependent effects they observe in population dynamics..
- (D) Density-dependent effects on growth parameters are thought to be caused by some sort of biochemical “signaling” that ecologists hope eventually to understand.
 - (E) It is sometimes possible to infer the existence of a density-dependent factor controlling population growth without understanding its causative mechanism.
4. The discussion concerning population in the third paragraph serves primarily in order to
- (A) demonstrate the difficulties ecologists face in studying density-dependent factors limiting population growth
 - (B) advocate more rigorous study of density- dependent factors in population growth
 - (C) prove that the death rates of any population are never entirely density-independent
 - (D) give an example of how death rates function to limit population densities in typical populations
 - (E) underline the importance of even small density-dependent factors in regulating long-term population densities

Exercise Twenty-five

Modern archaeological finds can still contribute much to the study of ancient literature. For example, forty years ago a survey of the early Greek dramatist Aeschylus' plays would have started with *The Suppliant Women*. Many factors internal to the play, but perhaps most especially the prominence of the chorus (which in this play has the main role), led scholars to consider it one of Aeschylus' earlier works. The consensus was that here was a drama truly reflecting an early stage in the evolution of tragedy out of choral lyric. The play was dated as early as the 490's B.C., in any event, well before Aeschylus' play *The Persians* of 472 B.C. Then, in 1952, a fragment of papyrus found at Oxyrhynchus was published stating the official circumstances and results of a dramatic contest. The fragment announced that Aeschylus won first prize with his Danaid tetralogy, of which *The Suppliant Women* is the opening play, and defeated Sophocles in the process. Sophocles did not compete in any dramatic contest before 468 B.C., when he won his first victory. Hence, except by special pleading (e.g., that the tetralogy was composed early in Aeschylus' career but not produced until the 460's B.C.), the Danaid tetralogy must be put after 468 B.C. In addition, a few letters in the fragment suggest the name Archedemides, archon in 463 B.C., thus perhaps tying the plays to that precise date, almost exactly halfway between *Aeschylus' Seven Against Thebes* of 467 B.C. and his *Oresteia*.

The implication of the papyrus administered a severe shock to the vast majority of classical scholars, who had confidently asserted that not only the role of the chorus but also language, metrics, and characterization all pointed to an early date. The discovery has resulted in no less than a total reevaluation of every chronological criterion that has been applied to or derived from Aeschylus' plays. The activity has been brisk, and a new creed has now spread. The prominence of the chorus in *The Suppliant Women* now is seen not as a sign of primitivism but as analogous to the massive choral songs of the *Oresteia*. Statistics have been formulated, or reformulated, to show that stylistically *The Suppliant Women* does actually occupy a position after *The Persians* and *Seven Against Thebes*, which now become the "primitive" plays, and before the *Oresteia*. While the new doctrine seems almost certainly correct, the one papyrus fragment raises the specter that another may be unearthed, showing, for instance,

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that it was a posthumous production of the Danaid tetralogy which bested Sophocles, and throwing the date once more into utter confusion. This is unlikely to happen, but it warns us that perhaps the most salutary feature of the papyrus scrap is its message of the extreme difficulty of classifying and categorizing rigidly the development of a creative artist.

1. The author of the passage focuses primarily on
 - (A) discussing a series of modern archaeological finds and their impact on the study of Greek literature
 - (B) recounting the effect of one archaeological find on modern ideas concerning a particular author's work
 - (C) giving a definitive and coherent account of the chronology of a particular author's work
 - (D) illustrating the many varieties of difficulties involved in establishing facts concerning ancient literature
 - (E) determining the exact value of archaeological finds in relation to the history of ancient literature

2. With respect to the study of ancient literature, which of the following statements best expresses the author's main point concerning modern archaeological finds?
 - (A) They can profoundly alter accepted views of ancient literary works, and can encourage flexibility in the way scholars look at the creative development of any artist.
 - (B) They can be severely shocking and can have a revivifying effect on the study of ancient literature, which has recently suffered from a lack of interest on the part of scholars.
 - (C) They can raise more questions than they answer and can be unreliable sources of information.
 - (D) They generally confirm scholars' ideas about ancient literary works and allow them to dispense with inferences drawn from the works' internal structure.
 - (E) They often undermine scholarly consensus in certain areas and create utter confusion concerning an author's work.

3. The author's attitude toward the "activity" mentioned in line 25 and its consequences can best be described as one of

- (A) amused tolerance
- (B) mocking envy
- (C) grave doubt
- (D) angry disapproval
- (E) unrestrained enthusiasm

4. The author of the passage alludes to the hypothetical papyrus fragment in lines 31-32 in order to
- (A) Supports an argument concerning the date of *The Suppliant Women*.
 - (B) Refutes the views of the majority of scholars concerning the Oxyrhynchus papyrus find.
 - (C) Predicts the future results of archaeological research proposed in the passage.
 - (D) Undermines the validity of the currently accepted chronology of Aeschylus' works.
 - (E) Qualifies the author's agreement with the "new creed" developed since the Oxyrhynchus papyrus find.

Exercise Twenty-six

- Because of its accuracy in outlining the Earth's subsurface, the seismic-reflection method remains the most important tool in the search for petroleum reserves. In field practice, a subsurface is mapped by arranging a series of wave-train sources, such as small dynamite explosions, in a grid pattern.
- 5 As each source is activated, it generates a wave train that moves downward at a speed determined uniquely by the rock's elastic characteristics. As rock interfaces are crossed, the elastic characteristics encountered generally change abruptly, which causes part of the energy to be reflected back to the surface, where it is recorded by seismic instruments. The seismic records must be
- 10 processed to correct for positional differences between the source and the receiver, for unrelated wave trains, and for multiple reflections from the rock interfaces. Then the data acquired at each of the specific source locations are combined to generate a physical profile of the subsurface, which can eventually be used to select targets for drilling.

1. The passage is primarily concerned with
 - (A) describing an important technique
 - (B) discussing a new method
 - (C) investigating a controversial procedure
 - (D) announcing a significant discovery
 - (E) promoting a novel application

For the following question, consider each of the choices separately and select all that apply.

2. According to the passage, in the seismic-reflection method all of the following have a significant effect on the signal detected by the seismic instruments
 - A presence of unrelated wave trains
 - B placement of the seismic instruments
 - C number of sources in the grid pattern
3. Which of the following best describes the organization of the passage?
 - (A) A method is criticized, and an alternative is suggested.
 - (B) An illustration is examined, and some errors are exposed.
 - (C) An assertion is made, and a procedure is outlined.
 - (D) A series of examples is presented, and a conclusion is drawn.
 - (E) A hypothesis is advanced, and supporting evidence is supplied.

Exercise Twenty-seven

(This passage is excerpted from an article that was published in 1982.)

Warm-blooded animals have elaborate physiological controls to maintain constant body temperature (in humans, 37°C). Why then during sickness should temperature rise, apparently increasing stress on the infected organism? It has long been known that the level of serum iron in animals falls during infection.

5 Garibaldi first suggested a relationship between fever and iron. He found that microbial synthesis of siderophores—substances that bind iron—in bacteria of the genus *Salmonella* declined at environmental temperatures above 37°C and stopped at 40.3°C. Thus, fever would make it more difficult for an infecting bacterium to acquire iron and thus to multiply. Cold-blooded animals were used

10 to test this hypothesis because their body temperature can be controlled in the laboratory. Kluger reported that of iguanas infected with the potentially lethal bacterium *A. hydrophilia*, more survived at temperatures of 42°C than at 37°C, even though healthy animals prefer the lower temperature. When animals at 42°C were injected with an iron solution, however, mortality rates increased significantly. Research to determine whether similar phenomena occur in

15 warm-blooded animals is sorely needed.

1. The passage is primarily concerned with attempts to determine
 - (A) the role of siderophores in the synthesis of serum iron
 - (B) new treatments for infections that are caused by *A. hydrophilia*
 - (C) the function of fever in warm-blooded animals
 - (D) the mechanisms that ensure constant body temperature
 - (E) iron utilization in cold-blooded animals
2. Which of the following can be inferred about warm-blooded animals solely on the basis of information in the passage?
 - (A) The body temperatures of warm-blooded animals cannot be easily controlled in the laboratory.
 - (B) Warm-blooded animals require more iron in periods of stress than they

do at other times.

- (C) Warm-blooded animals are more comfortable at an environmental temperature of 37°C than they are at a temperature of 42°C.
 - (D) In warm-blooded animals, bacteria are responsible for the production of siderophores, which, in turn, make iron available to the animal.
 - (E) In warm-blooded animals, infections that lead to fever are usually traceable to bacteria.
3. If it were to be determined that “similar phenomena occur in warm-blooded animals” (lines 15-16), which of the following, assuming each is possible, is likely to be the most effective treatment for warm-blooded animals with bacterial infections?
- (A) Administering a medication that lowers the animals' body temperature
 - (B) Injecting the animals with an iron solution
 - (C) Administering a medication that makes serum iron unavailable to bacteria
 - (D) Providing the animals with reduced-iron diets
 - (E) Keeping the animals in an environment with temperatures higher than 37°C

Exercise Twenty-eight

- It is frequently assumed that the mechanization of work has a revolutionary effect on the lives of the people who operate the new machines and on the society into which the machines have been introduced. For example, it has been suggested that the employment of women in industry took them out of the household, their traditional sphere, and fundamentally altered their position in society. In the nineteenth century, when women began to enter factories, Jules Simon, a French politician, warned that by doing so, women would give up their femininity. Friedrich Engels, however, predicted that women would be liberated from the "social, legal, and economic subordination" of the family by technological developments that made possible the recruitment of “the whole female sex into public industry.” Observers thus differed concerning the social desirability of mechanization's effects, but they agreed that it would transform women's lives.

Historians, particularly those investigating the history of women, now

15 seriously question this assumption of transforming power. They conclude that
such dramatic technological innovations as the spinning jenny, the sewing
machine, the typewriter, and the vacuum cleaner have not resulted in equally
dramatic social changes in women's economic position or in the prevailing
20 evaluation of women's work. The employment of young women in textile mills
during the Industrial Revolution was largely an extension of an older pattern of
employment of young, single women as domestics. It was not the change in
office technology, but rather the separation of secretarial work, previously seen
as an apprenticeship for beginning managers, from administrative work that in
the 1880's created a new class of "dead-end" jobs, thenceforth considered
25 "women's work." The increase in the numbers of married women employed
outside the home in the twentieth century had less to do with the mechanization
of housework and an increase in leisure time for these women than it did with
their own economic necessity and with high marriage rates that shrank the
available pool of single women workers, previously, in many cases, the only
30 women employers would hire.

Women's work has changed considerably in the past 200 years, moving from
the household to the office or the factory, and later becoming mostly white-collar
instead of blue-collar work. Fundamentally, however, the conditions under
which women work have changed little since before the Industrial Revolution:
35 the segregation of occupations by gender, lower pay for women as a group, jobs
that require relatively low levels of skill and offer women little opportunity for
advancement all persist, while women's household labor remains demanding.
Recent historical investigation has led to a major revision of the notion that
technology is always inherently revolutionary in its effects on society.
40 Mechanization may even have slowed any change in the traditional position of
women both in the labor market and in the home.

1. Which of the following statements best summarizes the main idea of the passage?

- (A) The effects of the mechanization of women's work have not borne out the frequently held assumption that new technology is inherently revolutionary.
- (B) Recent studies have shown that mechanization revolutionizes a society's traditional values and the customary roles of its members.
- (C) Mechanization has caused the nature of women's work to change since the Industrial Revolution.
- (D) The mechanization of work creates whole new classes of jobs that did not

previously exist.

- (E) The mechanization of women's work, while extremely revolutionary in its effects, has not, on the whole, had the deleterious effects that some critics had feared.

For the following question, consider each of the choices separately and select all that apply.

2. The author mentions all of the following inventions as examples of dramatic technological innovations
- A sewing machine
 - B vacuum cleaner
 - C telephone
3. The passage states that, before the twentieth century, which of the following was true of many employers?
- (A) They did not employ women in factories.
 - (B) They tended to employ single rather than married women.
 - (C) They employed women in only those jobs that were related to women's traditional house-hold work.
 - (D) They resisted technological innovations that would radically change women's roles in the family.
 - (E) They hired women only when qualified men were not available to fill the open positions.
4. Which of the following best describes the function of the concluding sentence of the passage?
- (A) It sums up the main point concerning the mechanization of work made in the passage as a whole.
 - (B) It draws a conclusion concerning the effects of the mechanization of work which goes beyond the evidence presented in the passage as a whole.
 - (C) It restates the point concerning technology made in the sentence immediately preceding it.
 - (D) It qualifies the author's agreement with scholars who argue for a major revision in the assessment of the impact of mechanization on society.
 - (E) It suggests a compromise between two seemingly contradictory views

concerning the effects of mechanization on society.

Exercise Twenty-nine

Since 1953, many experimental attempts to synthesize the chemical constituents of life under "primitive Earth conditions" have been performed, but none of these experiments has produced anything approaching the complexity of the simplest organism. They have demonstrated, however, that a variety of the
5 complex molecules currently making up living organisms could have been present in the early ocean and atmosphere, with only one limitation: such molecules are synthesized far less readily when oxygen-containing compounds dominate the atmosphere. Therefore some scientists postulate that the Earth's earliest atmosphere, unlike that of today, was dominated by hydrogen, methane,
10 and ammonia.

From these studies, scientists have concluded that the surface of the primitive Earth was covered with oceans containing the molecules fundamental to life. Although, at present, scientists cannot explain how these relatively small molecules combined to produce larger, more complex molecules, some scientists
15 have precipitously ventured hypotheses that attempt to explain the development, from larger molecules, of the earliest self-duplicating organisms.

1. In the context in which it appears, "precipitously" most nearly means
 - (A) unlikely to occur
 - (B) without being well planned
 - (C) more readily
 - (D) complex
 - (E) accelerated
2. The primary purpose of the passage is to
 - (A) point out that theories about how life developed on Earth have changed little since 1953
 - (B) warn of increasing levels of hydrogen, methane, and ammonia in the Earth's atmosphere.
 - (C) describe the development since 1953 of some scientists' understanding of how life began on Earth.

- (D) demonstrate that the synthesis of life in the laboratory is too difficult for modern technology.
- (E) describe how primitive atmospheric conditions produced the complex molecules of living organisms.
3. The author's reaction to the attempts that have been made to explain the development of the first self-duplication organisms can best be described as one of
- (A) enthusiasm
- (B) expectation
- (C) dismay
- (D) skepticism
- (E) antipathy

Exercise Thirty

Traditionally, pollination by wind has been viewed as a reproductive process marked by random events in which the vagaries of the wind are compensated for by the generation of vast quantities of pollen, so that the ultimate production of new seeds is assured at the expense of producing much more pollen than is actually used. Because the potential hazards pollen grains are subject to as they are transported over long distances are enormous, wind-pollinated plants have, in the view above, compensated for the ensuing loss of pollen through happenstance by virtue of producing an amount of pollen that is one to three orders of magnitude greater than the amount produced by species pollinated by insects.

However, a number of features that are characteristic of wind-pollinated plants reduce pollen waste. For example, many wind-pollinated species fail to release pollen when wind speeds are low or when humid conditions prevail. Recent studies suggest another way in which species compensate for the inefficiency of wind pollination. These studies suggest that species frequently take advantage of the physics of pollen motion by generating specific aerodynamic environments within the immediate vicinity of their female reproductive organs. It is the morphology of these organs that dictates the pattern of airflow disturbances through which pollen must travel. The speed and

20 direction of the airflow disturbances can combine with the physical properties of
a species' pollen to produce a species-specific pattern of pollen collision on the
surfaces of female reproductive organs. Provided that these surfaces are
strategically located, the consequences of this combination can significantly
increase the pollen-capture efficiency of a female reproductive organ.

25 A critical question that remains to be answered is whether the morphological
attributes of the female reproductive organs of wind-pollinated species are
evolutionary adaptations to wind pollination or are merely fortuitous. A
complete resolution of the question is as yet impossible since adaptation must be
evaluated for each species within its own unique functional context. However, it
30 must be said that, while evidence of such evolutionary adaptations does exist in
some species, one must be careful about attributing morphology to adaptation.
For example, the spiral arrangement of scale-bract complexes on ovule-bearing
pine cones, where the female reproductive organs of conifers are located, is
important to the production of airflow patterns that spiral over the cone's surfaces,
35 thereby passing airborne pollen from one scale to the next. However, these
patterns cannot be viewed as an adaptation to wind pollination because the spiral
arrangement occurs in a number of non-wind-pollinated plant lineages and is
regarded as a characteristic of vascular plants; of which conifers are only one
kind, as a whole. Therefore, the spiral arrangement is not likely to be the result
40 of a direct adaptation to wind pollination.

1. The author of the passage is primarily concerned with discussing
 - (A) the current debate on whether the morphological attributes of wind-pollinated plants are evolutionary adaptations
 - (B) the kinds of airflow patterns that permit wind-pollinated plants to capture pollen most efficiently
 - (C) the ways in which the reproductive processes of wind-pollinated plants are controlled by random events
 - (D) a recently proposed explanation of a way in which wind-pollinated plants reduce pollen waste
 - (E) a specific morphological attribute that permits one species of wind-pollinated plant to capture pollen

For the following question, consider each of the choices separately and select all that apply.

2. According to the passage, true statements about the release of pollen by wind-pollinated plants include which of the following.?

- A The release can be affected by certain environmental factors.
- B The amount of pollen released increases on a rainy day.
- C Pollen is sometimes not released by plants when there is little wind.

3. It can be inferred from the passage that the claim that the spiral arrangement of scale-bract complexes on an ovule-bearing pine cone is an adaptation to wind pollination would be more convincing if which of the following were true?

- (A) Such an arrangement occurred only in wind-pollinated plants.
- (B) Such an arrangement occurred in vascular plants as a whole.
- (C) Such an arrangement could be shown to be beneficial to pollen release.
- (D) The number of bracts could be shown to have increased over time.
- (E) The airflow patterns over the cone's surfaces could be shown to be produced by such arrangements.

4. Which of the following, if known, is likely to have been the kind of evidence used to support the view described in the first paragraph?

- (A) Wind speeds need not be very low for wind-pollinated plants to fail to release pollen.
- (B) The female reproductive organs of plants often have a sticky surface that allows them to trap airborne pollen systematically.
- (C) Grasses, as well as conifers, generate specific aerodynamic environments within the immediate vicinity of their reproductive organs.
- (D) Rain showers often wash airborne pollen out of the air before it ever reaches an appropriate plant.
- (E) The density and size of an airborne pollen grain are of equal importance in determining whether that grain will be captured by a plant.

Exercise Thirty-one

Some recent historians have argued that life in the British colonies in America from approximately 1763 to 1789 was marked by internal conflicts among colonists. Inheritors of some of the viewpoints of early twentieth-century progressive historians such as Beard and Becker, these recent historians have put forward arguments that deserve evaluation.

The kind of conflict most emphasized by these historians is class conflict. Yet with the Revolutionary War dominating these years, how does one distinguish class conflict within that larger conflict? Certainly not by the side a person supported. Although many of these historians have accepted the earlier assumption that Loyalists represented an upper class, new evidence indicates that Loyalists, like rebels, were drawn from all socio-economic classes. (It is nonetheless probably true that a larger percentage of the well-to-do joined the Loyalists than joined the rebels.) Looking at the rebel side, we find little evidence for the contention that lower-class rebels were in conflict with upper-class rebels. Indeed, the war effort against Britain tended to suppress class conflicts. Where it did not, the disputing rebels of one or another class usually became Loyalists. Loyalty thus operated as a safety valve to remove socioeconomic discontent that existed among the rebels. Disputes occurred, of course, among those who remained on the rebel side, but the extraordinary social mobility of eighteenth-century American society (with the obvious exception of slaves) usually prevented such disputes from hardening along class lines. Social structure was in fact so fluid—though recent statistics suggest a narrowing of economic opportunity as the latter half of the century progressed—that to talk about social classes at all requires the use of loose economic categories such as rich, poor, and middle class, or eighteenth-century designations like “the better sort.” Despite these vague categories, one should not claim unequivocally that hostility between recognizable classes cannot be legitimately observed. Outside of New York, however, there were very few instances of openly expressed class antagonism.

Having said this, however, one must add that there is much evidence to support the further claim of recent historians that sectional conflicts were common between 1763 and 1789. The “Paxton Boys” incident and the Regulator

35 movement are representative examples of the widespread, and justified, discontent of western settlers against colonial or state governments dominated by eastern interests. Although undertones of class conflict existed beneath such hostility, the opposition was primarily geographical. Sectional conflict—which also existed between North and South—deserves further investigation.

40 In summary, historians must be careful about the kind of conflict they emphasize in eighteenth-century America. Yet those who stress the achievement of a general consensus among the colonists cannot fully understand that consensus without understanding the conflicts that had to be overcome or repressed in order to reach it.

1. The author most likely refers to "historians such as Beard and Becker" (lines 4) in order to
 - (A) isolate the two historians whose work is most representative of the viewpoints of Progressive historians
 - (B) emphasize the need to find connections between recent historical writing and the work of earlier historians
 - (C) make a case for the importance of the views of the Progressive historians concerning eighteenth-century American life
 - (D) suggest that Progressive historians were the first to discover the particular internal conflicts in eighteenth-century American life mentioned in the passage
 - (E) point out historians whose views of history anticipated some of the views of the recent historians mentioned in the passage

2. According to the passage, Loyalism during the American Revolutionary War served the function of
 - (A) eliminating the disputes that existed among those colonists who supported the rebel cause
 - (B) drawing upper, as opposed to lower, socioeconomic classes away from the rebel cause
 - (C) tolerating the kinds of socioeconomic discontent that were not allowed to exist on the rebel side
 - (D) channeling conflict that existed within a socio-economic class into the war effort against the rebel cause
 - (E) absorbing members of socioeconomic groups on the rebel side who felt themselves in contention with members of other socio-economic groups

For the following question, consider each of the choices separately and select all that apply.

3. The passage suggests that the author would be likely to agree with which of the following statements about the social structure of eighteenth-century American society?

- A It allowed greater economic opportunity than it did social mobility.
- B It permitted greater economic opportunity prior to 1750 than after 1750.
- C It did not contain rigidly defined socioeconomic divisions.

4. It can be inferred from the passage that the author would be most likely to agree with which of the following statements regarding socioeconomic class and support for the rebel and Loyalist causes during the American Revolutionary War?

- (A) Identifying a person's socioeconomic class is the least accurate method of ascertaining which side that person supported.
- (B) Identifying a person as a member of the rebel or of the Loyalist side does not necessarily reveal that person's particular socioeconomic class.
- (C) Both the rebel and the Loyalist sides contained members of all socioeconomic classes, although there were fewer disputes among socioeconomic classes on the Loyalist side.
- (D) Both the rebel and the Loyalist sides contained members of all socioeconomic classes, although the Loyalist side was made up primarily of members of the upper classes.
- (E) Both the rebel and the Loyalist sides contained members of all socioeconomic classes, although many upper-class rebels eventually joined the Loyalists.

Exercise Thirty-two

Scholars often fail to see that music played an important role in the preservation of African culture in the United States. They correctly note that slavery stripped some cultural elements from Black people—their political and economic systems—but they underestimate the significance of music in

5 sustaining other African cultural values. African music, unlike the music of some other cultures, was based on a total vision of life in which music was not an isolated social domain. In African culture music was pervasive, serving not only religion, but all phases of life, including birth, death, work, and play. The methods that a community devises to perpetuate itself come into being to
10 preserve aspects of the cultural legacy that that community perceives as essential. Music, like art in general, was so inextricably a part of African culture that it became a crucial means of preserving the culture during and after the dislocations of slavery.

1. The primary purpose of the passage is to
 - (A) analyze the impact that slavery had on African political and economic systems
 - (B) review the attempt of recent scholarship to study the influence of African music on other music
 - (C) correct the failure of some scholars to appreciate the significance of music in African culture
 - (D) survey the ways by which people attempt to preserve their culture against the effects of oppression
 - (E) compare the relative importance of music with that of other art forms in culture

2. In line 7, the phrase “isolated social domain” refers to
 - (A) African music in relation to contemporary culture as a whole
 - (B) music as it may be perceived in non-African cultures
 - (C) a feature of African music that aided in transmitting African cultural values
 - (D) an aspect of the African cultural legacy
 - (E) the influence of music on contemporary culture

For the following question, consider each of the choices separately and select all that apply.

3. According to the author, scholars would err in drawing which of the following conclusions?
 - A Slavery stripped the slaves of their political and economic systems.
 - B African music was similar to all other traditions of music in that it originated in a total vision of life.

☐ Music was a crucial part of the African cultural legacy.

Exercise Thirty-three

The recent, apparently successful prediction by mathematical models of an appearance of El Nino—the warm ocean current that periodically develops along the Pacific coast of South America—has excited researchers. Jacob Bjerknes pointed out over 20 years ago how winds might create either abnormally warm
5 or abnormally cold water in the eastern equatorial Pacific. Nonetheless, until the development of the models no one could explain why conditions should regularly shift from one to the other, as happens in the periodic oscillations between appearances of the warm El Nino and the cold so-called anti-El Nino. The answer, at least if the current model that links the behavior of the ocean to
10 that of the atmosphere is correct, is to be found in the ocean.

It has long been known that during an El Nino, two conditions exist: (1) unusually warm water extends along the eastern Pacific, principally along the coasts of Ecuador and Peru, and (2) winds blow from the west into the warmer air rising over the warm water in the east. These winds tend to create a feedback
15 mechanism by driving the warmer surface water into a “pile” that blocks the normal upwelling of deeper, cold water in the east and further warms the eastern water, thus strengthening the wind still more. The contribution of the model is to show that the winds of an El Nino, which raise sea level in the east, simultaneously send a signal to the west lowering sea level. According to the
20 model, that signal is generated as a negative Rossby wave, a wave of depressed, or negative, sea level, that moves westward parallel to the equator at 25 to 85 kilometers per day. Taking months to traverse the Pacific, Rossby waves march to the western boundary of the Pacific basin, which is modeled as a smooth wall but in reality consists of quite irregular island chains, such as, the Philippines
25 and Indonesia.

When the waves meet the western boundary, they are reflected, and the model predicts that Rossby waves will be broken into numerous coastal Kelvin waves carrying the same negative sea-level signal. These eventually shoot
30 toward the equator, and then head eastward along the equator propelled by the rotation of the Earth at a speed of about 250 kilometers per day. When enough Kelvin waves of sufficient amplitude arrive from the western Pacific, their

negative sea-level signal overcomes the feedback mechanism tending to raise the sea level, and they begin to drive the system into the opposite cold mode. This produces a gradual shift in winds, one that will eventually send positive sea-level Rossby waves westward, waves that will eventually return as cold cycle-ending positive Kelvin waves, beginning another warming cycle.

- 35
1. The primary function of the passage as a whole is to
 - (A) introduce a new explanation of a physical phenomenon
 - (B) explain the difference between two related physical phenomena
 - (C) illustrate the limitations of applying mathematics to complicated physical phenomena
 - (D) indicate the direction that research into a particular physical phenomenon should take
 - (E) clarify the differences between an old explanation of a physical phenomenon and a new model of it
 2. Which of the following best describes the organization of the first paragraph?
 - (A) A theory is presented and criticized.
 - (B) A model is described and evaluated.
 - (C) A result is reported and its importance explained.
 - (D) A phenomenon is noted and its significance debated.
 - (E) A hypothesis is introduced and contrary evidence presented.

For the following question, consider each of the choices separately and select all that apply.

3. It can be inferred from the passage that which of the following would result fairly immediately from the cessation of the winds of an El Nino?
 - A Negative Rossby waves would cease to be generated in the eastern Pacific.
 - B The sea level in the eastern Pacific would fall.
 - C The surface water in the eastern Pacific would again be cooled by being mixed with deep water.
4. Which of the following, if true, would most seriously undermine the validity

of the model of El Nino that is presented in the passage?

- (A) During some years El Nino extends significantly farther along the coasts of Ecuador and Peru than during other years.
- (B) During periods of unusually cool temperatures along the eastern Pacific, an El Nino is much colder than normal.
- (C) The normal upwelling of cold water in the eastern Pacific depends much more on the local characteristics of the ocean than on atmospheric conditions.
- (D) The variations in the time it takes Rossby waves to cross the Pacific depend on the power of the winds that the waves encounter.
- (E) The western boundary of the Pacific basin is so irregular that it impedes most coastal Kelvin waves from heading eastward.

Exercise Thirty-four

In a recent study, David Cressy examines two central questions concerning English immigration to New England in the 1630's: what kinds of people immigrated and why? Using contemporary literary evidence, shipping lists, and customs records, Cressy finds that most adult immigrants were skilled in farming or crafts, were literate, and were organized in families. Each of these characteristics sharply distinguishes the 21,000 people who left for New England in the 1630's from most of the approximately 377,000 English people who had immigrating, to America by 1700.

With respect to their reasons for immigrating, Cressy does not deny the frequently noted fact that some of the immigrants of the 1630's, most notably the organizers and clergy, advanced religious explanations for departure, but he finds that such explanations usually assumed primacy only in retrospect when he moves beyond the principal factors, he finds that religious explanations were less frequently offered and he concludes that most people immigrated because they were recruited by promises of material improvement.

1. In the passage, the author is primarily concerned with
(A) summarizing the findings of an investigation

- (B) analyzing a method of argument
- (C) evaluating a point of view
- (D) hypothesizing about a set of circumstances
- (E) establishing categories

For the following question, consider each of the choices separately and select all that apply.

2. According to the passage, Cressy would agree with which of the following statements about the organizers among the English immigrants to New England in the 1630's?

- A Most of them were clergy.
- B Some of them offered a religious explanation for their immigration.
- C They did not begin to settle in New England until some time after they had immigrated to New England.

For the following question, consider each of the choices separately and select all that apply.

3. The passage suggests that the majority of those English people who had immigrated to America by the late seventeenth century were NOT

- A clergy
- B organized in families
- C skilled in crafts

Exercise Thirty-five

Isadora Duncan's masterly writings on the dance reveal the depth of her determination to create a lyric form of the art which was free of characterization, storytelling, and the theatrical exhibition of skills. She wished to discard the traditional methods and established vocabularies of such dance forms as ballet and to explore the internal sources of human expressiveness. She shunned bodily ornamentation and strove to use only the natural movements of her body, undistorted by acrobatic exaggeration and stimulated only by internal compulsion. In her recitals Duncan danced to the music of Beethoven, Wagner, and Gluck, among others, but, contrary to popular belief, she made no attempt to visualize or to interpret the music; rather, she simply relied on it to provide the inspiration for expressing inner feelings through movement. She did not regard this use of music as ideal, however, believing that she would someday dispense with music entirely. That day never came.

1. The author is primarily concerned with Duncan's
 - (A) masterful lyricism as expressed in her writings on the dance
 - (B) concerted efforts to subdue the natural movements of the dance
 - (C) belated recognition that she could not actually fulfill all of her ideals for the dance
 - (D) basic standards for the dance form that she wished to create and perform
 - (E) continuous responsiveness to a popular misconception about the nature of her new art form
2. The author implies that Duncan relied on music in her recitals in order to
 - (A) interpret musical works solely by means of natural body movements
 - (B) foster the illusion that music serves as an inspiration for the dance
 - (C) inspire the expression of inner feeling when she danced
 - (D) validate the public belief that music inspires the expression of feeling through movement
 - (E) counter the public belief that she made no attempt to visualize music
3. It can be inferred from the passage that which of the following endeavors is

LEAST compatible with Duncan's ideals for the dance?

- (A) Using music to stimulate the inspiration to dance
- (B) Attempting to free an art form of both characterization and storytelling
- (C) Minimizing the theatrical exhibition of skills
- (D) Being inspired to express inner feeling through movement
- (E) Creating a lyric art form by drawing on inner personal resources

Exercise Thirty-six

In *The Women of Mexico City, 1796-1857*, Sylvia Marina Arrom argues that the status on women in Mexico City improved during the nineteenth century. According to Arrom, households headed by females and instances of women working outside the home were much more common than scholars have estimated; efforts by the Mexican government to encourage female education resulted in increased female literacy; and influential male writers wrote pieces advocating education, employment, and increased family responsibilities for women, while deploring women's political and marital inequality. Mention of the fact that the civil codes of 1870 and 1884 significantly advanced women's rights would have further strengthened Arrom's argument.

Arrom does not discuss whether women's improved status counteracted the effects on women of instability in the Mexican economy during the nineteenth century. However, this is not so much a weakness in her work as it is the inevitable result of scholars' neglect of this period. Indeed, such gaps in Mexican history are precisely what make Arrom's pioneering study an important addition to Latin American women's history.

1. The passage is primarily concerned with doing which of the following?
 - (A) Reviewing a historical study of the status of women in Mexico City during the nineteenth century.
 - (B) Analyzing the effects of economic instability on the status of women in Mexico during the nineteenth century
 - (C) Advancing a thesis explaining why women's status in Mexico City improved during the nineteenth century
 - (D) Rejecting the thesis that the status of women in Mexico City during the nineteenth century actually improved

- (E) Praising an author for a pioneering attempt to bridge significant gaps in Mexico's economic history prior to 1790
2. It can be inferred from the passage that Arrom would agree with which of the following assertions?
- (A) Efforts by the Mexican government to encourage education for women during the nineteenth century were hampered by the economic instability of that period.
 - (B) The most significant advances in the rights of Mexican women during the nineteenth century occurred prior to 1857.
 - (C) Improvements in the status of women in Mexico City during the nineteenth century were accompanied by similar improvements in the status of women in other large Latin American cities.
 - (D) Scholars have in the past accorded the most significance to nineteenth-century Mexican literature that supported the status quo in women's political and marital rights.
 - (E) Scholars have in the past underestimated the number of households headed by females in Mexico City.
3. Which of the following best describes the author's attitude toward Arrom's work?
- (A) Uncritical approval
 - (B) Enthusiasm tempered by minor reservations
 - (C) Praise for her thesis, despite skepticism regarding the sources of her evidence
 - (D) Reluctant acceptance, despite lingering doubts regarding the accuracy of her thesis
 - (E) Rejection, despite admiration for her attempt to break new ground in a hitherto neglected field

Exercise Thirty-seven

[This passage was excerpted from an article published in 1979.]

Quantum mechanics is a highly successful theory; it supplies methods for accurately calculating the results of diverse experiments, especially with minute particles. The predictions of quantum mechanics, however, give only the probability of an event, not a deterministic statement of whether or not the event will occur. Because of this probabilism, Einstein remained strongly dissatisfied with the theory throughout his life, though he did not maintain that quantum mechanics is wrong. Rather, he held that it is incomplete: in quantum mechanics the motion of a particle must be described in terms of probabilities, he argued, only because some parameters that determine the motion have not been specified. If these hypothetical "hidden parameters" were known, a fully deterministic trajectory could be defined. Significantly, this hidden-parameter quantum theory leads to experimental predictions different from those of traditional quantum mechanics. Einstein's ideas have been tested by experiments performed since his death, and as most of these experiments support traditional quantum mechanics, Einstein's approach is almost certainly erroneous.

1. It can be inferred from the passage that the author's conclusion that Einstein's approach is "erroneous" (line 15) might have to be modified because
 - (A) it is theoretically possible to generate plausible theories with hidden parameters within them
 - (B) some experimental tests of Einstein's theory do not disconfirm the hidden-parameter theory of quantum mechanics
 - (C) it is possible for a theory to have hidden parameters and yet be probabilistic
 - (D) traditional quantum mechanics has not yet been used to analyze all of the phenomena to which it could be applied
 - (E) there are too many possible hidden parameters to develop meaningful tests of hidden-parameter theories
2. According to the passage, Einstein posed objections to the

- (A) existence of hidden parameters in quantum theory
 - (B) probabilistic nature of quantum mechanics
 - (C) idea that quantum mechanics is incomplete
 - (D) results of experiments testing quantum theory
 - (E) importance accorded quantum mechanics in physics
3. The passage suggests that which of the following would have resulted if the experiments mentioned in lines (11-14) had not supported the predictions of traditional quantum mechanics?
- (A) Einstein, had he been alive, would have revised his approach to quantum mechanics.
 - (B) Hidden-parameter theories would have been considered inaccurate descriptions of real-world phenomena.
 - (C) A deterministic description of the motion of a particle might still be considered possible.
 - (D) Quantum mechanics would have ceased to attract the attention of physicists.
 - (E) Einstein, had he been alive, would have abandoned attempts to specify the hidden parameters that describe motion.

Exercise Thirty-eight

- Researchers are finding that in many ways an individual bacterium is more analogous to a component cell of a multicellular organism than it is to a free-living, autonomous organism. *Anabaena*, a freshwater bacteria is a case in point. Among photosynthetic bacteria, *Anabaena* is unusual: it is capable of both
- 5 photosynthesis and nitrogen fixation. Within a single cell, these two biochemical processes are incompatible: oxygen produced during photosynthesis, inactivates the nitrogenase required for nitrogen fixation. In *Anabaena* communities, however, these processes can coexist. When fixed nitrogen compounds are abundant, *Anabaena* is strictly photosynthetic and its cells are all alike. When
- 10 nitrogen levels are low, however, specialized cells called heterocysts are produced which lack chlorophyll (necessary for photosynthesis) but which can fix nitrogen by converting nitrogen gas into a usable form. Submicroscopic channels develop which connect the heterocyst cells with the photosynthetic

15 ones and which are used for transferring cellular products between the two kinds of *Anabaena* cells.

1. According to the passage, which of the following statements is true of bacteria that engage in photosynthesis?
 - (A) They eventually become two autonomous cells.
 - (B) They cannot normally also engage in nitrogen fixation.
 - (C) Oxygen normally inactivates them.
 - (D) Cellular products are constantly transferred between such bacteria.
 - (E) They normally lack chlorophyll.

2. It can be inferred from the passage that cell differentiation within *Anabaena* is regulated by the
 - (A) amount of oxygen *Anabaena* cells produce
 - (B) season of the year
 - (C) amount of fixed nitrogen compounds available
 - (D) number of microscopic channels uniting *Anabaena* cells
 - (E) amount of chlorophyll in *Anabaena* cells

3. The passage supports which of the following inferences about heterocysts?
 - (A) Heterocysts do not produce oxygen.
 - (B) Nitrogen gas inactivates heterocysts.
 - (C) Chlorophyll increases the productivity of heterocysts.
 - (D) Heterocysts allow nitrogen fixation and photosynthesis to occur in the same cell.
 - (E) Heterocysts are more important for *Anabaena's* functioning than are photosynthetic cells.

Exercise Thirty-nine

The 1960's witnessed two profound social movements: the civil rights movement and the movement protesting the war in Vietnam. Although they overlapped in time, they were largely distinct. For a brief moment in 1967, however, it appeared that the two movements might unite under the leadership of Martin Luther King, Jr.

King's role in the antiwar movement appears to require little explanation, since he was the foremost advocate of nonviolence of his time. But King's stance on the Vietnam War cannot be explained in terms of pacifism alone. After all, he was something of a latecomer to the antiwar movement, even though by 1965 he was convinced that the role of the United States in the war was indefensible. Why then the two years that passed before he translated his private misgivings into public dissent? Perhaps he believed that he could not criticize American foreign policy without endangering the support for civil rights that he had won from the federal government.

1. According to the passage, the delay referred to in lines 9-12 is perhaps attributable to which of the following?
 - (A) King's ambivalence concerning the role of the United States in the war in Vietnam
 - (B) King's attempts to consolidate support for his leadership within the civil rights movement
 - (C) King's desire to keep the leadership of the civil rights movement distinct from that of the antiwar movement
 - (D) King's desire to draw support for the civil rights movement from the leadership of the antiwar movement
 - (E) King's reluctance to jeopardize federal support for the civil rights movement
2. The author supports the claim that "King's stance on the Vietnam War cannot be explained in terms of pacifism alone" (lines 7) by implying which of the following?
 - (A) There is little evidence that King was ever a student of pacifist doctrine.

- (B) King, despite pacifist sympathies, was not convinced that the policy of the federal government in Vietnam was wrong.
- (C) King's belief in nonviolence was formulated in terms of domestic policy rather than in terms of international issues.
- (D) Had King's actions been based on pacifism alone, he would have joined the antiwar movement earlier than he actually did.
- (E) Opponents of United States foreign policy within the federal government convinced King of their need for support.

3. Which of the following best describes the passage?

- (A) It discusses an apparent inconsistency and suggests a reason for it.
- (B) It outlines a sequence of historical events.
- (C) It shows why a commonly held view is inaccurate.
- (D) It evaluates an explanation and finally accepts that explanation.
- (E) It contrasts two views of an issue.

Exercise Forty

Extended debate concerning the exact point of origin of individual folktales told by Afro-American slaves has unfortunately taken precedence over analysis of the tales' meaning and function. Cultural continuities with Africa were not dependent on importation and perpetuation of specific folktales in their pristine form. It is in the place that tales occupied in the lives of the slaves and in the meaning slaves derived from them that the clearest resemblances to African tradition can be found. Afro-American slaves did not borrow tales indiscriminately from the Whites among whom they lived. Black people were most influenced by those Euro-American tales whose functional meaning and aesthetic appeal had the greatest similarity to the tales with deep roots in their ancestral homeland. Regardless of where slave tales came from, the essential point is that, with respect to language, delivery, details of characterization, and plot, slaves quickly made them their own.

1. The author's main purpose is to
- (A) create a new field of study

- (B) discredit an existing field of study
 - (C) change the focus of a field of study
 - (D) transplant scholarly techniques from one field of study to another
 - (E) restrict the scope of a burgeoning new field of study
2. The passage suggests that the author would regard which of the following areas of inquiry as most likely to reveal the slaves' cultural continuities with Africa?
- (A) The means by which Blacks disseminated their folktales in nineteenth-century America
 - (B) Specific regional differences in the styles of delivery used by the slaves in telling folktales
 - (C) The functional meaning of Black folktales in the lives of White children raised by slave
 - (D) The specific way the slaves used folktales to impart moral teaching to their children
 - (E) The complexities of plot that appear most frequently in the slaves' tales
3. Which of the following techniques is used by the author in developing the argument in the passage?
- (A) Giving a cliché a new meaning
 - (B) Pointedly refusing to define key terms
 - (C) Alternately presenting generalities and concrete details
 - (D) Concluding the passage with a restatement of the first point made in the passage
 - (E) Juxtaposing statements of what is not the case and statements of what is the case

Exercise Forty-one

The whole biosphere, like the individual organisms that live inside it, exists in a chemically dynamic state. In this homeostatic system, a great number of organic compounds are synthesized, transformed, and decomposed continuously; together, these processes constitute the major parts of the carbon cycle. For the smooth operation of this cycle, degradation is just as important as synthesis: the green plants produce great quantities of polymers, such as cellulose, and innumerable other compounds like alkaloids, terpenes, and flavonoids, that generate a considerable amount of energy during respiration. The release of the carbon in these compounds for recycling depends almost entirely on the action of both aerobic and anaerobic bacteria and certain types of fungi. Some bacteria and fungi possess the unique and extremely important biochemical asset of being able to catalyze the oxidation of numerous inert products, thereby initiating reaction sequences that produce carbon dioxide and so return much carbon to a form that actively enters into life cycles once again.

For the following question, consider each of the choices separately and select all that apply.

- The passage contains information that would answer which of the following questions about the carbon cycle?
 - What are some of the compounds that are broken down in the carbon cycle?
 - Why are some compounds that are involved in the carbon cycle less reactive than others?
 - What role do aerobic and fungi play in the carbon cycle?
- The author implies that which of the following is the primary reason that degradation is as important as synthesis to the smooth operation of the carbon cycle?
 - Most of the polymers and organic compounds found in the plant kingdom

- are chemically unstable.
- (B) The synthesis of some organic material deprives life processes of an energy source.
- (C) Decomposition permits the recycling of carbon that would otherwise be fixed in certain substances.
- (D) Many organisms cannot use plants as a source of food, but can feed on bacteria and fungi.
- (E) Bacteria and fungi could not survive if some carbon compounds were not degraded.
3. The author's contention about the importance of bacteria and fungi in the production of energy for life processes would be most clearly strengthened if which of the following were found to be true?
- (A) Both aerobes and anaerobes provide sources of energy through the decomposition of organic material.
- (B) Most compounds containing carbon are unavailable as energy sources except to some bacteria and fungi.
- (C) Bacteria and fungi break down inert material in ways that do not involve oxidation.
- (D) Many compounds remain inert, even in the presence of bacteria and fungi.
- (E) Bacteria and fungi assist in the synthesis of many organic compounds.

Exercise Forty-two

- Although scientists observe that an organism's behavior falls into rhythmic patterns, they disagree about how these patterns are affected when the organism is transported to a new environment. One experimenter, Brown, brought oysters from Connecticut waters to Illinois waters. She noted that the
- 5 oysters initially opened their shells widest when it was high tide in Connecticut, but that after fourteen days their rhythms had adapted to the tide schedule in Illinois. Although she could not posit an unequivocal causal relationship between behavior and environmental change, Brown concluded that a change
- 10 in tide schedule is one of several possible exogenous influences (those outside the organism) on the oysters' rhythms. Another experimenter, Hamner, however, discovered that hamsters from California maintain their original rhythms even at the South Pole. He concluded that endogenous influences

(those inside the organism) seem to affect an organism's rhythmic behavior.

1. Which of the following statements best describes the conclusion drawn by Brown (lines 8-10)
 - (A) A change in tide schedule is the primary influence on an oyster's rhythms.
 - (B) A change in tide schedule may be an important exogenous influence on an oyster's rhythms.
 - (C) Exogenous influences, such as a change in tide schedule, seldom affect an oyster's rhythms.
 - (D) Endogenous influences have no effect on an oyster's rhythms.
 - (E) Endogenous influences are the only influences on an oyster's rhythms.

For the following question, consider each of the choices separately and select all that apply.

2. The passage suggests that Brown's study was similar to Hamner's in which of the following ways?
 - A Both experimenters discovered that a new environment had a significant effect on an organism's behavior rhythms.
 - B Both experimenters observed an organism's behavioral rhythms after the organism had been transported to a new environment.
 - C Both experimenters knew an organism's rhythmic patterns in its original environment.
3. Which of the following, if true, would most weaken Brown's conclusion?
 - (A) The oyster gradually closed their shells after high tide in Illinois had passed.
 - (B) The oysters' behavioral rhythms maintained their adaptation to the tide schedule in Illinois throughout thirty days of observation.
 - (C) Sixteen days after they were moved to Illinois, the oysters opened their shells widest when it was high tide in Connecticut.
 - (D) A scientist who brought Maryland oysters to Maine found that the oysters opened their shells widest when it was high tide in Maine.
 - (E) In an experiment similar to Brown's, a scientist was able to establish a clear

Exercise Forty-three

The black experience, one might automatically assume, is known to every Black author. Henry James was pondering a similar assumption when he said: “You were to suffer your fate. That was not necessary to know it.” This disparity between an experience and knowledge of that experience is the longest bridge an artist must cross. Don L. Lee, in his picture of the Black poet, “studying his own poetry and the poetry of other Black poets,” touches on the crucial point. In order to transform his own sufferings—or joys—as a Black person into usable knowledge for his readers, the author must first order his experiences in his mind. Only then can he create feelingly and coherently the combination of fact and meaning that Black audiences require for the re-exploration of their lives. A cultural community of Black authors studying one another’s best works systematically would represent a dynamic interchange of the spirit—corrective and instructive and increasingly beautiful in its recorded expression.

1. It can be inferred from the passage that the author considers poetry to be which of the following?
 - (A) A means of diversion in which suffering is transformed into joy
 - (B) An art form that sometimes stifles creative energy
 - (C) A bridge between the mundane and the unreal
 - (D) A medium for conveying important information
 - (E) An area where beauty must be sacrificed for accuracy
2. It can be inferred from the passage that the author would be LEAST likely to approve of which of the following?
 - (A) Courses that promote cultural awareness through the study of contemporary art
 - (B) The development of creative writing courses that encourage mutual criticism of student work
 - (C) Growing interest in extemporaneous writing that records experiences as they occur
 - (D) A shift in interest from abstract philosophical poetry to concrete

autobiographical poetry

- (E) Workshops and newsletters designed to promote dialogues between poets
3. The author refers to Henry James primarily in order to
- (A) support his own perception of the “longest bridge” (lines 4-5)
 - (B) illustrate a coherent “combination of fact and meaning” (lines 9-10)
 - (C) provide an example of “dynamic interchange of the spirit” (line 12-13)
 - (D) establish the pervasiveness of lack of self-knowledge
 - (E) contrast James’s ideas about poetry with those of Don L. Lee

Exercise Forty-four

- The hypothesis of an expanding Earth has never attracted notable support, and if it were not for the historical example of continental drift, such indifference might be a legitimate response to an apparently improbable concept. It should be remembered, however, that drift too was once regarded as illusory, but the idea was kept alive until evidence from physicists compelled geologists to reinterpret their data.
- 5

- Of course, it would be as dangerous to overreact to history by concluding that the majority must now be wrong about expansion as it would be to reenact the response that greeted the suggestion that the continents had drifted. The cases are not precisely analogous. There were serious problems with the pre-drift world view that a drift theory could help to resolve, whereas Earth expansion appears to offer no comparable advantages. If, however, physicists could show that the Earth’s gravitational force has decreased with time, expansion would have to be reconsidered and accommodated.
- 10

1. The final acceptance of a drift theory could best be used to support the argument that
- (A) physicists are reluctant to communicate with other scientists
 - (B) improbable hypotheses usually turn out to be valid
 - (C) there should be cooperation between different fields of science
 - (D) there is a need for governmental control of scientific research
 - (E) scientific theories are often proved by accident
2. In developing his argument, the author warns against
- (A) relying on incomplete measurements
 - (B) introducing irrelevant information

- (C) rejecting corroborative evidence
 - (D) accepting uninformed opinions
 - (E) making unwarranted comparisons
3. It can be deduced from the passage that the gravitational force at a point on the Earth's surface is
- (A) representative of the geologic age of the Earth
 - (B) analogous to the movement of land masses
 - (C) similar to optical phenomena such as mirages
 - (D) proportional to the size of the Earth
 - (E) dependent on the speed of the Earth's rotation

Exercise Forty-five

Notable as important nineteenth-century novels by women, Mary Shelley's *Frankenstein* and Emily Bronte's *Wuthering Heights* treat women very differently. Shelley produced a "masculine" text in which the fates of subordinate female characters seem entirely dependent on the actions of male heroes or anti-heroes. Bronte produced a more realistic narrative, portraying a world where men battle for the favors of apparently high-spirited, independent women. Nevertheless, these two novels are alike in several crucial ways. Many readers are convinced that the compelling mysteries of each plot conceal elaborate structures of allusion and fierce, though shadowy, moral ambitions that seem to indicate metaphysical intentions, though efforts by critics to articulate these intentions have generated much controversy. Both novelists use a storytelling method that emphasizes ironic disjunctions between different perspectives on the same events as well as ironic tensions that inhere in the relationship between surface drama and concealed authorial intention, a method I call an evidentiary narrative technique.

1. The primary purpose of the passage is to
 - (A) defend a controversial interpretation of two novels
 - (B) explain the source of widely recognized responses to two novels
 - (C) delineate broad differences between two novels
 - (D) compare and contrast two novels
 - (E) criticize and evaluate two novels
2. According the passage, *Frankenstein* differs from *Wuthering Heights* in its
 - (A) use of multiple narrators
 - (B) method of disguising the author's real purposes
 - (C) portrayal of men as determiners of the novel's action
 - (D) creation of a realistic story
 - (E) controversial effect on readers
3. Which of the following narrative strategies best exemplifies the "evidentiary narrative technique" mentioned in line 15?
 - (A) Telling a story in such a way that the author's real intentions are discernible

- only through interpretations of allusions to a world outside that of the story
- (B) Telling a story in such a way that the reader is aware as events unfold of the author's underlying purposes and the ways these purposes conflict with the drama of the plot
- (C) Telling a story in a way that both directs attention to the incongruities among the points of view of several characters and hints that the plot has a significance other than that suggested by its mere events
- (D) Telling a story as a mystery in which the reader must deduce, from the conflicting evidence presented by several narrators, the moral and philosophical significance of character and event
- (E) Telling a story from the author's point of view in a way that implies both the author's and the reader's ironic distance from the dramatic unfolding of events

Exercise Forty-six

The Food and Drug Administration has recently proposed severe restrictions on the use of antibiotics to promote the health and growth of meat animals. Medications added to feeds kill many microorganisms but also encourage the appearance of bacterial strains that are resistant to anti-infective drugs. Already, for example, penicillin and the tetracyclines are not as effective therapeutically as they once were. The drug resistance is chiefly conferred by tiny circlets of genes, called plasmids, that can be exchanged between different strains and even different species of bacteria. Plasmids are also one of the two kinds of vehicles (the other being viruses) that molecular biologists depend on when performing gene transplant experiments. Even present guidelines forbid the laboratory use of plasmids bearing genes for resistance to antibiotics. Yet, while congressional debate rages over whether or not to toughen these restrictions on scientists in their laboratories, little congressional attention has been focused on an ill-advised agricultural practice that produces known deleterious effects.

1. In the passage, the author is primarily concerned with
- (A) discovering methods of eliminating harmful microorganisms without subsequently generating drug-resistant bacteria
- (B) explaining reasons for congressional inaction on the regulation of gene

transplant experiments

(C) describing a problematic agricultural practice and its serious genetic consequences

(D) verifying the therapeutic ineffectiveness of anti-infective drugs

(E) evaluating recently proposed restrictions intended to promote the growth of meat animals

2. According to the passage, the exchange of plasmids between different bacteria can result in which of the following?

(A) Microorganisms resistant to drugs

(B) Therapeutically useful circlets of genes

(C) Anti-infective drugs like penicillin

(D) Viruses for use by molecular biologists

(E) Vehicles for performing non-transplant experiments

3. The author's attitude toward the development of bacterial strains that render antibiotic drugs ineffective can best be described as

(A) indifferent

(B) perplexed

(C) pretentious

(D) insincere

(E) apprehensive

Exercise Forty-seven

The primary method previously used by paleontologists to estimate climatic changes that occurred during Pleistocene glacial cycles was the determination of $^{18}\text{O}/^{16}\text{O}$ ratios in calcareous fossils. However, because this ratio is influenced by a number of factors, the absolute magnitude of the temperature difference between Pleistocene glacial and interglacial cycles could not be unequivocally ascertained. For example, both temperature fluctuations and isotopic changes in seawater affect the $^{18}\text{O}/^{16}\text{O}$ ratio. And, since both factors influence the ratio in the same direction, the contribution of each to the $^{18}\text{O}/^{16}\text{O}$ cannot be determined.

Fortunately, recent studies indicate that the racemization reaction of amino acids can be used to determine more accurately temperatures that occurred during Pleistocene glacial cycles. Only L-amino acids are usually found in the proteins of living organisms, but over long periods of geological time these acids undergo racemization, producing D-amino acids, which are not found in proteins. This reaction depends on both time and temperature; thus, if one variable is known, the reaction can be used to calculate the other.

1. The passage suggests that the $^{18}\text{O}/^{16}\text{O}$ ratio could be used more successfully as a means of measurement if scientists were able to
 - (A) determine the $^{18}\text{O}/^{16}\text{O}$ ratio in living animals as well as in fossil remains
 - (B) locate a greater number of calcareous fossils from the Pleistocene glacial and interglacial cycles
 - (C) locate the factors other than temperature fluctuations and isotopic changes in seawater that affect the $^{18}\text{O}/^{16}\text{O}$ ratio
 - (D) arrive at more exact determinations of which amino acids are found in the proteins of living organisms
 - (E) isolate the relative effects of temperature fluctuations and isotopic changes in seawater on $^{18}\text{O}/^{16}\text{O}$ ratios

For the following question, consider each of the choices separately and select all that apply.

2. The information in the passage can be used to answer which of the following questions?
- A Do temperature variations and isotopic changes in seawater cause the $^{18}\text{O}/^{16}\text{O}$ ratio to shift in the same direction?
 - B What are the methods used to determine the $^{18}\text{O}/^{16}\text{O}$ ratio?
 - C Is the study of racemization reactions useful in estimating climatic changes that occurred during Pleistocene glacial cycles if only one of the two important variables is known?
3. According to the passage, before the recent experiments described in the passage were completed, scientists could
- (A) determine temperatures only for Pleistocene seas
 - (B) determine temperatures that occurred during Pleistocene glacial cycles only by examining fossil remains
 - (C) measure changes in temperatures that occurred during Pleistocene glacial cycles with only questionable accuracy
 - (D) only partially identify factors tending to lower Pleistocene temperatures
 - (E) accurately determine temperatures only for land masses affected by glaciations

Exercise Forty-eight

- Chimps and children, gulls and Greeks—the ethologists go their merry way, comparing bits of human cultural behavior with bits of genetically programmed animal behavior. True, humans are animals; they share certain anatomical features with other animals, and some items of human behavior may
- 5 seem analogous to the behavior of other animals. But such analogies can seriously mislead if we fail to look at the context of a particular item of behavior. Thus one ethologist compares the presentation of a twig by a

10 cormorant with gift-giving in humans. Yet the cormorant's twig-presentation simply inhibits attack and is comparable to other appeasement rituals found in many species. Human gift-giving differs in form and purpose not only from culture to culture, but within the same culture in various social contexts. Everything significant about it derives from its social context. Thus, ethologists can accomplish little—beyond reminding us that we are animals—until they study humans as cultural beings.

1. The author is primarily concerned with
 - (A) demonstrating the usefulness of ethology in discovering the behavioral limits within which humans operate
 - (B) objecting to the degradation of humanity implicit in the ethologists equation of humans and animals
 - (C) pointing out the dangers inherent in comparing highly dissimilar species, such as humans and cormorants, rather than similar ones, such as humans and apes
 - (D) refuting the idea that the appeasement rituals in human cultural behavior can be profitably subjected to ethological analysis
 - (E) arguing that the ethologists' assumption that human behavior can be straightforwardly compared with animal behavior is invalid
2. The author's attitude toward contemporary ethologists can best be described as
 - (A) puzzled
 - (B) conciliatory
 - (C) defensive
 - (D) amused
 - (E) disparaging
3. Which of the following statements from a report on a cross-cultural study of gift-giving would, if true, most strongly support the author's assertions concerning human gift-giving?
 - (A) In every culture studied, it was found that some forms of gift-giving are acts of aggression that place the receiver under obligation to the giver.
 - (B) Most governmental taxation systems differentiate between gifts of

property given to children during a parent's lifetime, and a child's inheritance of the same property from a parent dying without a will.

- (C) Some gift-giving customs have analogous forms in nearly every culture, as in the almost universal custom of welcoming strangers with gifts of food.
- (D) In North America, generally speaking, money is an acceptable holiday gift to one's letter carrier or garbage collector, but is often considered an insult if given to one's employer, friends, or relatives.
- (E) Some gifts, being conciliatory in nature, indicate by their costliness the degree of hostility they must appease in the recipient.

Exercise Forty-nine

Although pathogenic organisms constantly alight on the skin, they find it a very unfavorable environment and, in the absence of injury, have great difficulty colonizing it. This “self-sterilizing” capacity of the skin results from the tendency of all well-developed ecosystems toward homeostasis, or the
5 maintenance of the status quo.

Species that typically live in soil, water, and elsewhere rarely multiply on the skin. Undamaged skin is also unfavorable to most human pathogens. The skin is too acid and too arid for some species. The constant shedding of the surface skin layers further hinders the establishment of invaders. The most
10 interesting defense mechanism, however, results from the metabolic activities of the resident flora. Unsaturated fatty acids, an important component of the lipids in sebum collected from the skin surface, inhibit the growth of several bacterial and fungal cutaneous pathogens. These acids are a metabolic product
15 of certain gram-positive members of the cutaneous community, which break down the more complex lipids in freshly secreted sebum.

1. The primary purpose of the passage is to
 - (A) offer an analysis of metabolic processes
 - (B) detail the ways in which bacteria and fungi can be inhibited
 - (C) describe mechanisms by which the skin protects itself against pathogens
 - (D) analyze the methods whereby biological systems maintain the status quo
 - (E) provide a specific example of the skin’s basic defenses against pathogens
2. The “resident flora” mentioned in line 11 refer to
 - (A) “Unsaturated fatty acids” (line 11)
 - (B) “sebum collected from the skin surface” (lines 12)
 - (C) “bacterial and fungal cutaneous pathogens” (lines 12-13)
 - (D) “certain gram-positive members of the cutaneous community” (lines
13-14)
 - (E) “more complex lipids” (lines 15)
3. The author presents her material in which of the following ways?
 - (A) Stating a problem and then supplying a solution

- (B) Presenting a phenomenon and then analyzing reason for it
- (C) Providing information and then drawing a conclusion from it
- (D) Making a general statement and then arguing by analogy
- (E) Making an inference and then developing it by illustration

Exercise Fifty

Analyzing the physics of dance can add fundamentally to a dancer's skill. Although dancers seldom see themselves totally in physical terms—as body mass moving through space under the influence of well-known forces and obeying physical laws—neither can they afford to ignore the physics of movement. For example, no matter how much a dancer wishes to leap off the floor and then start turning, the law of conservation of angular momentum absolutely prevents such a movement.

Some movements involving primarily vertical or horizontal motions of the body as a whole, in which rotations can be ignored, can be studied using simple equations of linear motion in three dimensions. However, rotational motions require more complex approaches that involve analyses of the way the body's mass is distributed, the axes of rotation involved in different types of movement, and the sources of the forces that produce the rotational movement.

1. The primary purpose of the passage is to
 - (A) initiate a debate over two approaches to analyzing a field of study
 - (B) describe how one field of knowledge can be applied to another field
 - (C) point out the contradictions between two distinct theories
 - (D) define and elaborate on an accepted scientific principle
 - (E) discuss the application of a new theory within a new setting
2. The author mentions all of the following as contributing to an understanding of the physics of dance
 - A the law of conservation of angular momentum
 - B analyses of the way in which the body's mass is distributed
 - C equations of linear motion in three dimensions
3. The author implies that dancers can become more skilled by doing which of the following?
 - (A) Ignoring rotational movements

- (B) Understanding the forces that permit various movements
- (C) Solving simple linear equations
- (D) Learning the technical terms utilized by choreographers
- (E) Circumventing the law of conservation of angular momentum

Exercise Fifty-one

The Earth's magnetic field is generated as the molten iron of the Earth's outer core revolves around its solid inner core. When surges in the molten iron occur, magnetic tempests are created. At the Earth's surface, these tempests can be detected by changes in the strength of the Earth's magnetic field. For reasons not fully understood, the field itself reverses periodically every million years or so. During the past million years, for instance, the magnetic north pole has migrated between the Antarctic and the Arctic.

Clearly, geophysicists who seek to explain and forecast changes in the field must understand what happens in the outer core. Unlike meteorologists, however, they cannot rely on observations made in their own lifetimes. Whereas atmospheric storms arise in a matter of hours and last for days, magnetic tempests develop over decades and persist for centuries. Fortunately scientists have been recording changes in the Earth's magnetic field for more than 300 years.

1. In the passage, the author is primarily concerned with
 - (A) analyzing a complicated scientific phenomenon and its impact on the Earth's surface features
 - (B) describing a natural phenomenon and the challenges its study presents to researchers
 - (C) discussing a scientific field of research and the gaps in researchers' methodological approaches to it
 - (D) comparing two distinct fields of physical science and the different research methods employed in each
 - (E) proposing an explanation for a geophysical phenomenon and an experiment that could help confirm that explanation

2. The passage suggests which of the following about surges in the Earth's outer core?

- (A) They occur cyclically every few decades.
 - (B) They can be predicted by changes in the Earth's inner core.
 - (C) They are detected through indirect means.
 - (D) They are linked to disturbances in the Earth's atmosphere.
 - (E) They last for periods of about 1 million years.
3. In the second paragraph, the author is primarily concerned with
- (A) stating a limitation that helps determine a research methodology
 - (B) making a comparative analysis of two different research methodologies
 - (C) assessing the amount of empirical data in the field of physical science
 - (D) suggesting an optimistic way of viewing a widely feared phenomenon
 - (E) describing a fundamental issue and discussing its future impact on society

Exercise Fifty-two

While it is true that living organisms are profoundly affected by their environment, it is equally important to remember that many organisms are also capable of altering their habitat significantly, sometimes limiting their own growth. The influence of the biological component of an ecosystem is often
5 greater in fresh waters than that in marine or terrestrial systems, because of the small size of many freshwater bodies. Many of the important effects of organisms are related to their physiology, especially growth and respiration. By their growth many species can deplete essential nutrients within the system, thus limiting their own growth or that of other species. Lund has demonstrated that in
10 Lake Windermere the alga *Asterionella* is unable to grow in conditions that it itself has created. Once a year, in the spring, this plant starts to grow rapidly in the lake, using up so much silica from the water that by late spring there is no longer enough to maintain its own growth. The population decreases dramatically as a result.

1. Which of the following is an example of the type of organism described in lines 2-3?
- (A) A kind of ant that feeds on the sweet juice exuded by the twigs of a species of thorn tree that grows in dry areas.
 - (B) A kind of fish that, after growing to maturity in the ocean, returns to fresh water.

- (C) A kind of flower that has markings distinctly perceptible in ultraviolet light to the species of bee that pollinates the flower.
- (D) A kind of tree with seeds that germinate readily only in a sunny spot and then develop into mature trees that shade the area below them.
- (E) A kind of butterfly, itself nonpoisonous, with the same markings as a kind of butterfly that birds refuse to eat because it is poisonous.
2. It can be inferred from the passage that which of the followings is true about Asterionella plants in Lake Windermere?
- (A) They are not present except in early spring.
- (B) They contribute silica to the waters as they grow.
- (C) They are food for other organisms.
- (D) They form a silicarich layer on the lake bottom.
- (E) Their growth peaks in the spring.
3. The passage indicates that organisms frequently have the strongest effects on their environment in
- (A) oceans, since oceans contain the largest organisms living on Earth
- (B) oceans, since oceans provide habitats for many different kinds of species
- (C) freshwater bodies, since such effects become pronounced in relatively small spaces
- (D) freshwater lakes, since nutrients in freshwater lakes are present only in small amounts
- (E) land areas, since there exist major influences of climate on the kinds of small organisms supported in land areas
4. The primary topic of the passage is the way in which
- (A) organisms are affected by the amount of nutrients available
- (B) organisms can change their own surroundings
- (C) elements of freshwater habitats impede the growth of small organisms
- (D) the reproduction of organisms is controlled by factors in the environment
- (E) plant matter in a given locale can increase up to a limit

Exercise Fifty-three

Many objects in daily use have clearly been influenced by science, but their form and function, their dimensions and appearance, were determined by technologists artisans, designers, inventors, and engineers---using non- scientific modes of thought. Many features and qualities of the objects that a technologist
5 thinks about cannot be reduced to unambiguous verbal descriptions; they are dealt with in the mind by a visual, nonverbal process. In the development of Western technology, it has been non- verbal thinking, by and large, that has fixed the outlines and filled in the details of our material surroundings. Pyramids, cathedrals, and rockets exist not because of geometry or thermodynamics, but
10 because they were first a picture in the minds of those who built them. The creative shaping process of a technologist's mind can be seen in nearly every artifact that exists. For example, in designing a diesel engine, a technologist might impress individual ways of nonverbal thinking on the machine by continually using an intuitive sense of rightness and fitness. What would be the
15 shape of the combustion chamber? Where should the valves be placed? Should it have a long or short piston? Such questions have a range of answers that are supplied by experience, by physical requirements, by limitations of available space, and not least by a sense of form. Some decisions, such as wall thickness and pin diameter, may depend on scientific calculations, but the nonscientific
20 component of design remains primary.

Design courses, then, should be an essential element in engineering curricula. Nonverbal thinking, a central mechanism in engineering design, involves perceptions, the stock-in-trade of the artist, not the scientist. Because perceptive
25 processes are not assumed to entail "hard thinking," nonverbal thought is sometimes seen as a primitive stage in the development of cognitive processes and inferior to verbal or mathematical thought. But it is paradoxical that when the staff of the Historic American Engineering Record wished to have drawings made of machines and isometric views of industrial processes for its historical record of American engineering, the only college students with the requisite
30 abilities were not engineering students, but rather students attending architectural schools.

If courses in design, which in a strongly analytical engineering curriculum provide the background required for practical problem- solving, are not provided, we can expect to encounter silly but costly errors occurring in advanced
35 engineering systems. For example, early models of high-speed railroad cars

loaded with sophisticated controls were unable to operate in a snowstorm because a fan sucked snow into the electrical system. Absurd random failures that plague automatic control systems are not merely trivial aberrations; they are a reflection of the chaos that results when design is assumed to be primarily a problem in mathematics.

1. In the passage, the author is primarily concerned with
 - (A) identifying the kinds of thinking that are used by technologists
 - (B) stressing the importance of nonverbal thinking in engineering design
 - (C) proposing a new role for nonscientific thinking in the development of technology
 - (D) contrasting the goals of engineers with those of technologists
 - (E) criticizing engineering schools for emphasizing science in engineering curricula

2. Which of the following statements would best serve as an introduction to the passage?
 - (A) The assumption that the knowledge incorporated in technological developments must be derived from science ignores the many non-scientific decisions made by technologists.
 - (B) Analytical thought is no longer a vital component in the success of technological development.
 - (C) As knowledge of technology has increased, the tendency has been to lose sight of the important role played by scientific thought in making decisions about form, arrangement, and texture.
 - (D) A movement in engineering colleges toward a technician's degree reflects a demand for graduates who have the nonverbal reasoning ability that was once common among engineers
 - (E) A technologist thinking about a machine, reasoning through the successive steps in a dynamic process, can actually turn the machine over mentally.

3. The author uses the example of the early models of high-speed railroad cars primarily to
 - (A) weaken the argument that modern engineering systems have major defects because of an absence of design courses in engineering curricula
 - (B) support the thesis that the number of errors in modern engineering systems is likely to increase

- (C) illustrate the idea that courses in design are the most effective means for reducing the cost of designing engineering systems
- (D) support the contention that a lack of attention to the nonscientific aspects of design results in poor conceptualization by engineers
- (E) weaken the proposition that mathematics is a necessary part of the study of design

Exercise Fifty-four

Influenced by the view of some twentieth-century feminists that women's position within the family is one of the central factors determining women's social position, some historians have underestimated the significance of the woman suffrage movement. These historians contend that nineteenth-century suffragism was less radical and, hence, less important than, for example, the moral reform movement or domestic feminism—two nineteenth-century movements in which women struggled for more power and autonomy within the family. True, by emphasizing these struggles, such historians have broadened the conventional view of nineteenth-century feminism, but they do a historical disservice to suffragism. Nineteenth-century feminists and anti-feminist alike perceived the suffragists' demand for enfranchisement as the most radical element in women's protest, in part because suffragists were demanding power that was not based on the institution of the family, women's traditional sphere. When evaluating nineteenth-century feminism as a social force, contemporary historians should consider the perceptions of actual participants in the historical events.

1. The author asserts that the historians discussed in the passage have
 - (A) influenced feminist theorists who concentrate on the family
 - (B) honored the perceptions of the women who participated in the women suffrage movement
 - (C) treated feminism as a social force rather than as an intellectual tradition
 - (D) paid little attention to feminist movements
 - (E) expanded the conventional view of nineteenth-century feminism

2. The author of the passage asserts that some twentieth-century feminists have influenced some historians view of the
 - (A) significance of the woman suffrage movement

- (B) importance to society of the family as an institution
 - (C) degree to which feminism changed nineteenth-century society
 - (D) philosophical traditions on which contemporary feminism is based
 - (E) public response to domestic feminism in the nineteenth century
3. The author of the passage suggests that which of the following was true of nineteenth-century feminists?
- (A) Those who participated in the moral reform movement were motivated primarily by a desire to reconcile their private lives with their public positions.
 - (B) Those who advocated domestic feminism, although less visible than the suffragists, were in some ways the more radical of the two groups.
 - (C) Those who participated in the woman suffrage movement sought social roles for women that were not defined by women's familial roles.
 - (D) Those who advocated domestic feminism regarded the gaining of more autonomy within the family as a step toward more participation in public life.
 - (E) Those who participated in the nineteenth-century moral reform movement stood midway between the positions of domestic feminism and suffragism.
4. Select a sentence in the passage describing the reason why some historians have undervalued the important role played by woman suffragists.

Exercise Fifty-five

- Defenders of special protective labor legislation for women often maintain that eliminating such laws would destroy the fruits of a century-long struggle for the protection of women workers. Even a brief examination of the historic practice of courts and employers would show that the fruit of such laws has been bitter: they are, in practice, more of a curse than a blessing.
- 5

Sex-defined protective laws have often been based on stereotypical assumptions concerning women's needs and abilities, and employers have frequently used them as legal excuses for discriminating against women. After

10 the Second World War, for example, businesses and government sought to persuade women to vacate jobs in factories, thus making room in the labor force for returning veterans. The revival or passage of state laws limiting the daily or weekly work hours of women conveniently accomplished this. Employers had only to declare that overtime hours were a necessary condition of employment or promotion in their factory, and women could be quite legally fired, refused jobs, 15 or kept at low wage levels, all in the name of "protecting" their health. By validating such laws when they are challenged by lawsuits, the courts have colluded over the years in establishing different, less advantageous employment terms for women than for men, thus reducing women's competitiveness on the job market. At the same time, even the most well-intentioned lawmakers, courts, 20 and employers have often been blind to the real needs of women. The lawmakers and the courts continue to permit employers to offer employee health insurance plans that cover all known human medical disabilities except those relating to pregnancy and childbirth.

25 Finally, labor laws protecting only special groups are often ineffective at protecting the workers who are actually in the workplace. Some chemicals, for example, pose reproductive risks for women of childbearing years; manufacturers using the chemicals comply with laws protecting women against these hazards by refusing to hire them. Thus the sex-defined legislation protects the hypothetical female worker, but has no effect whatever on the safety of any 30 actual employee. The health risks to male employees in such industries cannot be negligible, since chemicals toxic enough to cause birth defects in fetuses or sterility in women are presumably harmful to the human metabolism. Protective laws aimed at changing production materials or techniques in order to reduce such hazards would benefit all workers without discriminating against any.

35 In sum, protective labor laws for women are discriminatory and do not meet their intended purpose. Legislators should recognize that women are in the work force to stay, and that their needs—good health care, a decent wage, and a safe workplace—are the needs of all workers. Laws that ignore these facts violate women's rights for equal protection in employment.

1. The author places the word "protecting" in quotation marks in line 15 most likely in order to suggest that
 - (A) she is quoting the actual wording of the laws in question
 - (B) the protective nature of the laws in question should not be overlooked
 - (C) protecting the health of workers is important to those who support protective labor laws

- (D) the laws in question were really used to the detriment of women workers, despite being overtly protective in intent
- (E) the health of workers is not in need of protection, even in jobs where many hours of overtime work are required
2. The passage suggests that which of the following is a shortcoming of protective labor laws that single out a particular group of workers for protection?
- (A) Such laws are often too weak to be effective at protecting the group in question.
- (B) Such laws are usually drafted by legislators who, do not have the best interests of workers at heart.
- (C) Such laws exert no pressure on employers to eliminate hazards in the workplace.
- (D) Compliance with such laws is often costly for employers and provokes lawsuits by employees claiming discrimination.
- (E) Employer compliance with such laws results in increased tension among workers on the job, because such laws unfairly privilege one group of employees over another.
3. The main point of the passage is that special protective labor laws for women workers are
- (A) unnecessary because most workers are well protected by existing labor laws
- (B) harmful to the economic interests of women workers while offering them little or no actual protection
- (C) not worth preserving even though they do represent a hard-won legacy of the labor movement
- (D) controversial because male workers receive less protection than they require
- (E) inadequate in that they often do not prevent employers from exposing women workers to many health hazards

Exercise Fifty-six

The sweep of narrative in A. N. Wilson's biography of C. S. Lewis is impressive and there is much that is acute and well argued. But much in this work is careless and unworthy of its author. Wilson, a novelist and an accomplished biographer, has failed to do what any writer on such a subject as
5 Lewis ought to do, namely work out a coherent view of how the various literary works by the subject are to be described and commented on. Decisions have to be made on what to look at in detail and what to pass by with just a mention. Wilson has not thought this problem out. For instance, *Till We Have Faces*,
10 Lewis' treatment of the Eros and Psyche story and one of his best-executed and most moving works, is merely mentioned by Wilson, though it illuminates Lewis' spiritual development, whereas Lewis' minor work *Pilgrim's Regress* is looked at in considerable detail.

1. The author of the passage implies that Wilson's examination of *Pilgrim's Regress*
(A) is not as coherent as his treatment of *Till We Have Faces*
(B) would have been more appropriate in a separate treatise because of the scope of *Pilgrim's Regress*
(C) demonstrates how Wilson's narrow focus ignores the general themes of Lewis' works
(D) was more extensive than warranted because of the relative unimportance of *Pilgrim's Regress*
(E) was disproportionately long relative to the amount of effort Lewis devoted to writing *Pilgrim's Regress*
2. Which of the following best describes the organization of the passage?
(A) An evaluation is made, and aspects of the evaluation are expanded on with supporting evidence.
(B) A theory is proposed, and supporting examples are provided.
(C) A position is examined, analyzed, and rejected.
(D) A contradiction is described, then the points of contention are evaluated and reconciled.

(E) Opposing views are presented and evaluated, then modifications are advocated.

3 Which of the following best describes the content of the passage?

- (A) A critique of A. N. Wilson as a biographer
- (B) An evaluation of the significance of several works by C. S. Lewis
- (C) An appraisal of a biography by A. N. Wilson
- (D) A ranking of the elements necessary for a well-structured biography
- (E) A proposal for evaluating the literary merits of the works of C. S. Lewis

Exercise Fifty-seven

The two claws of the mature American lobster are decidedly different from each other. The crusher claw is short and stout; the cutter claw is long and slender. Such bilateral asymmetry, in which the right side of the body is, in all other respects, a mirror image of the left side, is not unlike handedness in humans. But where the majority of humans are right-handed, in lobsters the crusher claw appears with equal probability on either the right or left side of the body. Bilateral asymmetry of the claws comes about gradually. In the juvenile fourth and fifth stages of development, the paired claws are symmetrical and cutterlike. Asymmetry begins to appear in the juvenile sixth stage of development, and the paired claws further diverge toward well-defined cutter and crusher claws during succeeding stages. An intriguing aspect of this development was discovered by Victor Emmel. He found that if one of the paired claws is removed during the fourth or fifth stage, the intact claw invariably becomes a crusher, while the regenerated claw becomes a cutter. Removal of a claw during a later juvenile stage or during adulthood, when asymmetry is present, does not alter the asymmetry; the intact and the regenerate claws retain their original structures.

These observations indicate that the conditions that trigger differentiation must operate in a random, manner when the paired claws are intact but in a nonrandom manner when one of the claws is lost. One possible explanation is that differential use of the claws determines their asymmetry. Perhaps the claw that is used more becomes the crusher. This would explain why, when one of the

claws is missing during the fourth or fifth stage, the intact claw always becomes a crusher. With two intact claws, initial use of one claw might prompt the animal to use it more than the other throughout the juvenile fourth and fifth stages, causing it to become a crusher.

To test this hypothesis, researchers raised lobsters in the juvenile fourth and fifth stages of development in a laboratory environment in which the lobsters could manipulate oyster chips. (Not coincidentally, at this stage of development lobsters typically change from a habitat where they drift passively, to the ocean floor where they have the opportunity to be more active by burrowing in the substrate.) Under these conditions, the lobsters developed asymmetric claws, half with crusher claws on the left, and half with crusher claws on the right. In contrast, when juvenile lobsters were reared in a smooth tank without the oyster chips, the majority developed two cutter claws. This unusual configuration of symmetrical cutter claws did not change when the lobsters were subsequently placed in a manipulatable environment or when they lost and regenerated one or both claws.

1. The passage is primarily concerned with
 - (A) drawing an analogy between asymmetry in lobsters and handedness in humans
 - (B) developing a method for predicting whether crusher claws in lobsters will appear on the left or right side
 - (C) explaining differences between lobsters' crusher claws and cutter claws
 - (D) discussing a possible explanation for the way bilateral asymmetry is determined in lobsters
 - (E) summarizing the stages of development of the lobster

2. Each of the following statements about the development of a lobster's crusher claw is supported by information in the passage :
 - A It can be stopped on one side and begun on the other after the juvenile sixth stage.
 - B It occurs gradually over a number of stages.
 - C It is initially apparent in the juvenile sixth stage.

3. Which of the following experimental results, if observed, would most clearly *contradict* the findings of Victor Emmel?
 - (A) A left cutterlike claw is removed in the fifth stage and a crusher claw develops on the right side.

- (B) A left cutterlike claw is removed in the fourth stage and a crusher claw develops on the left side.
- (C) A left cutterlike claw is removed in the sixth stage and a crusher claw develops on the right side.
- (D) Both cutterlike claws are removed in the fifth stage and a crusher claw develops on the left side.
- (E) Both cutterlike claws are removed in the fourth stage and a crusher claw develops on the right side.
4. It can be inferred from the passage that one difference between lobsters in the earlier stages of development and those in the juvenile fourth and fifth stages is that lobsters in the early stages are
- (A) likely to be less active
- (B) likely to be less symmetrical
- (C) more likely to lose a claw
- (D) more likely to replace a crusher claw with a cutter claw
- (E) more likely to regenerate a lost claw

Exercise Fifty-eight

- Although a historical lack of access to formal Spanish-language education initially limited the opportunities of some Chicanos to hone their skills as writers of Spanish, their bilingual culture clearly fostered an exuberant and compelling oral tradition. It has thus generally been by way of the emphasis on oral literary creativity that these Chicano writers, whose English-language works are sometimes uninspired, developed the powerful and arresting language that characterized their Spanish-language works. This Spanish-English difference is not surprising. When writing in Spanish, these authors stayed close to the spoken traditions of their communities where publication, support, and instructive response would come quickly in local or regional newspapers. Works in English, however, often required the elimination of nuance or colloquialism, the adoption of a formal tone, and the adjustment of themes or ideas to satisfy the different demands of national publications.

1. The passage is primarily concerned with doing which of the following?

- (A) Debating the historical value of a literary movement
 - (B) Describing and accounting for a difference in literary styles
 - (C) Explaining a publishing decision and evaluating its results
 - (D) Analyzing the expectations of a particular group of readers
 - (E) Classifying several kinds of literary production
2. According to the author, the Chicano oral experience contributed directly to which of the following characteristics in the work of some Chicano writers?
- (A) A sensitivity to and adeptness in using the spoken language
 - (B) A tendency to appear in national rather than regional publications
 - (C) A style reflecting the influence of Spanish language education
 - (D) A reliance on a rather formal style
 - (E) A capacity to appeal to a broad range of audiences
3. In the context of passage, "arresting" is closest in meaning to
- (A) comprehending
 - (B) eye-catching
 - (C) interesting
 - (D) professional
 - (E) metaphorical

Exercise Fifty-nine

- Before 1965 many scientists pictured the circulation of the ocean's water mass as consisting of large, slow-moving currents, such as the Gulf Stream. That view, based on 100 years of observations made around the globe, produced only a rough approximation of the true circulation. But in the 1950's and the
- 5 1960's, researchers began to employ newly developed techniques and equipment, including subsurface floats that move with ocean currents and emit identification signals, and ocean-current meters that record data for months at fixed locations in the ocean. These instruments disclosed an unexpected level of variability in the deep ocean. Rather than being characterized by smooth, large-scale currents
- 10 that change seasonally (if at all), the seas are dominated by what oceanographers call mesoscale fields: fluctuating, energetic flows whose velocity can reach ten times the mean velocity of the major currents.

Mesoscale phenomena—the oceanic analogue of weather systems—often extend to distances of 100 kilometers and persist for 100 days (weather systems generally extend about 1,000 kilometers and last 3 to 5 days in any given area). More than 90 percent of the kinetic energy of the entire ocean may be accounted for by mesoscale variability rather than by large-scale currents. Mesoscale phenomena may, in fact, play a significant role in oceanic mixing, air-sea interactions, and occasional—but far-reaching—climatic events such as El Niño the atmospheric-oceanic disturbance in the equatorial Pacific that affects global weather patterns.

Unfortunately, it is not feasible to use conventional techniques to measure mesoscale fields. To measure them properly, monitoring equipment would have to be laid out on a grid at intervals of at most 50 kilometers, with sensors at each grid point lowered deep in the ocean and kept there for many months. Because using these techniques would be prohibitively expensive and time-consuming, it was proposed in 1979 that tomography be adapted to measuring the physical properties of the ocean. In medical tomography x-rays map the human body's density variations (and hence internal organs); the information from the x-rays, transmitted through the body along many different paths, is recombined to form three-dimensional images of the body's interior. It is primarily this multiplicative increase in data obtained from the multipath transmission of signals that accounts for oceanographers' attraction to tomography: it allows the measurement of vast areas with relatively few instruments. Researchers reasoned that low-frequency sound waves, because they are so well described mathematically and because even small perturbations in emitted sound waves can be detected, could be transmitted through the ocean over many different paths and that the properties of the ocean's interior—its temperature, salinity, density, and speed of currents—could be deduced on the basis of how the ocean altered the signals. Their initial trials were highly successful, and ocean acoustic tomography was born.

1. The author mentions El Niño (line 19) primarily in order to emphasize which of the following points?
 - (A) The brief duration of weather patterns
 - (B) The variability of mesoscale phenomena
 - (C) The difficulty of measuring the ocean's large-scale currents
 - (D) The effectiveness of low-frequency sound waves in mapping the ocean.
 - (E) The possible impact of mesoscale fields on weather conditions.

2. Which of the following best describes the organization of the third paragraph of the passage?
- (A) A theory is proposed, considered, and then attended.
 - (B) Opposing views are presented, elaborated, and then reconciled.
 - (C) A problem is described, then a solution is discussed and its effectiveness is affirmed.
 - (D) An argument is advanced, then refuted, and an alternative is suggested.
 - (E) A hypothesis is presented, qualified, and then reaffirmed.
3. The passage suggests that which of the following would be true if the ocean's circulation consisted primarily of large, slow-moving currents?
- (A) The influence of mesoscale fields on global weather patterns would remain the same.
 - (B) Large-scale currents would exhibit more variability than is actually observed.
 - (C) The majority of the ocean's kinetic energy would be derived from mesoscale fields.
 - (D) Atmospheric-oceanic disturbances such as El Nino would occur more often.
 - (E) Conventional measuring techniques would be a feasible method of studying the physical properties of the ocean.
4. Which of the following, if presented as the first sentence of a succeeding paragraph, would most logically continue the discussion presented in the passage?
- (A) Timekeeping in medical tomography must be precise because the changes in travel time caused by density fluctuations are slight.
 - (B) To understand how ocean acoustic tomography works, it is necessary to know how sound travels in the ocean.
 - (C) Ships are another possibility, but they would need to stop every 50 kilometers to lower measuring instruments.
 - (D) These variations amount to only about 2 to 3 percent of the average speed of sound in water, which is about 1,500 meters per second.
 - (E) The device used in medical tomography emits a specially coded signal, easily distinguishable from background noise.

Exercise Sixty

5 One explanation for the tendency of animals to be more vigilant in smaller groups than in larger ones assumes that the vigilant behavior—looking up, for example—is aimed at predators. If individuals on the edge of a group are more vigilant because they are at greater risk of being captured, then individuals on
5 aver- age would have to be more vigilant in smaller groups, because the animals on the periphery of a group form a greater proportion of the whole group as the size of the group diminishes.

10 However, a different explanation is necessary in cases where the vigilant behavior is not directed at predators. J. Krebs has discovered that great blue herons look up more often when in smaller flocks than when in larger ones, solely as a consequence of poor feeding conditions. Krebs hypothesizes that the herons in smaller flocks are watching for herons that they might follow to better feeding pools, which usually attract larger numbers of the birds.

1. It can be inferred from the passage that in species in which vigilant behavior is directed at predators, the tendency of the animals to be more vigilant in smaller groups than in larger ones would most likely be minimized if which of the following were true?
 - (A) The vigilance of animals on the periphery of a group always exceeded that of animals located in its interior, even when predators were not in the area.
 - (B) The risk of capture for individuals in a group was the same, whether they were located in the interior of the group or on its periphery.
 - (C) Animals on the periphery of a group tended to be less capable of defending themselves from attack by predators than animals located in the interior of the group.
 - (D) Animals on the periphery of a group tended to bear marks that were more distinctive to predators than animals located in the interior of the group.
 - (E) Animals on the periphery of a group tended to have shorter life spans than animals located in the interior of the group.
2. Which of the following best describes the relationship of the second

paragraph to the first?

- (A) The second paragraph relies on different evidence in drawing a conclusion similar to that expressed in the first paragraph.
- (B) The second paragraph provides further elaboration on why an assertion made at the end of the first paragraph proves to be true in most cases.
- (C) The second paragraph provides additional information in support of a hypothesis stated in the first paragraph.
- (D) The second paragraph provides an example of a case in which the assumption described in the first paragraph is unwarranted.
- (E) The second paragraph describes a phenomenon that has the same cause as the phenomenon described in the first paragraph.

3. It can be inferred from the passage that the author of the passage would be most likely to agree with which of the following assertions about vigilant behavior?

- (A) The larger the group of animals, the higher the probability that individuals in the interior of the group will exhibit vigilant behavior.
- (B) Vigilant behavior exhibited by individuals in small groups is more effective at warding off predators than the same behavior exhibited by individuals in larger groups.
- (C) Vigilant behavior is easier to analyze in species that are preyed upon by many different predators than in species that are preyed upon by relatively few of them.
- (D) The term "vigilant," when used in reference to the behavior of animals, does not refer exclusively to behavior aimed at avoiding predators.
- (E) The term "vigilant," when used in reference to the behavior of animals, usually refers to behavior exhibited by large groups of animals.

4. The passage provides information in support of which of the following assertions?

- (A) The avoidance of predators is more important to an animal's survival than is the quest for food.
- (B) Vigilant behavior aimed at predators is seldom more beneficial to groups of animals than to individual animals.
- (C) Different species of animals often develop different strategies for dealing with predators.
- (D) The size of a group of animals does not necessarily reflect its success in finding food.

(E) Similar behavior in different species of animals does not necessarily serve the same purpose.

Exercise Sixty-one

The earliest controversies about the relationship between photography and art centered on whether photography's fidelity to appearances and dependence on a machine allowed it to be a fine art as distinct from merely a practical art. Throughout the nineteenth century, the defense of photography was identical
5 with the struggle to establish it as a fine art. Against the charge that photography was a soulless, mechanical copying of reality, photographers asserted that it was instead a privileged way of seeing, a revolt against commonplace vision, and no less worthy an art than painting.

Ironically, now that photography is securely established as a fine art, many
10 photographers find it pretentious or irrelevant to label it as such. Serious photographers variously claim to be finding, recording, impartially observing, witnessing events, exploring themselves—anything but making works of art. In the nineteenth century, photography's association with the real world placed it in an ambivalent relation to art; late in the twentieth century, an ambivalent relation
15 exists because of the Modernist heritage in art. That important photographers are no longer willing to debate whether photography is or is not a fine art, except to proclaim that their own work is not involved with art, shows the extent to which they simply take for granted the concept of art imposed by the triumph of Modernism: the better the art, the more subversive it is of the traditional aims of
20 art.

Photographers' disclaimers of any interest in making art tell us more about the harried status of the contemporary notion of art than about whether photography is or is not art. For example, those photographers who suppose that,
25 by taking pictures, they are getting away from the pretensions of art as exemplified by painting remind us of those Abstract Expressionist painters who imagined they were getting away from the intellectual austerity of classical Modernist painting by concentrating on the physical act of painting. Much of photography's prestige today derives from the convergence of its aims with those of recent art, particularly with the dismissal of abstract art implicit in the
30 phenomenon of Pop painting during the 1960's. Appreciating photographs is a relief to sensibilities tired of the mental exertions demanded by abstract art. Classical Modernist painting—that is, abstract art as developed in different ways

35 by Picasso, Kandinsky, and Matisse—presupposes highly developed skills of looking and a familiarity with other paintings and the history of art. Photography, like Pop painting, reassures viewers that art is not hard; photography seems to be more about its subjects than about art.

40 Photography, however, has developed all the anxieties and self-consciousness of a classic Modernist art. Many professionals privately have begun to worry that the pro- motion of photography as an activity subversive of the traditional pretensions of art has gone so far that the public will forget that photography is a distinctive and exalted activity—in short, an art.

1. In the passage, the author is primarily concerned with
 - (A) defining the Modernist attitude toward art
 - (B) explaining how photography emerged as a fine art after the controversies of the nineteenth century
 - (C) explaining the attitudes of serious contemporary photographers toward photography as art and placing those attitudes in their historical context
 - (D) defining the various approaches that serious contemporary photographers take toward their art and assessing the value of each of those approaches
 - (E) identifying the ways that recent movements in painting and sculpture have influenced the techniques employed by serious photographers
2. Which of the following adjectives best describes "the concept of art imposed by the triumph of Modernism" as the author represents it in lines 18-19?
 - (A) Objective
 - (B) Mechanical
 - (C) Superficial
 - (D) Dramatic
 - (E) Paradoxical
3. The author introduces Abstract Expressionist painters (lines 25) in order to
 - (A) provide an example of artists who, like serious contemporary photographers, disavowed traditionally accepted aims of modern art
 - (B) call attention to artists whose works often bear a physical resemblance to the works of serious contemporary photographers
 - (C) set forth an analogy between the Abstract Expressionist painters and classical Modernist painters
 - (D) provide a contrast to Pop artists and others who created works that exemplify the Modernist heritage in art

- (E) provide an explanation of why serious photography, like other contemporary visual forms, is not and should not pretend to be an art
4. According to the author, the nineteenth-century defenders of photography mentioned in the passage stressed that photography was
- (A) a means of making people familiar with remote locales and unfamiliar things
 - (B) a technologically advanced activity
 - (C) a device for observing the world impartially
 - (D) an art comparable to painting
 - (E) an art that would eventually replace the traditional arts
5. According to the passage, which of the following best explains the reaction of serious contemporary photographers to the question of whether photography is an art?
- (A) The photographers' belief that their reliance on an impersonal machine to produce their art requires the surrender of the authority of their personal vision
 - (B) The photographers' fear that serious photography may not be accepted as an art by the contemporary art public
 - (C) The influence of Abstract Expressionist painting and Pop Art on the subject matter of the modern photograph
 - (D) The photographers' belief that the best art is subversive of art as it has previously been defined
 - (E) The notorious difficulty of defining art in its relation to realistic representation
6. According to the passage, certain serious contemporary photographers expressly make which of the following claims about their photographs?
- (A) Their photographs could be created by almost anyone who had a camera and the time to devote to the activity.
 - (B) Their photographs are not examples of art but are examples of the photographers' impartial observation of the world.
 - (C) Their photographs are important because of their subjects but not because of the responses they evoke in viewers.
 - (D) Their photographs exhibit the same ageless principles of form and shading that have been used in painting.
 - (E) Their photographs represent a conscious glorification of the mechanical

aspects of twentieth-century life.

7. It can be inferred from the passage that the author most probably considers serious contemporary photography to be a
- (A) contemporary art that is struggling to be accepted as fine art
 - (B) craft requiring sensitivity but by no means an art
 - (C) mechanical copying of reality
 - (D) modern art that displays the Modernist tendency to try to subvert the prevailing aims of art
 - (E) modern art that displays the tendency of all Modernist art to become increasingly formal and abstract

Exercise Sixty-two

It is their sensitive response to human circumstance that accounts for the persistence of certain universal ideas. Rabbi Meir, a second-century scholar, admonished his disciples to look not at the pitcher but at its contents because, he stated, "Many a new pitcher has been found to be full of old wine." This was his way of emphasizing the importance of the distinction between form and idea, and of stressing that the integrity of an idea is more important than the form of its expression.

Creative ideas not only produce their own instruments of survival as time and circumstances demand, but permit the substitution of new forms for old under the pressure of changed circumstances. For example democracy, as an idea, originated in ancient Greece and was carried from there to Western Europe and the Americas. But it did not retain the ancient Greek form: it passed through several reforming processes and exists today in many countries. Democratic governments differ in form because democracy is in principle dynamic and has therefore responded to local needs.

1. The author is primarily concerned with
- (A) illustrating the importance of a historical figure
 - (B) discussing an important characteristic of human ideas

- (C) describing the history of the growth of democracy
(D) contrasting ancient and modern views of the importance of creative ideas
(E) evaluating the contribution of ancient Greece to modern government
2. According to the passage, democracy is an example of
(A) a human circumstance that has molded creative ideas
(B) an instrument of survival that has altered its original form
(C) an attribute of a creative idea that has allowed that idea to persist
(D) a creative idea that has persisted because of its adaptability
(E) a reforming process that has culminated in the creation of modern governments
3. The “new pitcher” mentioned in line 4 is the equivalent of which of the following elements in the author's discussion of democracy (lines 10-12)?
(A) Ancient Greece
(B) The idea of democracy
(C) A modern democratic government
(D) A dynamic principle
(E) The Greek form of democracy
4. It can be inferred from the passage that the author would disagree most with which of the following assertions?
(A) Changing circumstances sometimes give rise to original ideas.
(B) Creative ideas have universal applications.
(C) Changing human needs influence universal ideas.
(D) Democratic institutions are appropriate in the modern world.
(E) An idea must be expressed in a traditional way.

Exercise Sixty-three

It is possible for students to obtain advanced degrees in English while knowing little or nothing about traditional scholarly methods. The consequences of this neglect of traditional scholarship are particularly unfortunate for the study of women writers. If the canon—the list of authors whose works are most widely taught—is ever to include more women, scholars must be well trained in historical scholarship and textual editing. Scholars who do not know how to read early manuscripts, locate rare books, establish a sequence of editions, and so on are bereft of crucial tools for revising the canon.

To address such concerns, an experimental version of the traditional scholarly methods course was designed to raise students' consciousness about the usefulness of traditional learning for any modern critic or theorist. To minimize the artificial aspects of the conventional course, the usual procedure of assigning a large number of small problems drawn from the entire range of historical periods was abandoned, though this procedure has the obvious advantage of at least superficially familiarizing students with a wide range of reference sources. Instead students were engaged in a collective effort to do original work on a neglected eighteenth-century writer, Elizabeth Griffith, to give them an authentic experience of literary scholarship and to inspire them to take responsibility for the quality of their own work.

Griffith's work presented a number of advantages for this particular pedagogical purpose. First, the body of extant scholarship on Griffith was so tiny that it could all be read in a day; thus students spent little time and effort mastering the literature and had a clear field for their own discoveries. Griffith's play *The Platonic Wife* exists in three versions, enough to provide illustrations of editorial issues but not too many for beginning students to manage. In addition, because Griffith was successful in the eighteenth century, as her continued productivity and favorable reviews demonstrate, her exclusion from the canon and virtual disappearance from literary history also helped raise issues concerning the current canon.

The range of Griffith's work meant that each student could become the world's leading authority on a particular Griffith text. For example, a student studying Griffith's *Wife in the Right* obtained a first edition of the play and

studied it for some weeks. This student was suitably shocked and outraged to find its title transformed into *A Wife in the Night* in Watt's *Bibliotheca Britannica*. Such experiences, inevitable and common in working on a writer to whom so little attention has been paid, serve to vaccinate the student ---I hope for a lifetime---against credulous use of reference sources.

1. The author of the passage is primarily concerned with
 - (A) revealing a commonly ignored deficiency
 - (B) proposing a return to traditional terminology
 - (C) describing an attempt to correct a shortcoming
 - (D) assessing the success of a new pedagogical approach
 - (E) predicting a change in a traditional teaching strategy

2. It can be inferred that the author of the passage expects that the experience of the student mentioned as having studied *Wife in the Right* would have which of the following effects?
 - (A) It would lead the student to disregard information found in the *Bibliotheca Britannica*.
 - (B) It would teach the student to question the accuracy of certain kinds of information sources when studying neglected authors.
 - (C) It would teach the student to avoid the use of reference sources in studying neglected authors.
 - (D) It would help the student to understand the importance of first editions in establishing the author-ship of plays.
 - (E) It would enhance the student's appreciation of the works of authors not included in the canon.

3. The author of the passage suggests that which of the following is a disadvantage of the strategy employed in the experimental scholarly methods course?
 - (A) Students were not given an opportunity to study women writers outside the canon.
 - (B) Students' original work would not be appreciated by recognized scholars.
 - (C) Little scholarly work has been done on the work of Elizabeth Griffith.
 - (D) Most of the students in the course had had little opportunity to study eighteenth-century literature.
 - (E) Students were not given an opportunity to encounter certain sources of information that could prove useful in their future studies.

4. Which of the following best describes the function of the last paragraph in relation to the passage as a whole?
- (A) It summarizes the benefits that students can derive from the experimental scholarly methods course.
 - (B) It provides additional reasons why Griffith's work raises issues having to do with the canon of authors.
 - (C) It provides an illustration of the immediate nature of the experiences students can derive from the experimental scholarly methods course.
 - (D) It contrasts the experience of a student in the experimental scholarly methods course with the experience of a student in the traditional course
 - (E) It provides information that emphasizes the suitability of Griffith's work for inclusion in the canon of authors.

Exercise Sixty-four

This is not to deny that the Black gospel music of the early twentieth century differed in important ways from the slave spirituals. Whereas spirituals were created and disseminated in folk fashion, gospel music was composed, published, copyrighted, and sold by professionals. Nevertheless, improvisation remained central to gospel music. One has only to listen to the recorded repertoire of gospel songs to realize that Black gospel singers rarely sang a song precisely the same way twice and never according to its exact musical notation. They performed what jazz musicians call "head arrangements" proceeding from their own feelings and from the way "the spirit" moved them at the time. This improvisatory element was reflected in the manner in which gospel music was published. Black gospel composers scored the music intended for White singing groups fully, indicating the various vocal parts and the accompaniment, but the music produced for Black singers included only a vocal line and piano accompaniment.

1. The author mentions "folk fashion" (line 3) most likely in order to
- (A) counter an assertion about the role of improvisation in music created by Black people
 - (B) compare early gospel music with gospel music written later in the

twentieth century

- (C) make a distinction between gospel music and slave spirituals
 - (D) introduce a discussion about the dissemination of slave spirituals
 - (E) describe a similarity between gospel music and slave spirituals
2. The passage suggests which of the following about Black gospel music and slave spirituals?
- (A) Both became widely known in the early twentieth century.
 - (B) Both had an important improvisatory element.
 - (C) Both were frequently performed by jazz musicians.
 - (D) Both were published with only a vocal line and piano accompaniment.
 - (E) Both were disseminated chiefly by Black singing groups.
3. Of the following sentences, which is most likely to have immediately preceded the passage?
- (A) Few composers of gospel music drew on traditions such as the spiritual in creating their songs.
 - (B) Spirituals and Black gospel music were derived from the same musical tradition.
 - (C) The creation and singing of spirituals, practiced by Black Americans before the Civil War, continued after the war.
 - (D) Spirituals and gospel music can be clearly distinguished from one another.
 - (E) Improvisation was one of the primary characteristics of the gospel music created by Black musicians.

Exercise Sixty-five

About a century ago, the Swedish physical scientist Arrhenius proposed a law of classical chemistry that relates chemical reaction rate to temperature. According to the Arrhenius equation, chemical reaction are increasingly unlikely to occur as temperatures approach absolute zero, and at absolute zero (zero degrees Kelvin, or minus 273 degrees Celsius) reactions stop. However, recent
5 experimental evidence reveals that although the Arrhenius equation is generally accurate in describing the kind of chemical reaction that occurs at relatively high temperatures, at temperatures closer to zero a quantum- mechanical effect known as tunneling comes into play; this effect accounts for chemical reactions that are
10 forbidden by the principles of classical chemistry. Specifically, entire molecules can "tunnel" through the barriers of repulsive forces from other molecules and chemically react even though these molecules do not have sufficient energy, according to classical chemistry, to overcome the repulsive barrier.

The rate of any chemical reaction, regardless of the temperature at which it
15 takes place, usually depends on a very important characteristic known as its activation energy. Any molecule can be imagined to reside at the bottom of a so-called potential well of energy. A chemical reaction corresponds to the transition of a molecule from the bottom of one potential well to the bottom of another. In classical chemistry, such a transition can be accomplished only by
20 going over the potential barrier between the wells, the height of which remains constant and is called the activation energy of the reaction. In tunneling, the reacting molecules tunnel from the bottom of one to the bottom of another well without having to rise over the barrier between the two wells. Recently researchers have developed the concept of tunneling temperature: the
25 temperature below which tunneling transitions greatly outnumber Arrhenius transitions, and classical mechanics gives way to its quantum counterpart.

This tunneling phenomenon at very low temperatures suggested my hypothesis about a cold prehistory of life: the formation of rather complex organic molecules in the deep cold of outer space, where temperatures usually
30 reach only a few degrees Kelvin. Cosmic rays (high-energy protons and other particles) might trigger the synthesis of simple molecules, such as interstellar formaldehyde, in dark clouds of interstellar dust. Afterward complex organic

35

molecules would be formed, slowly but surely, by means of tunneling. After I offered my hypothesis, Hoyle and Wickramasinghe argued that molecules of interstellar formaldehyde have indeed evolved into stable polysaccharides such as cellulose and starch. Their conclusions, although strongly disputed, have generated excitement among investigators such as myself who are proposing that the galactic clouds are the places where the pre-biological evolution of compounds necessary to life occurred.

1. The author of the passage is primarily concerned with
 - (A) describing how the principles of classical chemistry were developed
 - (B) initiating a debate about the kinds of chemical reactions required for the development of life
 - (C) explaining how current research in chemistry may be related to broader biological concerns
 - (D) reconciling opposing theories about chemical reactions
 - (E) clarifying inherent ambiguities in the laws of classical chemistry
2. The author's attitude toward the theory of a cold prehistory of life can best be described as
 - (A) neutral
 - (B) skeptical
 - (C) mildly positive
 - (D) very supportive
 - (E) pointedly critical
3. Which of the following best describes the organization of the first two paragraphs of the passage?
 - (A) The author cites a basic principle of classical chemistry and then describes the research from which that principle was developed.
 - (B) The author cites an apparent contradiction to the principles of classical chemistry and then explains the process of a chemical reaction to show there is in fact no contradiction.
 - (C) the author describes the role of heat in chemical reactions and then offers a detailed explanation of its function.
 - (D) The author presents a law of classical chemistry in order to introduce a kind of chemical reaction that differs from it and then explains the essential difference between the two.
 - (E) The author presents the fundamental rules of classical chemistry in order

to introduce an explanation of a specific chemical reaction.

Exercise Sixty-six

Experiments show that insects can function as pollinators of cycads, rare, palm-like tropical plants. Furthermore, cycads removed from their native habitats—and therefore from insects native to those habitats—are usually infertile. Nevertheless, anecdotal reports of wind pollination in cycads cannot be ignored. The structure of cycads male cones is quite consistent with the wind dispersal of pollen, clouds of which are released from some of the larger cones. The male cone of *Cycas circinalis*, for example, sheds almost 100 cubic centimeters of pollen, most of which is probably dispersed by wind. Still, many male cycad cones are comparatively small and thus produce far less pollen. Further- more, the structure of most female cycad cones seems inconsistent with direct pollination by wind. Only in the *Cycas* genus are the females' ovules accessible to airborne pollen, since only in this genus are the ovules surrounded by a loose aggregation of megasporophylls rather than by a tight cone.

1. According to the passage, the size of a male cycad cone directly influences which of the following?
 - (A) The arrangement of the male cone's structural elements
 - (B) The mechanism by which pollen is released from the male cone.
 - (C) The degree to which the ovules of female cycads are accessible to airborne pollen
 - (D) The male cone's attractiveness to potential insect pollinators
 - (E) The amount of pollen produced by the male cone
2. The passage suggests that which of the following is true of the structure of cycad cones?
 - (A) The structure of cycad cones provides conclusive evidence in favor of one particular explanation of cycad pollination.
 - (B) The structure of cycad cones provides evidence concerning what triggers the first step in the pollination process.
 - (C) An irresolvable discrepancy exists between what the structure of most male cycad cones suggests about cycad pollination and what the structure

- of most female cones suggests about that process.
- (D) The structure of male cycad cones rules out a possible mechanism for cycad pollination that is suggested by the structure of most female cycad cones.
- (E) The structure of male cycad cones is consistent with a certain means of cycad pollination, but that means is inconsistent with the structure of most female cycad cones.
3. The evidence in favor of insect pollination of cycads presented in lines 2-3 would be more convincing if which of the following were also true?
- (A) Only a small variety of cycad species can be successfully transplanted.
- (B) Cycads can sometimes be pollinated by means other than wind or insects.
- (C) Insects indigenous to regions to which cycads are transplanted sometimes feed on cycads.
- (D) Winds in the areas to which cycads are usually transplanted are similar to winds in cycads' native habitats.
- (E) The transplantation of cycads from one region to another usually involves the accidental removal and introduction of insects as well.

Exercise Sixty-seven

Over the years, biologists have suggested two main pathways by which sexual selection may have shaped the evolution of male birdsong. In the first, male competition and intrasexual selection produce relatively short, simple songs used mainly in territorial behavior. In the second, female choice and intersexual selection produce longer, more complicated songs used mainly in mate attraction; like such visual ornamentation as the peacock's tail, elaborate vocal characteristics increase the male's chances of being chosen as a mate, and he thus enjoys more reproductive success than his less ostentatious rivals. The two pathways are not mutually exclusive, and we can expect to find examples that reflect their interaction. Teasing them apart has been an important challenge to evolutionary biologists.

Early research confirmed the role of intrasexual selection. In a variety of experiments in the field, males responded aggressively to recorded songs by

15 exhibiting territorial behavior near the speakers. The breakthrough for research
into intersexual selection came in the development of a new technique for
investigating female response in the laboratory. When female cowbirds raised in
isolation in soundproof chambers were exposed to recordings of male song, they
20 responded by exhibiting mating behavior. By quantifying the responses,
researchers were able to determine what particular features of the song were
most important. In further experiments on song sparrows, researchers found that
when exposed to a single song type repeated several times or to a repertoire of
different song types, females responded more to the latter. The beauty of the
experimental design is that it effectively rules out confounding variables;
25 acoustic isolation assures that the female can respond only to the song structure
itself. If intersexual selection operates as theorized, males with more complicated
songs should not only attract females more readily but should also enjoy greater
reproductive success. At first, however, researchers doing fieldwork with song
sparrows found no correlation between larger repertoires and early mating,
30 which has been shown to be one indicator of reproductive success; further,
common measures of male quality used to predict reproductive success, such as
weight, size, age, and territory, also failed to correlate with song complexity.

The confirmation researchers had been seeking was finally achieved in
studies involving two varieties of warblers. Unlike the song sparrow, which
35 repeats one of its several song types in bouts before switching to another, the
warbler continuously composes much longer and more variable songs without
repetition. For the first time, researchers found a significant correlation between
repertoire size and early mating, and they discovered further that repertoire size
had a more significant effect than any other measure of male quality on the
number of young produced. The evidence suggests that warblers use their
40 extremely elaborate songs primarily to attract females, clearly confirming the
effect of intersexual selection on the evolution of birdsong.

1. The passage is primarily concerned with
 - (A) showing that intrasexual selection has a greater effect on birdsong than does intersexual selection
 - (B) contrasting the role of song complexity in several species of birds
 - (C) describing research confirming the suspected relationship between intersexual selection and the complexity of birdsong
 - (D) demonstrating the superiority of laboratory work over field studies in evolutionary biology
 - (E) illustrating the effectiveness of a particular approach to experimental

design in evolutionary biology

2. The author mentions the peacock's tail in line 6 most probably in order to
 - (A) cite an exception to the theory of the relationship between intrasexual selection and male competition
 - (B) illustrate the importance of both of the pathways that shaped the evolution of birdsong
 - (C) draw a distinction between competing theories of intersexual selection
 - (D) give an example of a feature that may have evolved through intersexual selection by female choice
 - (E) refute a commonly held assumption about the role of song in mate attraction

3. According to the passage, which of the following is specifically related to intrasexual selection?
 - (A) Female choice
 - (B) Territorial behavior
 - (C) Complex song types
 - (D) Large song repertoires
 - (E) Visual ornamentation

4. Which of the following, if true, would most clearly demonstrate the interaction mentioned in lines 8-9?
 - (A) Female larks respond similarly both to short, simple songs and to longer, more complicated songs.
 - (B) Male canaries use visual ornamentation as well as elaborate song repertoires for mate attraction.
 - (C) Both male and female blackbirds develop elaborate visual and vocal characteristics.
 - (D) Male jays use songs to compete among themselves and to attract females.
 - (E) Male robins with elaborate visual ornamentation have as much reproductive success as rivals with elaborate vocal characteristics.

Exercise Sixty-eight

5 Writing of the Iroquois nation, Smith has argued that through the chiefs' council, tribal chiefs traditionally maintained complete control over the political affairs of both the Iroquois tribal league and the individual tribes belonging to the league, whereas the sole jurisdiction over religious affairs resided with the shamans. According to Smith, this division was maintained until the late nineteenth century, when the dissolution of the chiefs' council and the consequent diminishment of the chiefs' political power fostered their increasing involvement in religious affairs.

10 However, Smith fails to recognize that this division of power between the tribal chiefs and shamans was not actually rooted in Iroquois tradition; rather, it resulted from the Iroquois' resettlement on reservations early in the nineteenth century. Prior to resettlement, the chiefs' council controlled only the broad policy of the tribal league; individual tribes had institutions—most important, the longhouse—to govern their own affairs. In the longhouse, the tribe's chief
15 influenced both political and religious affairs.

1. The primary purpose of the passage is to
 - (A) question the published conclusions of a scholar concerning the history of the Iroquois nation
 - (B) establish the relationship between an earlier scholar's work and new anthropological research
 - (C) summarize scholarly controversy concerning an incident from Iroquois history.
 - (D) trace two generations of scholarly opinion concerning Iroquois social institutions
 - (E) differentiate between Iroquois political practices and Iroquois religious practices

2. It can be inferred that the author of the passage regards Smith's argument as
 - (A) provocative and potentially useful, but flawed by poor organization
 - (B) eloquently presented, but needlessly inflammatory
 - (C) accurate in some of its particulars, but inaccurate with regard to an important point.
 - (D) historically sound, but overly detailed and redundant
 - (E) persuasive in its time, but now largely outdated

3. The author of the passage implies that which of the following occurred after the Iroquois were resettled on reservations early in the nineteenth century?

- (A) Chiefs became more involved in their tribes' religious affairs.
 - (B) The authority of the chiefs' council over the affairs of individual tribes increased.
 - (C) The political influence of the Iroquois shamans was diminished.
 - (D) individual tribes coalesced into the Iroquois tribal league.
 - (E)The longhouse became a political rather than a religious institution.
4. Which of the following best expresses an opinion presented by the author of the passage?
- (A) Smith has overstated the importance of the political role played by Iroquois tribal chiefs in the nineteenth century.
 - (B) Smith has overlooked the fact that the Iroquois rarely allowed their shamans to exercise political authority.
 - (C) Smith has failed to explain why the chiefs' council was dissolved late in the nineteenth century.
 - (D) Smith has failed to acknowledge the role prior to the nineteenth century of the Iroquois tribal chiefs in religious affairs.
 - (E) Smith has failed to recognize that the very structure of Iroquois social institutions reflects religious beliefs.

Exercise Sixty-nine

For many years, Benjamin Quarles' seminal account of the participation of African Americans in the American Revolution has remained the standard work in the field. According to Quarles, the outcome of this conflict was mixed for African American slaves who enlisted in Britain's fight against its rebellious American colonies in return for the promise of freedom: the British treacherously resold many into slavery in the West Indies, while others obtained freedom in Canada and Africa. Building on Quarles' analysis of the latter group, Sylvia Frey studied the former slaves who emigrated to British colonies in Canada. According to Frey, these refugees—the most successful of the African American Revolutionary War participants—viewed themselves as the ideological heirs of the American Revolution. Frey sees this inheritance reflected in their demands for the same rights that the American revolutionaries had demanded from the British: land ownership, limits to arbitrary authority and burdensome taxes, and freedom of religion.

1. According to the passage, which of the following is true about the African American Revolutionary War participants who settled in Canada after the American Revolution?
 - (A) Although they were politically unaligned with either side, they identified more with British ideology than with American ideology.
 - (B) While they were not immediately betrayed by the British, they ultimately suffered the same fate as did African American Revolutionary War participants who were resold into slavery in the West Indies.
 - (C) They settled in Canada rather than in Africa because of the greater religious freedom available in Canada.
 - (D) They were more politically active than were African American Revolutionary War participants who settled in Africa.
 - (E) They were more successful than were African American Revolutionary War participants who settled Africa.
2. Which of the following is most analogous to the relationship between the African American Revolutionary War participants who settled in Canada

after the American Revolution and the American revolutionaries, as that relationship is described in the passage?

- (A) A brilliant pupil of a great musician rebels against the teacher, but adopts the teacher's musical style after the teacher's unexpected death.
 - (B) Two warring rulers finally make peace after a lifetime of strife when they realize that they have been duped by a common enemy.
 - (C) A child who has sided with a domineering parent against a defiant sibling later makes demands of the parent similar to those once made by the sibling.
 - (D) A writer spends much of her life popularizing the work of her mentor, only to discover late in life that much of the older writer's work is plagiarized from the writings of a foreign contemporary.
 - (E) Two research scientists spend much of their careers working together toward a common goal, but later quarrel over which of them should receive credit for the training of a promising student.
3. The author of the passage suggests that which of the following is true of Benjamin Quarles' work?
- (A) It introduced a new and untried research methodology.
 - (B) It contained theories so controversial that they gave rise to an entire generation of scholarship.
 - (C) It was a pioneering work that has not yet been displaced by subsequent scholarship.
 - (D) It launched the career of a scholar who later wrote even more important works.
 - (E) At the time it appeared, its author already enjoyed a well-established reputation in the field.

Exercise Seventy

Although the hormone adrenaline is known to regulate memory storage, it does not pass from the blood into brain cells. We are faced with an apparent paradox: how can a hormone that does not act directly on the brain have such a large effect on brain function?

5 Recently, we tested the possibility that one of the hormone's actions outside
the brain might be responsible. Since one consequence of adrenaline release in
an animal is an increase in blood glucose levels, we examined the effects of
glucose on memory in rats. We found that glucose injected immediately after
training enhances memory tested the next day. Additional evidence was provided
10 by negative findings: drugs called adrenergic antagonists, which block peripheral
adrenaline receptors, disrupted adrenaline's ability to regulate memory but did
not affect memory enhancements produced by glucose that was not stimulated
by adrenaline. These results are as they should be if adrenaline affects memory
modulation by increasing blood glucose levels.

1. The primary purpose of the passage is to
 - (A) reconcile two opposing theories
 - (B) compare two different explanations for a phenomenon
 - (C) describe experimental research that appears to support an unpopular theory
 - (D) present evidence that may help to resolve an apparent contradiction
 - (E) describe a hypothesis that has caused a controversy

2. It can be inferred from the passage that the author would most likely describe the "additional evidence" (line 9) provided by experiments with adrenergic antagonists as
 - (A) revolutionary
 - (B) disappointing
 - (C) incomplete
 - (D) unexpected
 - (E) corroborative

3. The passage provides information about which of the following topics?
 - A The mechanism by which glucose affects memory storage
 - B The evidence that prompted scientist to test the effects of adrenaline on memory regulation
 - C The reason that the effects of glucose on memory were tested

Exercise Seventy-one

Although the development of new infrastructure (such public facilities as power plants, schools, and bridges) is usually determined by governmental planning, sometimes this development can be planned more flexibly and realistically by private investors who anticipate profit from the collection of user fees. Such profits can contribute to the financing of more infrastructure if demand proves great enough, whereas the reluctance of developers to invest in such projects can signal that additional infrastructure is not needed. During the economic boom of the 1980's, for example, the state of Virginia authorized private developers to build a \$300 million toll road. These developers obtained the needed right-of- way from property owners, but by 1993 they still had not raised the necessary financing. The unwillingness of investors to finance this project does not negate the viability of privately financed roads; rather, it illustrates a virtue of private financing. If a road appears unlikely to attract enough future traffic to pay for the road, then it should not be built.

1. The primary purpose of the passage is to
 - (A) build a case for increasing the development of new infrastructure
 - (B) advocate an alternative to government financing of infrastructure
 - (C) explain the failure of a privately financed venture
 - (D) suggest the types of infrastructure most appropriate for private financing
 - (E) argue against government restrictions on developing new infrastructure
2. The passage implies that the "governmental planning" mentioned in line 2-3 may lead to which of the following problems?
 - (A) Improper use of profits derived from user fees
 - (B) Unduly slow development of necessary new infrastructure
 - (C) Unrealistic decisions about developing new infrastructure
 - (D) Incorrect predictions about profits to be gained from user fees
 - (E) Obstruction of private financing for the development of new infrastructure
3. According to the passage, which of the following is true of the toll road mentioned in line 9?

- (A) After it was built, it attracted too little traffic to pay for its construction.
- (B) It was partially financed by the state of Virginia.
- (C) Its development was authorized during an economic boom.
- (D) Its construction was controversial among local residents.
- (E) Its developers were discouraged by governmental restrictions on acquiring the necessary land.

Exercise Seventy-two

As of the late 1990s, the most sophisticated large-scale computer climate models could not accurately predict whether clouds would help or hurt a warming globe. Some studies suggested that a four percent increase in stratocumulus clouds over the ocean could compensate for a doubling in atmospheric carbon dioxide, preventing a potentially disastrous planetwide temperature increase. On the other hand, an increase in cirrus clouds could increase global warming.

That clouds represented the weakest element in climate models was illustrated by a study of fourteen such models. Comparing climate forecasts for a world with double the current amount of carbon dioxide, researchers found that the models agreed quite well if clouds were not included. But when clouds were incorporated, a wide range of forecasts was produced. With such discrepancies plaguing the models, scientists could not easily predict how quickly the world's climate would change, nor could they tell which regions would face dustier droughts or deadlier monsoons.

1. The author of the passage is primarily concerned with

- (A) confirming a theory
- (B) supporting a statement
- (C) presenting new information
- (D) predicting future discoveries
- (E) reconciling discrepant findings

2. It can be inferred that the primary purpose of the models included in the study discussed in the second paragraph of the passage was to *(in order to question)*

- (A) predict future changes in the world's climate
 - (B) predict the effects of cloud systems on the world's climate
 - (C) find a way to prevent a disastrous planet wide temperature increase
 - (D) assess the percentage of the Earth's surface covered by cloud systems
 - (E) estimate by how much the amount of carbon dioxide in the Earth's atmosphere will increase
3. The information in the passage suggests that scientists would have to answer which of the following questions in order to predict the effect of clouds on the warming of the globe?
- (A) What kinds of cloud systems will form over the Earth?
 - (B) How can cloud systems be encouraged to form over the ocean?
 - (C) What are the causes of the projected planetwide temperature increase?
 - (D) What proportion of cloud systems are currently composed of cirrus of clouds?
 - (E) What proportion of the clouds in the atmosphere form over land masses?

Exercise Seventy-three

- An experiment conducted aboard Space Lab in 1983 was the first attempt to grow protein crystals in the low-gravity environment of space. That experiment is still cited as evidence that growing crystals in microgravity can increase crystal size: the authors reported that they grew lysozyme protein crystals 1,000
- 5 times larger than crystals grown in the same device on Earth. Unfortunately, the authors did not point out that their crystals were no larger than the average crystal grown using other, more standard techniques in an Earth laboratory.

- No research has yet produced results that could justify the enormous costs of producing crystals on a large scale in space. To get an unbiased view of the usefulness of microgravity crystal growth, crystals grown in space must be
- 10 compared with the best crystals that have been grown with standard techniques on Earth. Given the great expense of conducting such experiments with proper controls, and the limited promise of experiments performed thus far, it is questionable whether further experiments in this area should even be conducted.

1. According to the passage, which of the following is true about the Space

Lab experiment conducted in 1983?

- (A) It was the first experiment to take place in the microgravity environment of space.
 - (B) It was the first experiment in which researchers in space were able to grow lysozyme protein crystals greater in size than those grown on Earth.
 - (C) Its results have been superseded by subsequent research in the field of microgravity protein crystal growth.
 - (D) Its results are still considered by some to be evidence for the advantages of microgravity protein crystal growth.
 - (E) Its results are considered by many to be invalid because nonstandard techniques were employed.
2. It can be inferred from the passage that the author would find the Space Lab experiment more impressive if which of the following were true?
- (A) The results of the Space Lab experiment could be replicated in producing other kinds of crystals in addition to lysozyme protein.
 - (B) The device used in the experiment produced larger crystals on Earth than it did in space.
 - (C) The size of the crystals produced in the experiment exceeded the size of crystals grown in Earth laboratories using standard techniques.
 - (D) The cost of producing the crystals in space exceeded that of producing them using standard laboratory techniques.
 - (E) The standard techniques used in Earth laboratories were modified in the Space Lab experiment due to the effects of microgravity.
3. Which of the following can be inferred from the passage about the device used to grow crystals in the Space Lab experiment?
- (A) The device is more expensive to manufacture than are the devices used in standard techniques in an Earth laboratory.
 - (B) The device has not been used to grow crystals in space since the Space Lab experiment of 1983
 - (C) Crystals grown in the device on Earth tend to be much smaller than crystals grown in it in space.
 - (D) Crystals grown in the device in space have been exceeded in size by crystals grown in subsequent experiments in space using other devices.
 - (E) The experiments in which the device was used were conducted with proper controls.

第二部分

Exercise Seventy-Four

Recently some scientists have concluded that meteorites found on Earth and long believed to have a Martian origin might actually have been blasted free of Mars's gravity by the impact on Mars of other meteorites. This conclusion has led to another question: whether meteorite impacts on Earth have similarly driven rocks from this planet to Mars.

According to astronomer S. A. Phinney, kicking a rock hard enough to free it from Earth's gravity would require a meteorite capable of making a crater more than 60 miles across. Moreover, even if Earth rocks were freed by meteorite impact, Mars's orbit is much larger than Earth's, so Phinney estimates that the probability of these rocks hitting Mars is about one-tenth as great as that of Mars's rocks hitting Earth. To demonstrate this estimate, Phinney used a computer to calculate where 1,000 hypothetical particles would go if ejected from Earth in random directions. He found that 17 of the 1,000 particles would hit Mars.

1. The passage is primarily concerned with
 - (A) presenting an argument to support a particular hypothesis
 - (B) suggesting an answer to a theoretical question
 - (C) questioning the assumptions of a research project
 - (D) criticizing experimental results
 - (E) explaining the origin of certain scientific data
2. According to the passage, which of the following events may have initiated the process that led to the presence on Earth of meteorites from Mars?
 - (A) A meteorite struck the Earth with tremendous velocity.
 - (B) A meteorite collided with Mars.
 - (C) Approximately 1,000 rocks were ejected from Mars.
 - (D) The orbits of Earth and Mars brought the planets to their closest points.
 - (E) Rocks from a meteorite impact broke free of Earth's gravity.
3. The passage suggests that which of the following is true concerning the

probability that a rock, if ejected from Mars, will hit the Earth?

- (A) The probability is increased when particles are ejected from Mars in random directions.
 - (B) The probability is increased by the presence of large craters on the surface of Mars.
 - (C) The probability is decreased when Mars's orbit brings the planet close to Earth.
 - (D) The probability is greater than the probability that a rock from Earth will hit Mars.
 - (E) The probability is less than the probability that a rock from Earth will escape Earth's gravity.
4. Which of the following, if true, would cast most doubt on Phinney's estimate of the probability of Earth rocks hitting Mars?
- (A) Rather than going in random directions, about 25 percent of all particles ejected from Earth go in the same direction into space.
 - (B) Approximately 100 meteorites large enough to make a noticeable crater hit the Earth each year.
 - (C) No rocks of Earth origin have been detected on Mars.
 - (D) The velocity of rocks escaping from Earth's gravity is lower than the velocity of meteorites hitting the Earth.
 - (E) No craters more than 60 miles across have been found on Mars.

Exercise Seventy-Five

- 5 Paule Marshall's *Brown Girl, Brownstones* (1959) was a landmark in the depiction of female characters in Black American literature. Marshall avoided the oppressed and tragic heroine in conflict with White society that had been typical of the protest novels of the early twentieth century. Like her immediate predecessors, Zora Neale Hurston and Gwendolyn Brooks, she focused her novel on an ordinary Black woman's search for identity within the context of a Black community. But Marshall extended the analysis of Black female characters begun by Hurston and Brooks by depicting her heroine's development in terms of the relationship between her Barbadian American parents, and by exploring
- 10 how male and female roles were defined by their immigrant culture, which in turn was influenced by the materialism of White America. By placing characters

within a wider cultural context, Marshall attacked racial and sexual stereotypes and paved the way for explorations of race, class, and gender in the novels of the 1970's.

1. The passage is primarily concerned with
 - (A) comparing the works of three Black American authors
 - (B) describing common themes in Black American literature
 - (C) discussing an important work in Black American literature
 - (D) providing insights about Black American literature in the early twentieth century
 - (E) providing historical information about the writing of Black American novels in the second half the twentieth century

2. According to the passage, Hurston, Brooks, and Marshall are alike in that they
 - (A) did not examine the effects of White culture on their characters' lives
 - (B) were heavily influenced by the protest novels of the early twentieth century
 - (C) used Black communities as the settings for their novels
 - (D) wrote primarily about the difficulties their characters encountered in White culture
 - (E) wrote exclusively about female characters and the experiences of women

3. The author's description of the way in which Marshall depicts her heroine's development is most probably intended to
 - (A) continue the discussion of similarities in the works of Brooks, Hurston, and Marshall
 - (B) describe the specific racial and sexual stereotypes that Marshall attacked
 - (C) contrast the characters in Marshall's novels with those in later works
 - (D) show how Marshall extends the portrayal of character initiated by her predecessors
 - (E) compare themes in Marshall's early work with themes in her later novels

4. It can be inferred that the author of the passage would describe *Brown Girl, Brownstones* as being
 - (A) completely different from novels written before 1959
 - (B) highly influenced by novels written in the early twentieth century

- (C) similar to the protest novels that preceded it
- (D) important in the late 1950's but dated today
- (E) an important influence on novels written in the 1970's

Exercise Seventy-Six

It is now established that the Milky Way is far more extended and of much greater mass than was hitherto thought. However, all that is visible of the constituents of the Milky Way's corona (outer edge), where much of the galaxy's mass must be located, is a tiny fraction of the corona's mass. Thus, most of the Milky Way's outlying matter must be dark.

Why? Three facts are salient. First, dwarf galaxies and globular clusters, into which most of the stars of the Milky Way's corona are probably bound, consist mainly of old stars. Second, old stars are not highly luminous. Third, no one has detected in the corona the clouds of gaseous matter such as hydrogen and carbon monoxide that are characteristic of the bright parts of a galaxy. At present, therefore, the best explanation—though still quite tentative—for the darkness of the corona is that the corona is composed mainly of old, burned-out stars.

1. The passage as a whole is primarily concerned with
 - (A) analyzing a current debate
 - (B) criticizing a well-established theory
 - (C) showing how new facts support a previously dismissed hypothesis
 - (D) stating a conclusion and adducing evidence that may justify it
 - (E) contrasting two types of phenomena and showing how they are related

2. According to the passage, a bright part of a galaxy typically includes
 - (A) dwarf galaxies and clusters of stars
 - (B) a balanced mixture of old and new stars
 - (C) a large portion of the galaxy's mass
 - (D) part of the corona of the galaxy
 - (E) gases such as hydrogen and carbon monoxide

3. It can be inferred from the passage that, compared with what they now think, until fairly recently astronomers believed that the Milky Way
 - (A) was much darker
 - (B) was much smaller

- (C) was moving much more slowly
- (D) had a much larger corona
- (E) had much less gaseous matter

4. The passage presents which of the following as incontrovertible?

- I. The low luminosity of old stars
 - II. The absence of clouds of gaseous matter from the corona of the Milky Way
 - III. The predominance of globular clusters and dwarf galaxies in the corona of the Milky Way
- (A) I only
 - (B) III only
 - (C) I and II only
 - (D) II and III only
 - (E) I, II, and III

Exercise Seventy-Seven

Typically the queen honeybee is mother to all the bees in a hive; after mating with several male drones from other colonies, she lays fertilized eggs that develop into all-female worker bees and lays unfertilized eggs that become all-male drones. When a queen dies, workers often lay unfertilized eggs that hatch into drones. Yet workers rarely reproduce while a queen reigns.

- 5 According to natural selection theory, a worker would enhance her fitness—or ability to propagate her genes—by hatching her own eggs in addition to or in place of the queen's. But a typical worker's fitness would be diminished if other workers' sons, who have less genetic material in common with the worker, supplanted the queen's sons (the worker's brothers).
10 Researchers, testing the hypothesis that workers usually somehow block each other's attempts to reproduce, put unfertilized eggs laid by workers and by the queen into a hive. Other workers quickly devoured the workers' eggs while leaving the queen's eggs alone.

1. The author refers to the experiment described in lines 10-12 in order to
- (A) explain how worker bees are prevented from mating with drones
 - (B) explain how worker bees hatch and nurture the queen's young

- (C) demonstrate the universality of natural selection
 - (D) show that worker bees are capable of thwarting each other's attempts to reproduce
 - (E) provide a model of daily life in a typical honeybee hive
2. The inner workings in a honeybee hive that regulate reproduction, as they are described in the passage, are most similar to which of the following types of human societies?
- (A) A totalitarian society in which citizens' "policing" of each other's actions helps to maintain the status quo.
 - (B) A pacifist state in which the individuals are strongly opposed to the use of violence or aggression to settle disputes.
 - (C) A democratic society in which the voice of the majority rules.
 - (D) A parliamentary society in which a few members, organized as a cabinet wield executive power.
 - (E) An anarchic state in which order and stable social structures are lacking.
3. The passage best supports which of the following inferences about the fitness of honeybees?
- (A) Reproduction diminishes any individual honeybee's fitness.
 - (B) An individual worker's fitness can be maintained without the individual herself reproducing.
 - (C) A hierarchy of stronger and weaker individuals among the worker bees determines which individuals will reproduce when a queen dies.
 - (D) While a queen reigns, the fitness of the worker bees is increased and that of the drones is diminished.
 - (E) Fitness encourages worker bees to hatch honeybee eggs without regard for the relatedness of the young to the "parent."
4. The passage suggests which of the following about the eggs laid by worker bees?
- (A) One of the eggs hatches into the next queen.
 - (B) The eggs are invariably destroyed by other worker bees.
 - (C) Each worker tries to hide her eggs from the other worker bees.
 - (D) The eggs hatch only if the worker has mated with a drone from another hive.
 - (E) The eggs are less likely to be harmed by other workers if the queen is dead.

Exercise Seventy-Eight

Recent findings suggest that visual signals are fed into at least three separate processing systems in the brain, each with its own distinct function. One system appears to process information about shape perception; a second, information about color; a third, information about movement, location, and spatial organization. An understanding of the functions and capabilities of these three systems can shed light on how artists manipulate materials to create surprising visual effects.

It is possible to summarize the functions of the three subsystems of the visual system as follows. The parvo system carries highly detailed information about stationary objects and about borders that are formed by contrasting colors. It does not, however, carry information about specific colors. Because much of the information about the shape of objects can be represented by their borders, we suspect that this system is important in shape perception. The blob system processes information about colors, but not about movement, shape discrimination, or depth. The magno system carries information about movement and depth. It is good at detecting motion but poor at scrutinizing stationary images. In addition it appears to be colorblind; it is unable to perceive borders that are visible only on the basis of color contrast.

Cells in the parvo system can distinguish between two colors at any relative brightness of the two. Cells in the color-blind magno system, on the other hand, are analogous to a black-and-white photograph in the way they function: they signal information about the brightness of surfaces but not about their colors. For any pair of colors there is a particular brightness ratio at which two colors, for example red and green, will appear as the same shade of gray in a black-and-white photograph, hence any border between them will vanish. Similarly at some relative red-to-green brightness level, the red and green will appear identical to the magno system. The red and green are then called equiluminant. A border between two equiluminant colors has color contrast but no luminance contrast.

Many artists have seemed to be empirically aware of these underlying principles and have used them to maximize particular effects. Some of the peculiar effects of Op Art, for example, probably arise from color combinations that are strong activators of the parvo system but are weak stimuli for the magno system. An object that is equiluminant with its background looks vibrant and unstable. The reason is that the parvo system can signal the object's

shape but the magno system cannot see its borders and therefore cannot signal either the movement or the position of the object. Hence it seems to jump around, drift, or vibrate on the canvas.

1. The passage is primarily concerned with
 - (A) describing subsystems of the visual system and showing their relevance to art
 - (B) comparing three theories on how the visual system analyzes images in a work of art
 - (C) explaining how artists use color contrasts to create particular visual effects
 - (D) explaining how the visual system distinguishes among different colors
 - (E) describing functions of the first three phases of the visual system

2. Which of the following would create visual effects most similar to those discussed in lines 30-31?
 - (A) A watercolor in which colors are applied imprecisely to outlined shapes
 - (B) A painting in which different shades of the same color are used to obscure the boundaries between objects
 - (C) A black-and-white sketch in which shading is used to convey a sense of depth
 - (D) An advertisement in which key words are at the same level of brightness as a background of contrasting color
 - (E) A design in which two different shades of gray are juxtaposed to heighten the contrast between them

3. The passage provides information about which of the following?
 - (A) Why the same system can process information about movement and location
 - (B) Why the parvo system is considered to be responsible for shape perception
 - (C) Why the blob system can process information about colors but not movement
 - (D) The mechanism that enables the blob system to distinguish between stationary objects
 - (E) The mechanism that enables the magno system to carry information about shape discrimination

4. According to the passage, which of the following is true of the visual system?

- (A) It processes visual signals in three consecutive stages.
- (B) It processes visual signals through separate processing systems in the brain.
- (C) It consists of only three separate systems.
- (D) It consists of a single hierarchical system rather than a multipartite system.
- (E) It consists of separate system with high overlap in processing functions.
5. The author mentions a “black-and-white photograph” (line 21) most probably in order to explain
- (A) how the parvo system distinguishes between different shapes and colors
- (B) how the magno system uses luminosity to identify borders between objects
- (C) the mechanism that makes the magno system color-blind
- (D) why the magno system is capable of perceiving moving images
- (E) the brightness ratio at which colors become indistinguishable to the parvo system
6. The author uses all of the following in the discussion in the third paragraph EXCEPT:
- (A) an example
- (B) definition of terms
- (C) contrast
- (D) a rhetorical question
- (E) analogy
7. The passage suggests which of the following about the magno system?
- (A) It perceives borders on the basis of luminance contrast.
- (B) It perceives shapes on the basis of color contrast.
- (C) It is better at perceiving stationary objects than it is at detecting movement.
- (D) It can detect motion but it cannot signal the position of an object.
- (E) It is better at processing information about movement than it is at processing information about depth.

Exercise Seventy-Nine

Human relations have commanded people's attention from early times. The ways of people have been recorded in innumerable myths, folktales, novels, poems, plays, and popular or philosophical essays. Although the full significance of a human relationship may not be directly evident, the complexity of feelings and actions that can be understood at a glance is surprisingly great. For this reason psychology holds a unique position among the sciences. "Intuitive" knowledge may be remarkably penetrating and can significantly help us understand human behavior, whereas in the physical sciences such commonsense knowledge is relatively primitive. If we erased all knowledge of scientific physics from our modern world, not only would we not have cars and television sets, we might even find that the ordinary person was unable to cope with the fundamental mechanical problems of pulleys and levers. On the other hand if we removed all knowledge of scientific psychology from our world, problems in interpersonal relations might easily be coped with and solved much as before. We would still "know" how to avoid doing something asked of us and how to get someone to agree with us; we would still "know" when someone was angry and when someone was pleased. One could even offer sensible explanations for the "whys" of much of the self's behavior and feelings. In other words, the ordinary person has a great and profound understanding of the self and of other people which, though unformulated or only vaguely conceived, enables one to interact with others in more or less adaptive ways. Kohler, in referring to the lack of great discoveries in psychology as compared with physics, accounts for this by saying that "people were acquainted with practically all territories of mental life a long time before the founding of scientific psychology."

Paradoxically, with all this natural, intuitive, commonsense capacity to grasp human relations, the science of human relations has been one of the last to develop. Different explanations of this paradox have been suggested. One is that science would destroy the vain and pleasing illusions people have about themselves; but we might ask why people have always loved to read pessimistic, debunking writings, from Ecclesiastes to Freud. It has also been proposed that just because we know so much about people intuitively, there has been less incentive for studying them scientifically; why should one develop a theory, carry out systematic observations, or make predictions about the obvious? In any case, the field of human relations, with its vast literary documentation but meager scientific treatment, is in great contrast to the field of physics in which there are relatively few nonscientific books.

1. According to the passage, it has been suggested that the science of human relations was slow to develop because
 - (A) intuitive knowledge of human relations is derived from philosophy
 - (B) early scientists were more interested in the physical world
 - (C) scientific studies of human relations appear to investigate the obvious
 - (D) the scientific method is difficult to apply to the study of human relations
 - (E) people generally seem to be more attracted to literary than to scientific writings about human relations

2. The author's statement that "Psychology holds a unique position among the sciences" (lines 6) is supported by which of the following claims in the passage?
 - (A) The full meaning of a human relationship may not be obvious.
 - (B) Commonsense understanding of human relations can be incisive.
 - (C) Intuitive knowledge in the physical sciences is relatively advanced.
 - (D) Subjective bias is difficult to control in psychological research.
 - (E) Psychological facts are too imprecise to lead to great discoveries.

3. According to the passage, an understanding of the self can be
 - (A) highly biased due to unconscious factors
 - (B) profound even when vaguely conceived
 - (C) improved by specialized training
 - (D) irrelevant for understanding human relations
 - (E) more reliable than knowledge about other people

4. It can be inferred that the author would most likely agree with which of the following statements regarding people who lived before the advent of scientific psychology?
 - (A) Their understanding of human relations was quite limited.
 - (B) They were uninterested in acquiring knowledge of the physical world.
 - (C) They misunderstood others more frequently than do people today.
 - (D) Their intuitions about human relations were reasonably sophisticated.
 - (E) They were more likely to hold pleasing illusions about themselves than are people today.

5. The author implies that attempts to treat human relations scientifically have

- thus far been relatively
- (A) unilluminating
 - (B) paradoxical
 - (C) pessimistic
 - (D) encouraging
 - (E) uninterpretable
6. The author refers to people who are attracted to “pessimistic, debunking writings” (line 29-30) in order to support which of the following ideas?
- (A) Interesting books about human relations are typically pessimistic.
 - (B) People tend to ignore scientific explanations of human relations.
 - (C) People rarely hold pleasing illusions about themselves.
 - (D) A scientific approach human relations would undermine the pleasing illusions people hold of themselves.
 - (E) It is doubtful that the science of human relations developed slowly because of a desire to maintain pleasing illusions.
7. It can be inferred that the author assumes that commonsense knowledge of human relations is
- (A) equally well developed among all adults within a given society
 - (B) considerably more accurate in some societies than in others
 - (C) biased insofar as it is based on myths and folktales
 - (D) typically unrelated to an individual’s interactions with other people
 - (E) usually sufficiently accurate to facilitate interactions with others

Exercise Eighty

- 5 Writing of the Iroquois nation, Smith has argued that through the chiefs’ council, tribal chiefs traditionally maintained complete control over the political affairs of both the Iroquois tribal league and the individual tribes belonging to the league, whereas the sole jurisdiction over religious affairs resided with the shamans. According to Smith, this division was maintained until the late nineteenth century, when the dissolution of the chiefs’ council and the consequent diminishment of the chiefs’ political power fostered their increasing involvement in religious affairs.

10 However, Smith fails to recognize that this division of power between the tribal chiefs and shamans was not actually rooted in Iroquois tradition; rather, it resulted from the Iroquois' resettlement on reservations early in the nineteenth century. Prior to resettlement, the chiefs' council controlled only the broad policy of the tribal league; individual tribes had institutions—most important, the longhouse—to govern their own affairs. In the longhouse, the tribe's chief
15 influenced both political and religious affairs.

1. The primary purpose of the passage is to
 - (A) question the published conclusions of a scholar concerning the history of the Iroquois nation
 - (B) establish the relationship between an earlier scholar's work and new anthropological research
 - (C) summarize scholarly controversy concerning an incident from Iroquois history
 - (D) trace two generations of scholarly opinion concerning Iroquois social institutions
 - (E) differentiate between Iroquois political practices and Iroquois religious practices

2. It can be inferred that the author of the passage regards Smith's argument as
 - (A) provocative and potentially useful, but flawed by poor organization
 - (B) eloquently presented, but needlessly inflammatory
 - (C) accurate in some of its particulars, but inaccurate with regard to an important point
 - (D) historically sound, but overly detailed and redundant
 - (E) persuasive in its time, but now largely outdated

3. The author of the passage implies that which of the following occurred after the Iroquois were resettled on reservations early in the nineteenth century?
 - (A) Chiefs became more involved in their tribes' religious affairs.
 - (B) The authority of the chiefs' council over the affairs of individual tribes increased.
 - (C) The political influence of the Iroquois shamans was diminished.
 - (D) Individual tribes coalesced into the Iroquois tribal league.
 - (E) The longhouse became a political rather than a religious institution.

4. Which of the following best expresses an opinion presented by the author of

the passage?

- (A) Smith has overstated the importance of the political role played by Iroquois tribal chiefs in the nineteenth century.
- (B) Smith has overlooked the fact that the Iroquois rarely allowed their shamans to exercise political authority.
- (C) Smith has failed to explain why the chiefs' council was dissolved late in the nineteenth century.
- (D) Smith has failed to acknowledge the role prior to the nineteenth century of the Iroquois tribal chiefs in religious affairs.
- (E) Smith has failed to recognize that the very structure of Iroquois social institutions reflects religious beliefs.

Exercise Eighty-One

5 Although the development of new infrastructure (such public facilities as power plants, schools, and bridges) is usually determined by governmental planning, sometimes this development can be planned more flexibly and realistically by private investors who anticipate profit from the collection of user fees. Such profits can contribute to the financing of more infrastructure if demand proves great enough, whereas the reluctance of developers to invest in such projects can signal that additional infrastructure is not needed. During the economic boom of the 1980's, for example, the state of Virginia authorized private developers to build a \$300 million toll road. These developers obtained 10 the needed right-of-way from property owners, but by 1993 they still had not raised the necessary financing. The unwillingness of investors to finance this project does not negate the viability of privately financed roads; rather, it illustrates a virtue of private financing. If a road appears unlikely to attract enough future traffic to pay for the road, then it should not be built.

1. The primary purpose of the passage is to
 - (A) build a case for increasing the development of new infrastructure
 - (B) advocate an alternative to government financing of infrastructure
 - (C) explain the failure of a privately financed venture
 - (D) suggest the types of infrastructure most appropriate for private financing
 - (E) argue against government restrictions on developing new infrastructure

2. The passage implies that the “governmental planning” mentioned in line 2 may lead to which of the following problems?
- (A) Improper use of profits derived from user fees
 - (B) Unduly slow development of necessary new infrastructure
 - (C) Unrealistic decisions about developing new infrastructure
 - (D) Incorrect predictions about profits to be gained from user fees
 - (E) Obstruction of private financing for the development of new infrastructure
3. According to the passage, which of the following is true of the toll road mentioned in line 9?
- (A) After it was built, it attracted too little traffic to pay for its construction.
 - (B) It was partially financed by the state of Virginia.
 - (C) Its development was authorized during an economic boom.
 - (D) Its construction was controversial among local residents.
 - (E) Its developers were discouraged by governmental restrictions on acquiring the necessary land.
4. The passage suggests that which of the following would occur if a privately financed bridge that proved to be profitable failed after a number of years to meet the demands of traffic?
- (A) Private developers who financed the bridge would rely on governmental authorities to develop new infrastructure.
 - (B) User fees would be increased so that usage would become more costly.
 - (C) Governmental authorities would be reluctant to rely on private contractors to develop a new bridge.
 - (D) The success of the project would be jeopardized by public dissatisfaction with the project’s adequacy.
 - (E) Profits generated by user fees would be used to help finance the construction of new infrastructure to alleviate the traffic problem.

Exercise Eighty-Two

The age at which young children begin to make moral discriminations about harmful actions committed against themselves or others has been the focus of recent research into the moral development of children. Until recently, child psychologists supported pioneer developmentalist Jean. Piaget in his hypothesis
5 that because of their immaturity, children under age seven do not take into account the intentions of a person committing accidental or deliberate harm, but rather simply assign punishment for transgressions on the basis of the magnitude of the negative consequences caused. According to Piaget, children under age seven occupy the first stage of moral development, which is
10 characterized by moral absolutism (rules made by authorities must be obeyed) and imminent justice (if rules are broken, punishment will be meted out). Until young children mature, their moral judgments are based entirely on the effect rather than the cause of a transgression. However, in recent research, Keasey found that six-year-old children not only distinguish between accidental and
15 intentional harm, but also judge intentional harm as naughtier, regardless of the amount of damage produced. Both of these findings seem to indicate that children, at an earlier age than Piaget claimed, advance into the second stage of moral development, moral autonomy, in which they accept social rules but view them as more arbitrary than do children in the first stage.

Keasey's research raises two key questions for developmental psychologists about children under age seven: do they recognize justifications for harmful actions, and do they make distinctions between harmful acts that are preventable and those acts that have unforeseen harmful consequences? Studies
20 indicate that justifications excusing harmful actions might include public duty, self-defense, and provocation. For example, Nesdale and Rule concluded that children were capable of considering whether or not an aggressor's action was justified by public duty: five year olds reacted very differently to "Bonnie wrecks Ann's pretend house" depending on whether Bonnie did it "so
25 somebody won't fall over it" or because Bonnie wanted "to make Ann feel bad." Thus, a child of five begins to understand that certain harmful actions, though intentional, can be justified; the constraints of moral absolutism no longer solely guide their judgments.

Psychologists have determined that during kindergarten children learn to make subtle distinctions involving harm. Darley observed that among acts
35 involving unintentional harm, six-year-old children just entering kindergarten

could not differentiate between foreseeable, and thus preventable, harm and unforeseeable harm for which the perpetrator cannot be blamed. Seven months later, however, Darley found that these same children could make both distinctions, thus demonstrating that they had become morally autonomous

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1. Which of the following best describes the passage as a whole?
 - (A) An outline for future research
 - (B) An expanded definition of commonly misunderstood terms
 - (C) An analysis of a dispute between two theorists
 - (D) A discussion of research findings in an ongoing inquiry
 - (E) A confirmation of an established authority's theory

2. According to the passage, Darley found that after seven months of kindergarten six year olds acquired which of the following abilities?
 - (A) Differentiating between foreseeable and unforeseeable harm
 - (B) Identifying with the perpetrator of a harmful action
 - (C) Justifying harmful actions that result from provocation
 - (D) Evaluating the magnitude of negative consequences resulting from the breaking of rules
 - (E) Recognizing the difference between moral absolutism and moral autonomy

3. According to the passage, Piaget and Keasey would not have agreed on which of the following points?
 - (A) The kinds of excuses children give for harmful acts they commit
 - (B) The age at which children begin to discriminate between intentional and unintentional harm
 - (C) The intentions children have in perpetrating harm
 - (D) The circumstances under which children punish harmful acts
 - (E) The justifications children recognize for mitigating punishment for harmful acts

4. It can be inferred that the term "public duty" (line 24) in the context of the passage means which of the following?
 - (A) The necessity to apprehend perpetrators.
 - (B) The responsibility to punish transgressors
 - (C) An obligation to prevent harm to another

- (D) The assignment of punishment for harmful action
(E) A justification for punishing transgressions
5. According to the passage, Keasey's findings support which of the following conclusions about six-year-old children?
- (A) They have the ability to make autonomous moral judgments.
(B) They regard moral absolutism as a threat to their moral autonomy.
(C) They do not understand the concept of public duty.
(D) They accept moral judgment made by their peers more easily than do older children.
(E) They make arbitrary moral judgments.
6. It can be inferred from the passage that Piaget would be likely to agree with which of the following statements about the punishment that children under seven assign to wrongdoing?
- (A) The severity of the assigned punishment is determined by the perceived magnitude of negative consequences more than by any other factor.
(B) The punishment is to be administered immediately following the transgression.
(C) The children assign punishment less arbitrarily than they do when they reach the age of moral autonomy.
(D) The punishment for acts of unintentional harm is less severe than it is for acts involving accidental harm.
(E) The more developmentally immature a child, the more severe the punishment that the child will assign.
7. According to the passage, the research of Nesdale and Rule suggests which of the following about five-year-old children?
- (A) Their reactions to intentional and accidental harm determine the severity of the punishments they assign.
(B) They, as perpetrators of harmful acts, disregard the feelings of the children they harm.
(C) They take into account the motivations of actions when judging the behavior of other children.
(D) They view public duty as a justification for accidental, but not intentional, harm.
(E) They justify any action that protects them from harm.

Exercise Eighty-Three

Mary Barton, particularly in its early chapters, is a moving response to the suffering of the industrial worker in the England of the 1840's. What is most impressive about the book is the intense and painstaking effort made by the author, Elizabeth Gaskell, to convey the experience of everyday life in working-class homes. Her method is partly documentary in nature: the novel includes such features as a carefully annotated reproduction of dialect, the exact details of food prices in an account of a tea party, an itemized description of the furniture of the B. . . living room, and a transcription (again annotated) of the ballad "The Oldham Weaver." The interest of this record is considerable, even though the method has a slightly distancing effect.

As a member of the middle class, Gaskell could hardly help approaching working-class life as an observer and reporter, and the reader of the novel is always conscious of this fact. But there is genuine imaginative re-creation in her account of the B. . . in Green Heys Fields, of tea at the B. . . house, and of John Barton and his friend's discovery of the starving family in the cellar in the chapter "Poverty and Death." Indeed, for a similarly convincing re-creation of such families' emotions and responses (which are more crucial than the material details on which the mere reporter is apt to concentrate), the English novel had to wait 60 years for the early writing of D. H. Lawrence. If G. . . the participation that would completely authenticate this aspect of *Mary Barton*, she still brings to these scenes an intuitive recognition of feelings that has its own sufficient conviction.

The chapter "Old Alice's History" brilliantly dramatizes the situation of that early generation of workers brought from the villages and the countryside to the urban industrial centers. The account of Job Legh, the weaver and naturalist who is devoted to the study of biology, vividly embodies one kind of response to an urban industrial environment: an affinity for living things that hardens, by its very contrast with its environment, into a kind of crankiness. The early chapters—about factory workers walking out in spring into Green Heys Fields; about Alice Wilson, remembering in her cellar the twig-gathering for brooms in the native village that she will never again see; about Job Legh, intent on his

35 impaled insects—capture the characteristic responses of a generation to the new and crushing experience of industrialism. The other early chapters eloquently portray the development of the instinctive cooperation with each other that was already becoming an important tradition among workers.

1. Which of the following best describes the author's attitude toward Gaskell's use of the method of documentary record in *Mary Barton*?
 - (A) Uncritical enthusiasm
 - (B) Unresolved ambivalence
 - (C) Qualified approval
 - (D) Resigned acceptance
 - (E) Mild irritation
2. According to the passage, *Mary Barton* and the early novels of D. H. Lawrence share which of the following?
 - (A) Depiction of the feelings of working-class families
 - (B) Documentary objectivity about working-class circumstances
 - (C) Richly detailed description of working-class adjustment to urban life
 - (D) Imaginatively structured plots about working-class characters
 - (E) Experimental prose style based on working-class dialect
3. Which of the following is most closely analogous to Job Legh in *Mary Barton*, as that character is described in the passage?
 - (A) An entomologist who collected butterflies as a child
 - (B) A small-town attorney whose hobby is nature photography
 - (C) A young man who leaves his family's dairy farm to start his own business
 - (D) A city dweller who raises exotic plants on the roof of his apartment building
 - (E) A union organizer who works in a textile mill under dangerous conditions
4. It can be inferred from examples given in the last paragraph of the passage that which of the following was part of "the new and crushing experience of industrialism" (lines 32-33) for many members of the English working class in the nineteenth century?
 - (A) Extortionate food prices
 - (B) Geographical displacement
 - (C) Hazardous working conditions

- (D) Alienation from fellow workers
(E) Dissolution of family ties
5. It can be inferred that the author of the passage believes that *Mary Barton* might have been an even better novel if Gaskell had
- (A) concentrated on the emotions of a single character
 - (B) made no attempt to re-create experiences of which she had no firsthand knowledge
 - (C) made no attempt to reproduce working-class dialects
 - (D) grown up in an industrial city
 - (E) managed to transcend her position as an outsider
6. Which of the following phrases could best be substituted for the phrase “this aspect of *Mary Barton*” (in line 21) without changing the meaning of the passage as a whole?
- (A) the material details in an urban working-class environment
 - (B) the influence of *Mary Barton* on Lawrence’s early work
 - (C) the place of *Mary Barton* in the development of the English novel
 - (D) the extent of the poverty and physical suffering among England’s industrial workers in the 1840’s
 - (E) the portrayal of the particular feelings and responses of working-class characters
7. The author of the passage describes *Mary Barton* as each of the following EXCEPT:
- (A) insightful
 - (B) meticulous
 - (C) vivid
 - (D) poignant
 - (E) lyrical

参考答案

第一部分

题号	1	2	3	4	5
Exercise 1	C	A			
Exercise 2	C	D	B	B	
Exercise 3	C	A			
Exercise 4	B	E			
Exercise 5	BC	F	D	BC	
Exercise 6	B	B			
Exercise 7	D	A	E	B	E
Exercise 8	ABC	F	B		
Exercise 9	C	C	A	B	
Exercise 10	C				
Exercise 11	C	E	F		
Exercise 12	D	A			
Exercise 13	C	BC			
Exercise 14	B	AB			
Exercise 15	C	B	B		
Exercise 16	A	F	B		
Exercise 17	ABC	D			
Exercise 18	D	F	C	E	
Exercise 19	D	AB	A		
Exercise 20	C	A	E		
Exercise 21	D	B	A	E	
Exercise 22	B	A			
Exercise 23	E	E	F		
Exercise 24	A	A	E	E	
Exercise 25	B	A	A	E	
Exercise 26	A	AB	C		
Exercise 27	C	A	C		
Exercise 28	A	AB	B	B	
Exercise 29	B	C	D		
Exercise 30	D	AC	A	D	

Exercise 31	E	E	BC	B
Exercise 32	C	B	B	
Exercise 33	A	C	ABC	E
Exercise 34	A	B	ABC	
Exercise 35	D	C	A	
Exercise 36	A	E	B	
Exercise 37	B	B	C	
Exercise 38	B	C	A	
Exercise 39	E	D	A	
Exercise 40	C	D	E	
Exercise 41	AC	C	B	
Exercise 42	B	BC	C	
Exercise 43	D	C	A	
Exercise 44	C	E	D	
Exercise 45	D	C	C	
Exercise 46	C	A	E	
Exercise 47	E	AC	C	
Exercise 48	E	E	D	
Exercise 49	C	D	B	

题号	1	2	3	4	5	6	7
Exercise 50	B	AC	B				
Exercise 51	B	C	A				
Exercise 52	D	E	C	B			
Exercise 53	B	A	D				
Exercise 54	E	A	C	F			
Exercise 55	D	C	B				
Exercise 56	D	A	C				
Exercise 57	D	BC	B	A			
Exercise 58	B	A	B				
Exercise 59	E	C	E	B			
Exercise 60	B	D	D	E			
Exercise 61	C	E	A	D	D	B	D
Exercise 62	B	D	C	E			

- Exercise 63** C B E C
Exercise 64 C B B
Exercise 65 C C D
Exercise 66 E E D
Exercise 67 C D B D
Exercise 68 A C B D
Exercise 69 E C C
Exercise 70 D C C
Exercise 71 B C C
Exercise 72 B A A
Exercise 73 D C C

Exercise 74 B B D A
Exercise 75 C C D E
Exercise 76 D E B A
Exercise 77 D A B E
Exercise 78 A D B B B D A
Exercise 79 C B B D A E E
Exercise 80 A C B D
Exercise 81 B C C E
Exercise 82 D A B C A A C
Exercise 83 C A D B E E E

注：答案为 F 的题目为句子选择题。

