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**做前仔细阅读说明：**

**上课将按照这个顺序进行讲解**

**先按照如下顺序做长文章： 5,8,9,12,14,16,20,1,4,**

**再按照如下顺序做短文章：2,3,5,10,11,19,21,22**

**逻辑题最后按从前到后的顺序作哦；**

**答案显示方法：**

**如果你在电脑上练习：windows 系统：Ctrl+Shift+8；Mac系统：Command+8**



Although, recent years have seen substantial reductions in noxious pollutants from individual motor vehicles, the number of such vehicles has been steadily increasing, consequently, more than 100 cities in the United States still have levels of carbon monoxide, particulate matter (particulate matter: 颗粒物质), and ozone (generated by photochemical reactions with hydrocarbons (hydrocarbon：n.烃, 碳氢化合物) from vehicle exhaust) that exceed legally established limits. There is a growing realization that the only effective way to achieve further reductions in vehicle emissions—short of (short of: adv.缺乏,只要没有) a massive shift away from (away from: 远离) the private automobile—is to replace conventional diesel fuel and gasoline with cleaner-burning fuels such as compressed natural gas, liquefied petroleum gas (liquefied petroleum gas: n.液化石油气a compressed gas that consists of flammable hydrocarbons (as propane and butane) and is used especially as fuel or as raw material for chemical synthesis), ethanol, or methanol.

All of these alternatives are carbon-based fuels whose molecules are smaller and simpler than those of gasoline. These molecules burn more cleanly than gasoline, in part because they have fewer, if any, carbon-carbon bonds, and the hydrocarbons they do emit are less likely to generate ozone. The combustion of larger molecules, which have multiple carbon-carbon bonds, involves a more complex series of reactions. These reactions increase the probability of incomplete combustion and are more likely to release uncombusted and photochemically active hydrocarbon compounds into the atmosphere. On the other hand, alternative fuels do have drawbacks. Compressed natural gas would require that vehicles have a set of heavy fuel tanks—a serious liability in terms of performance and fuel efficiency—and liquefied petroleum gas faces fundamental limits on supply.

Ethanol and methanol, on the other hand, have important advantages over other carbon-based alternative fuels: they have a higher energy content (energy content: 能含量； 内能) per volume and would require minimal changes in the existing network for distributing motor fuel. Ethanol is commonly used as a gasoline supplement, but it is currently about twice as expensive as methanol, the low cost of which is one of its attractive features. Methanol’s most attractive feature, however, is that it can reduce by about 90 percent the vehicle emissions that form ozone, the most serious urban air pollutant.

Like any alternative fuel, methanol has its critics. Yet much of the criticism is based on the use of “gasoline clone” vehicles that do not incorporate even the simplest design improvements that are made possible with the use of methanol. It is true, for example, that a given volume of methanol provides only about one-half of the energy that gasoline and diesel fuel do; other things being equal, the fuel tank would have to be somewhat larger and heavier. However, since methanol-fueled vehicles could be designed to be much more efficient than “gasoline clone” vehicles fueled with methanol, they would need comparatively less fuel. Vehicles incorporating only the simplest of the engine improvements that methanol makes feasible would still contribute to an immediate lessening of urban air pollution.

1. The author of the passage is primarily concerned with D
2. countering a flawed argument that dismisses a possible solution to a problem
3. reconciling contradictory points of view about the nature of a problem
4. identifying the strengths of possible solutions to a problem
5. discussing a problem and arguing in favor of one solution to it
6. outlining a plan of action to solve a problem and discussing the obstacles blocking that plan
7. According to the passage, incomplete combustion is more likely to occur with gasoline than with an alternative fuel because B
8. the combustion of gasoline releases photochemically active hydrocarbons
9. the combustion of gasoline involves an intricate series of reactions
10. gasoline molecules have a simple molecular structure
11. gasoline is composed of small molecules.
12. gasoline is a carbon-based fuel
13. The passage suggests which of the following about air pollution? A
14. Further attempts to reduce emissions from gasoline-fueled vehicles will not help lower urban air-pollution levels.
15. Attempts to reduce the pollutants that an individual gasoline-fueled vehicle emits have been largely unsuccessful.
16. Few serious attempts have been made to reduce the amount of pollutants emitted by gasoline-fueled vehicles.
17. Pollutants emitted by gasoline-fueled vehicles are not the most critical source of urban air pollution.
18. Reductions in pollutants emitted by individual vehicles have been offset by increases in pollution from sources other than gasoline-fueled vehicles.
19. Which of the following most closely parallels the situation described in the first sentence of the passage? C
20. Although a town reduces its public services in order to avoid a tax increase, the town’s tax rate exceeds that of other towns in the surrounding area.
21. Although a state passes strict laws to limit the type of toxic material that can be disposed of in public landfills, illegal dumping continues to increase.
22. Although a town’s citizens reduce their individual use of water, the town’s water supplies continue to dwindle because of a steady increase in the total population of the town.
23. Although a country attempts to increase the sale of domestic goods by adding a tax to the price of imported goods, the sale of imported goods within the country continues to increase.
24. Although a country reduces the speed limit on its national highways, the number of fatalities caused by automobile accidents continues to increase.
25. The author describes which of the following as the most appealing feature of methanol? E
26. It is substantially less expensive than ethanol.
27. It could be provided to consumers through the existing motor fuel distribution system.
28. It has a higher energy content than other alternative fuels.
29. Its use would make design improvements in individual vehicles feasible.
30. Its use would substantially reduce ozone levels.
31. It can be inferred from the passage that a vehicle specifically designed to use methanol for fuel would E
32. be somewhat lighter in total body weight than a conventional vehicle fueled with gasoline
33. be more expensive to operate than a conventional vehicle fueled with gasoline
34. have a larger and more powerful engine than a conventional vehicle fueled with gasoline
35. have a larger and heavier fuel tank than a “gasoline clone” vehicle fueled with methanol
36. average more miles per gallon than a “gasoline clone” vehicle fueled with methanol
37. It can be inferred that the author of the passage most likely regards the criticism of methanol in the last paragraph as A
38. flawed because of the assumptions on which it is based
39. inapplicable because of an inconsistency in the critics’ arguments
40. misguided because of its exclusively technological focus
41. inaccurate because it ignores consumers’ concerns
42. invalid because it reflects the personal bias of the critics

尽管最近几年中已目睹了各别的机动车辆有害污染物质的大量减少，但这类机动车辆的数量却有增无减。因此，美国100多个城市仍存在着超过法定限度的一氧化碳、微粒物质、以及臭氧（由涉及车辆废气中碳氢化合物的光化反应所致）含量。人们日趋强烈地意识到，要取得车辆尾气排放的进一步减少，唯一有效的手段——除了大规模摆脱私人轿车——是不再使用传统的柴油机燃产和汽油，而代之发燃烧得更为干净的燃料，例如压缩天然气、液化石油气、乙醇、或甲醇。

所有这些可供选择的替代手段均是碳基（carbon‐based）燃料，其分子要比汽油的分子来得更小，更简单。这些分子要比汽油燃烧得更为干净，部分程度上是因为它们具有为数较少的（即使真有的话）碳—碳键，并且它们即使真的会释放出碳氢化合物，亦不太可能会产生臭氧。较大分子的燃烧，由于具有多重碳—碳键，涉及到一系列更为复杂的反应。这些反应会增加不完全燃烧的可能性，并更有可能将未被燃烧的和光化活跃的碳氢化合物释入到大气中。从另一方面来说，可供选择的替代燃料也有其缺陷。压缩天然气将要求车辆备有一整套笨重的燃料箱——这在车辆的表现和燃料效率方面不啻是一个严重的不利因素。而液化石油气所面临的是根本上的供应量限制。

从另一方面来看，乙醇和甲醇具有某些优于碳基替代燃料的重要有利因素：它们每一容量中具有更高的能量含量，并几乎不需要在现存的配送发动机燃料的网络中作太大的变更。乙醇普遍用作汽油的补充物，但目前它的价格是甲醇的二倍，而就甲醇来说，低成本是它吸引人的特点之一。然则，甲醇最吸引人的特点是，它能将形成臭氧的车辆尾气这一最严重的城市空气污染物数量降低90%。

与其它任何可供选择的替代燃料一样，甲醇也不乏其批评者。然而，在部分批评都以“汽油系列”车辆的使用为基础，而这些车辆却不包含由于甲醇的使用而得以成为可能的最简单的设计改进。诚然，举例来说，一特定容量的甲醇仅可提供汽油和柴油燃料所能提供的能量的约一半；在其它条件相等的情况下，燃料箱将不得不做得稍大加稍沉些。然则，既然在甲醇为燃料的车辆可被设计成比以甲醇为燃料的“汽油系列”车辆更省油得多，故它们所需的燃料相对较少。车辆一旦包含由于甲醇的使用而得以成为可行的仅仅是最简单的引擎改进，将仍能对迅速减轻城市空气污染作出贡献。



Since the 1970s, archaeological sites in China's Yangtze River region have yielded evidence of sophisticated rice-farming societies that predate signs of rice cultivation elsewhere in East Asia by a thousand years. Before this evidence was discovered, it had generally been assumed that rice farming began farther to the south. This scenario was based both on the geographic range of wild or free-living rice, which was not thought to extend as far north as the Yangtze, and on archaeological records of very early domestic rice from Southeast Asia and India (now known to be not so old as first reported). Proponents of the southern-origin theory point out that early rice-farming societies along the Yangtze were already highly developed and that evidence for the first stage of rice cultivation is missing. They argue that the first hunter-gatherers to develop rice agriculture must have done so in this southern zone, within the apparent present-day geographic range of wild rice.

Yet while most strands of wild rice reported in a 1984 survey were concentrated to the south of the Yangtze drainage, two northern outlier populations were also discovered in provinces along the middle and lower Yangtze, evidence that the Yangtze wetlands may fall within both the present-day and the historical geographic ranges of rice's wild ancestor.

1. Which of the following, if true, would most clearly undermine the conclusion that the author makes based on the 1984 survey? C
2. Areas south of the Yangtze basin currently have less wild-rice habitat than they once did.
3. Surveys since 1984 have shown wild rice populations along the upper Yangtze as well as along the middle and lower Yangtze.
4. The populations of wild rice along the Yangtze represent strains of wild rice that migrated to the north relatively recently.
5. Early rice-farming societies along the Yangtze were not as highly developed as archaeologists once thought.
6. In East Asia, the historical geographic range of wild rice was more extensive than the present-day geographic range is.
7. Based on the passage, skeptics of the idea that rice cultivation began in the Yangtze River region can point to which of the following for support? B
8. Lack of evidence supporting the existence of rice-farming societies along the Yangtze at an early date
9. Lack of evidence regarding the initial stages of rice cultivation in the Yangtze region
10. Recent discoveries pertaining to the historical geographic range of rice's wild ancestor
11. New information regarding the dates of very early domestic rice from Southeast Asia
12. New theories pertaining to how hunter-gatherers first developed rice agriculture in East Asia
13. Which of the following can be inferred from the passage about the “southern-origin theory”? D
14. The theory is based on an unconventional understanding of how hunter-gatherers first developed rice agriculture.
15. The theory fails to take into account the apparent fact that evidence for the first stage of rice cultivation in the north is missing.
16. The theory was developed primarily in response to a 1984 survey of wild rice's geographic range.
17. Reassessment of the dates of some archaeological evidence has undermined support for the theory.
18. Evidence of sophisticated rice-farming societies in the Yangtze region provides support for the theory.

自从20世纪70年代，中国长江流域的考古学遗址就已经给出了一些关于复杂的大米种植社会的证据，这些社会要比东亚其他地方种植大米的迹象早了1000多年。在这个证据被发现之前，人们普遍认为大米种植开始于更远的南方地区。这一假设既是基于野生或独立生存的大米的地理分布范围——人们不认为这一范围能向北延伸到长江——又是基于关于东南亚和印度早期培植的大米的历史记录。大米起源于南部理论的支持者指出长江流域早期的种植大米的社会已经高度发达了而且大米种植的初期阶段的证据是缺失的。他们争论说发展了大米农业的最早的狩猎收集者必然是在南部地区这样做的，南部地区处于当今野生大米的地理分布范围之内。

然而，尽管1984年调查报告的大多数品种的野生大米集中于长江流域以南，有两个北部的特例也在长江中下游的省份被发现了，这可以作为长江湿地是有可能处于当今以及历史上野生大米的地理分布范围之内的证据。



Many cultural anthropologists have come to reject the scientific framework of empiricism that dominated the field until the 1970s and now regard all scientific knowledge as socially constructed They argue that information about cultures during the empiricist era typically came from anthropologists who brought with them a prepackaged set of conscious and unconscious biases. Cultural anthropology, according to the post-1970s critique, is unavoidably subjective, and the anthropologist should be explicit in acknowledging that fact. Anthropology should stop striving to build a better database about cultural behavior and should turn to developing a more humanistic interpretation of cultures. The new framework holds that it may be more enlightening to investigate the biases of earlier texts than to continue with empirical methodologies.

7. The author implies which of the following about most cultural anthropologists working prior to the 1970s?

A. They argued that scientific knowledge was socially constructed. C

B. They were explicit in acknowledging the biases inherent in scientific investigation.

C. They regarded scientific knowledge as consisting of empirical truths.

D. They shared the same conscious and unconscious biases.

E. They acknowledged the need for a new scientific framework.

8. According to the passage, “many cultural anthropologist” today would agree that anthropologists should

A. build a better, less subjective database about cultural behavior D

B. strive to improve the empirical methodologies used until the 1970s

C. reject the notion that scientific knowledge is socially constructed

D. turn to examining older anthropological texts for unacknowledged biases

E. integrate humanistic interpretations with empirical methodologies



Despite winning several prestigious literary awards of the day, when it first appeared, Alice Walker’s *The Color Purple* generated critical unease over puzzling aspects of its compositions. In what, as one reviewer put it, was “clearly intended to be a realistic novel,” many reviewers perceived violations of the conventions of the realistic novel form, pointing out variously that late in the book, the narrator protagonist Celie and her friends are propelled toward a happy ending with more velocity than credibility, that the letters from Nettie to her sister Celie intrude into the middle of the main action with little motivation or warrant, and that the device of Celie’s letters to God is especially unrealistic inasmuch as it forgoes the concretizing details that traditionally have given the epistolary novel (that is, a novel composed of letters) its peculiar verisimilitude: the ruses to enable mailing letters, the cache, and especially the letters received in return.

Indeed, the violations of realistic convention are so flagrant that they might well call into question whether *The Color Purple* is indeed intended to be a realistic novel, especially since there are indications that at least some of those aspects of the novel regarded by viewers as puzzling may constitutes its links to modes of writing other than Anglo-European nineteenth-century realism. For example, Henry Louis Gates, Jr., has recently located the letters to God within an African American tradition deriving from slave narrative, a tradition in which the act of writing is linked to a powerful deity who “speaks” through scripture and bestows literacy as an act of grace. For Gates, the concern with finding a voice, which he sees as the defining feature of African American literature, links Celie’s letters with certain narrative aspects of Zora Neale Hurston’s 1937 novel Their Eyes Were Watching God, the acknowledged predecessor of *The Color Purple*.

Gates’s paradigm suggests how misleading it may be to assume that mainstream realist criteria are appropriate for evaluating *The Color Purple*. But in his preoccupation with voice as a primary element unifying both the speaking subject and the text as a whole Gates does not elucidate many of the more conventional structural features of Walker’s novel. For instance, while the letters from Nettie clearly illustrate Nettie’s acquisition of her own voice, Gates’s focus on “voice” sheds little light on the place that these letters occupy in the narrative or on why the plot takes this sudden jump into geographically and culturally removed surroundings. What is needed is an evaluative paradigm that, rather than obscuring such startling structural features (which may actually be explicitly intended to undermine traditional Anglo-European novelistic conventions), confronts them, thus illuminating the deliberately provocative ways in which *The Color Purple* departs from the traditional models to which it has been compared.

9. The author of the passage would be most likely to agree with which of the following statements about the letters from Nettie to Celie? B

A. They mark an unintended shift to geographically and culturally removed surroundings

B. They may represent a conscious attempt to undermine certain novelistic conventions

C. They are more closely connected to the main action of the novel than is at first apparent

D. They owe more to the tradition of the slave narrative than do Celie’s letters to God

E. They illustrate the traditional concretizing details of the epistolary novel form

10. In the second paragraph, the author of the passage is primarily concerned with C

A. examining the ways in which *The Color Purple* echoes its acknowledged predecessor, Their Eyes Were Watching God

B. providing an example of a critic who has adequately addressed the structural features of *The Color Purple*

C. suggesting that literary models other than the nineteenth-century realistic novel may inform our understanding of *The Color Purple*

D. demonstrating the ineffectiveness of a particularly scholarly attempt to suggest an alternative way of evaluating *The Color Purple*

E. disputing the perceived notion that *The Color Purple* departs from conventions of the realistic novel form

11. According to the passage, an evaluative paradigm that confronts the startling structural features of *The Color Purple* would accomplish which of the following? E

A. It would adequately explain why many reviewers of this novel have discerned its connections to the realistic novel tradition

B. It would show the ways in which this novel differs from its reputed Anglo-European nineteenth-century models

C. It would explicate the overarching role of voice in this novel

D. It would address the ways in which this novel echoes the central themes of Hurston’s Their Eyes Are Watching God

E. It would reveals ways in which these structural features serve to parody novelistic conventions

12. The author of the passage suggests that Gates is most like the reviewers mentioned in the first paragraph in which of the following ways? E

A. He points out discrepancies between *The Color Purple* and other traditional epistolary novels

B. He sees the concern with finding a voice as central to both *The Color Purple* and Their Eyes Are Watching God

C. He assumes that *The Color Purple* is intended to be a novel primarily in the tradition of Anglo-American nineteenth-century realism

D. He does not address many of the unsettling structural features of *The Color Purple*

E. He recognizes the departure of *The Color Purple* from traditional Anglo-European realistic novel conventions.



Ingestion of food containing spores of the pathogen Ascosphaera apis causes a fatal fungal disease known as chalk brood in honeybee larvae. However, larvae must be chilled to about 30°C (normal brood-comb temperature is 33-36°C) for the disease to develop. Accordingly, chalk brood is most common in spring and in small colonies. A recent study revealed that honeybees responsible for hive-temperature maintenance purposely raised the hives’ temperature when colonies were inoculated with A.apis, this “fever,” or up-regulation of temperature, occurred before any larvae died, suggesting that the response is preventative and that either honeybee workers detect the infection before symptoms are visible or larvae communicate the ingestion of the pathogen. Temperature returned to normal by the end of the study, suggesting that increased temperature is not optimal when broods are not infected, as well as that the fever does not result merely from normal colony growth (i.e., an increase in the number of workers available for temperature maintenance).

1. The primary purpose of the passage is to A
2. discuss the findings and implications of a particular study
3. illustrate a process that formerly had been misunderstood
4. outline the methods used to investigate a problem
5. provide evidence to support a controversial theory
6. contrast alternative interpretations of certain date
7. According to the passage, researchers concluded that fever in honeybee colonies is preventative because their study showed that such fever C
8. does not occur when hive temperatures are within normal range
9. protests adult bees from contracting chalk brood infection
10. occurs prior to the death of any larvae
11. is more likely to occur in spring than in summer
12. does not have an effect on uninfected broods
13. The passage implies that if hive temperature had not returned to normal by the end of the study in question, a probable conclusion of the researchers would have been that E
14. up-regulation of temperature is a preventative measure against chalk brood
15. honeybees are incapable of purposely raising hive temperatures
16. A.apis cannot be completely eradicated through up-regulation of temperature along
17. honeybee larvae have a mechanism to alert adult honeybees to the presence of A. apis
18. honeybee larvae may benefit from increased hive temperature even when there is no A. apis present
19. According to the passage, which of the following is true of chalk brood infection among honeybee larvae？D
20. Larvae in small colonies are more likely to pass the infection to adult honeybees than are larvae in large ones.
21. Infection with chalk brood induces larvae to raise their hive’s temperature.
22. The infection is more likely to affect larvae in winter than in spring.
23. Larvae fail to develop symptoms of the disease when their brood–comb temperature remains within the normal range.
24. Infected larvae exhibit visible symptoms of disease for a significant time before death.

The Fourteenth Amendment to the United States Constitution, ratified in 1868, prohibits state governments from denying citizens the “equal protection of the laws.” Although precisely what the framers of the amendment meant by this equal protection clause remains unclear, all interpreters agree that the framers’ immediate objective was to provide a constitutional warrant for the Civil Rights Act of 1866, which guaranteed the citizenship of all persons born in the United States and subject to United States jurisdiction. This declaration, which was echoed in the text of the Fourteenth Amendment, was designed primarily to counter the Supreme Court’s ruling in Dred Scott v. Sandford that Black people in the United States could be denied citizenship. The act was vetoed by President Andrew Johnson, who argued that the Thirteenth Amendment, which abolished slavery, did not provide Congress with the authority to extend citizenship and equal protection to the freed slaves. Although Congress promptly overrode Johnson’s veto, supporters of the act sought to ensure its constitutional foundations with the passage of the Fourteenth Amendment.

The broad language of the amendment strongly suggests that its framers were proposing to write into the Constitution not a laundry list of specific civil rights but a principle of equal citizenship that forbids organized society from treating any individual as a member of an inferior class. Yet for the first eight decades of the amendment’s existence, the Supreme Court’s interpretation of the amendment betrayed this ideal of equality. In the Civil Rights Cases of 1883, for example, the Court invented the “state action” limitation, which asserts that “private” decisions by owners of public accommodations and other commercial businesses to segregate their facilities are insulated from the reach of the Fourteenth Amendment’s guarantee of equal protection under the law.

After the Second World War, a judicial climate more hospitable to equal protection claims culminated in the Supreme Court’s ruling in Brown v. Board of Education that racially segregated schools violated the equal protection clause of the Fourteenth Amendment. Two doctrines embraced by the Supreme Court during this period extended the amendment’s reach. First, the Court required especially strict scrutiny of legislation that employed a “suspect classification,” meaning discrimination against a group on grounds that could be construed as racial. This doctrine has broadened the application of the Fourteenth Amendment to other, nonracial forms of discrimination, for while some justices have refused to find any legislative classification other than race to be constitutionally disfavored, most have been receptive to arguments that at least some nonracial discriminations, sexual discrimination in particular, are “suspect” and deserve this heightened scrutiny by the courts. Second, the Court relaxed the state action limitation on the Fourteenth Amendment, bringing new forms of private conduct within the amendment’s reach.

17. Which of the following best describes the main idea of the passage? C

(A) By presenting a list of specific rights, framers of the Fourteenth Amendment were attempting to provide a constitutional basis for broad judicial protection of the principle of equal citizenship.

(B) Only after the Supreme Court adopted the suspect classification approach to reviewing potentially discriminatory legislation was the applicability of the Fourteenth Amendment extended to include sexual discrimination.

(C) Not until after the Second World War did the Supreme Court begin to interpret the Fourteenth Amendment in a manner consistent with the principle of equal citizenship that it expresses.

(D) Interpreters of the Fourteenth Amendment have yet to reach consensus with regard to what its framers meant by the equal protection clause.

(E) Although the reluctance of judges to extend the reach of the Fourteenth Amendment to nonracial discrimination has betrayed the principle of equal citizenship, the Supreme Court’s use of the state action limitation to insulate private activity from the amendment’s reach has been more harmful.

18. The passage suggests that the principal effect of the state action limitation was to A

(A) allow some discriminatory practices to continue unimpeded by the Fourteenth Amendment

(B) influence the Supreme Court’s ruling in Brown v, Board of Education

(C) provide expanded guidelines describing prohibited actions

(D) prohibit states from enacting laws that violated the intent of the Civil Rights Act of 1866

(E) shift to state governments the responsibility for enforcement of laws prohibiting discriminatory practices

19. The author’s position regarding the intent of the framers of the Fourteenth Amendment would be most seriously undermined if which of the following were true? B

(A) The framers had anticipated state action limitations as they are described in the passage.

(B) The framers had merely sought to prevent discriminatory acts by federal officials.

(C) The framers were concerned that the Civil Rights Act of 1866 would be overturned by the Supreme Court.

(D) The framers were aware that the phrase “equal protection of the laws” had broad implications.

(E) The framers believed that racial as well as non-racial forms of discrimination were unacceptable.

20. According to the passage, the original proponents of the Fourteenth Amendment were primarily concerned with B

(A) detailing the rights afforded by the principle of equal citizenship

(B) providing support in the Constitution for equal protection for all citizens of the United States

(C) closing a loophole that could be used to deny individuals the right to sue for enforcement of their civil rights

(D) asserting that the civil rights protected by the Constitution included nonracial discrimination as well as racial discrimination

(E) granting state governments broader discretion in interpreting the Civil Rights Act of 1866

21. The author implies that the Fourteenth Amendment might not have been enacted if A

(A) Congress’ authority with regard to legislating civil rights had not been challenged

(B) the framers had anticipated the Supreme Court’s ruling in Brown v. Board of Education

(C) the framers had believed that it would be used in deciding cases of discrimination involving non-racial groups

(D) most state governments had been willing to protect citizens’ civil rights

(E) its essential elements had not been implicit in the Thirteenth Amendment

22. According to the passage, which of the following most accurately indicates the sequence of the events listed below? D

I. Civil Rights Act of 1866

II. Dred Scott v. Sandford

III. Fourteenth Amendment

IV. Veto by President Johnson

(A) I, II, III, IV

(B) I, IV, II, III

(C) I, IV, III, II

(D) II, I, IV, III

(E) III, II, I, IV

23. Which of the following can be inferred about the second of the two doctrines referred to in lines 39-41 of the passage? E

(A) It caused some justices to rule that all types of discrimination are prohibited by the Constitution.

(B) It shifted the focus of the Supreme Court from racial to nonracial discrimination.

(C) It narrowed the concern of the Supreme Court to legislation that employed a suspect classification.

(D) It caused legislators who were writing new legislation to reject language that could be construed as permitting racial discrimination.

(E) It made it more difficult for commercial businesses to practice racial discrimination.

于1868年批准的美国宪法第十四条修正案禁止州政府剥夺公民享受“平等的法律保护。”尽管该修正案的制定者制定这一平等保护条款的确切意图是什么现在仍无人知晓，但所有的解释者一致认为，该修正案制定者的直接目标是要为1868年的《民权法》提供宪法保障，而1866年的《民权法》则保证，凡是在美国出生并接受美国司法管辖的人均享有公民权。这一在第十四条修正案的文本中被复述的宣言，主要是旨在对抗最高法院在“Dred Scott诉Sandford”一案中的判决，此判决裁定，在美国的黑人可被剥夺公民权。安德罗·约翰逊总统（President AndrewJohnson）否决了《民权法》，他论辩道，将奴隶制度予以废除的第十三条修正案，没有能够为国会提供权力，将公民权和平等保护扩展至已获得自由的奴隶。尽管国会迅速推翻了约翰逊总统的否决，但《民权法》的支持者则力图要以第十四条修正案的通过来确保其宪法基础。

第十四条修正案的宽泛笼统的语言强烈地暗示，其制定者所意欲载入宪法的不是一张具体民法的细目清单，而是一种平等公民权的原则，这一原则禁止有组织的社会将任何一个个人作为劣等阶层的成员来对待。然而，对于此修正案存在的最初八十年来说，最高法院对这一修正案的解释却背叛了这一平等理想。例如，在1883年的“民权诉讼案”中，最高法院发明了“州政府行动”限制，这一限制声称，公共旅馆和其它商业企业的所有者所作出的对其设施实行种族隔离的“私人”决定，这类“私人”决定不属第十四条修正案中法律所保证的平等保护的适用范围。

在第二次世界大战之后，一种更有利于平等保护主张的法律氛围以最高法院在“布朗诉教育委员会”（Brown V.Board of Education）一案中的裁决而臻顶点，最高法院在此案中裁定，实施种族隔离的学校违反了第十四条修正案的适用范围。第一，最高法院要求，对采用“怀疑分类”的立法进行格外严格的审查。所谓“怀疑分类”，意指那种在有可能被理解成以种族为基础，针对某一群体进行的歧视这一信条扩展了第十四条修正案的适用范围，使其同样也适用于其它的、非种族形式的歧视。因为虽然某些法官拒不将除种族以外的立法分类裁定为非法的，但绝大多数法官已经接受了这样一个论点，即至少某些非种族性质的歧视，尤其是性别歧视，是“值得怀疑的”，并理应接受法庭这种更高程度上的审视。第二，最高法院放松了州政府行动对第十四条修正案的限制，将各种新的形式的个人行为亦纳入到第十条修正案的适用范围。



Which of following most logically completes the argument?

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

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

In February 1848 the people of Paris rose in revolt against the constitutional monarchy of Louis-Philippe. Despite the existence of excellent narrative accounts, the February Days, as this revolt is called, have been largely ignored by social historians of the past two decades. For each of the three other major insurrections in nineteenth-century Paris—July 1830, June 1848, and May 1871—there exists at least a sketch of participants’ backgrounds and an analysis, more or less rigorous, of the reasons for the occurrence of the uprisings. Only in the case of the February Revolution do we lack a useful description of participants that might characterize it in the light of what social history has taught us about the process of revolutionary mobilization.

Two reasons for this relative neglect seem obvious. First, the insurrection of February has been overshadowed by that of June. The February Revolution overthrew a regime, to be sure, but met with so little resistance that it failed to generate any real sense of historical drama. Its successor, on the other hand, appeared to pit key socioeconomic groups in a life-or-death struggle and was widely seen by contemporary observers as marking a historical departure. Through their interpretations, which exert a continuing influence on our understanding of the revolutionary process, the impact of the events of June has been magnified, while, as an unintended consequence, the significance of the February insurrection has been diminished. Second, like other “successful” insurrections, the events of February failed to generate the most desirable kinds of historical records. Although the June insurrection of 1848 and the Paris Commune of 1871 would be considered watersheds of nineteenth-century French history by any standard, they also present the social historian with a signal advantage: these failed insurrections created a mass of invaluable documentation as a by-product of authorities’ efforts to search out and punish the rebels.

Quite different is the outcome of successful insurrections like those of July 1830 and February 1848. Experiences are retold, but participants typically resume their daily routines without ever recording their activities. Those who played salient roles may become the objects of highly embellished verbal accounts or in rare cases, of celebratory articles in contemporary periodicals. And it is true that the publicly acknowledged leaders of an uprising frequently write memoirs. However, such documents are likely to be highly unreliable, unrepresentative, and unsystematically preserved, especially when compared to the detailed judicial dossiers prepared for everyone arrested following a failed insurrection. As a consequence, it may prove difficult or impossible to establish for a successful revolution a comprehensive and trustworthy picture of those who participated, or to answer even the most basic questions one might pose concerning the social origins of the insurgents.

17. According to the passage, “a useful description of participants” (lines 11-12) exists for which of the following insurrections of nineteenth-century France? D

I. The July Insurrection of 1830

II. The February Revolution of 1848

III. The June insurrection of 1848

IV. The May insurrection of 1871

(A) I and III only

(B) II and IV only

(C) I, II, and III only

(D) I, III, and IV only

(E) II, III, and IV only

18. It can be inferred from the passage that support for the objectives of the February Revolution was E

(A) negligible

(B) misguided

(C) fanatical

(D) spontaneous

(E) widespread

19. Which of the following, best describes the organization of the second paragraph? D

(A) The thesis of the passage is stated and supporting evidence systematically presented.

(B) Two views regarding the thesis presented in the first paragraph are compared and contrasted.

(C) Evidence refuting the thesis presented in the first paragraph is systematically presented.

(D) The thesis presented in the first paragraph is systematically supported.

(E) The thesis presented in the first paragraph is further defined and a conclusion drawn.

20. It can be inferred from the passage that the author considers which of the following essential for understanding a revolutionary mobilization? E

(A) A comprehensive theory of revolution that can be applied to the major insurrections of the nineteenth century

(B) Awareness of the events necessary for a revolution to be successful

(C) Access to narratives and memoirs written by eyewitnesses of a given revolution

(D) The historical perspective provided by the passage of a considerable amount of time

(E) Knowledge of the socioeconomic backgrounds of a revolution’s participants

21. Which of the following can be inferred about the “detailed judicial dossiers” referred to in line 49? A

(A) Information contained in the dossiers sheds light on the social origins of a revolution’s participants.

(B) The dossiers closely resemble the narratives written by the revolution’s leaders in their personal memoirs.

(C) The information that such dossiers contain is untrustworthy and unrepresentative of a revolution’s participants.

(D) Social historians prefer to avoid such dossiers whenever possible because they are excessively detailed.

(E) The February Revolution of 1848 produced more of these dossiers than did the June insurrection.

22. Which of the following is the most logical objection to the claim made in lines 38-39? B

(A) The February Revolution of 1848 is much less significant than the July insurrection of 1830.

(B) The backgrounds and motivations of participants in the July insurrection of 1830 have been identified, however cursorily.

(C) Even less is known about the July insurrection of 1830 than about the February Revolution of 1848.

(D) Historical records made during the July insurrection of 1830 are less reliable than those made during the May insurrection of 1871.

(E) The importance of the July insurrection of 1830 has been magnified at the expense of the significance of the February Revolution of 1848.

23. With which of the following statements regarding revolution would the author most likely agree? D

(A) Revolutionary mobilization requires a great deal of planning by people representing disaffected groups.

(B) The objectives of the February Revolution were more radical than those of the June insurrection.

(C) The process of revolutionary mobilization varies greatly from one revolution to the next.

(D) Revolutions vary greatly in the usefulness of the historical records that they produce.

(E) As knowledge of the February Revolution increases, chances are good that its importance will eventually eclipse that of the June insurrection.

一九四八年二月，巴黎人民举行暴动起义，反抗路易——菲律普的君主立宪制（the constitutional monarchy of Louis‐Philippe）。尽管不乏极好的叙事描述，被称为“二月的日子”的这场起义在很大程度上被历史学家在过去的二十年中所忽略。对于十九世纪的巴黎其它三次重大暴动——1830年7月，1848年6月以及1871年5月——中的任何一次来说，都至少存在对参加者背景的大致描述以及对这些起义发生的原因或多或少甚为严谨的分析。唯独在二月革命（the February Revolution）这一情形中，我们缺乏一种有用的有关参加者的描述，而这一描述则有可能按照社会历史有关革命动员过程所教给我们的内容来勾画出这场革命的性质。

对于这种相对的忽视，有两个原因似乎是显而易见的。第一，二月起义一直因为六月起义而被弄得相形见绌。二月革命被推翻了一个政权，这是毫无疑问的，但它遭到如此少的抵制，以致于它没能产生任何真正的历史剧变感。而另一方面，继此之后发生的那场革命却似乎将两大社会经济群体置于一场生死存亡的斗争中，故这场革命被当代观察家们广泛视作标志着一次历史性的重大转折。通过他们的解释（正是这些解释对我们有关革命过程的理解产生着经久不衰的影响），六月事件的影响得以被渲染夸大，而与此同时，作为一种无心而为的后果，二月起义的意义则被贬低了。其次，如同其它“成功的”起义那样，二月事件没有能够产生最为可取的历史记载。尽管1848年的六月起义以及1871年的巴黎公社以任何标准来评判都有可能被视作十九世纪法国历史的分水岭（watershed），它们同样也为社会历史学家提供了一个重大的优势：这些失败的起义，作为政府当局力图搜查出并惩罚叛党的一个副产品，造成了大量无价的文件记载史料。

然而，象1830年七月和1848年年二月此类成功的起义，其后果却全然不同。起义的成功经验不断被复述，但参加者普遍重新操起其日常例行惯事，从不曾将其活动一一记录下来。那些起过显赫作用的人变成了极为渲染的文字记述的对象，或者，在不多的一些情形中，成为当代刊物中歌颂德性文章的对象。诚在，每次起义公认的领袖们经常地撰写回忆录。但是，这类文档有可能是极不可靠的，缺乏代表性的，且不能得到系统的保存，尤其是当它们相比于紧随每一次失败的起义之后为每一个遭逮捕的人所准备的那些详尽的法律卷宗。因此，若想为一次成功的革命建立起所有参加者的一种综合而又可信的记述，或者想要回答我们有可能针对起义者的社会背景提出的最基本的问题，这可能会显得甚为困难，甚至根本就不可能。



*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 Bartons’ 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 outside observer and a reporter, and the reader of the novel is always conscious of this fact. But there is genuine imaginative re-creation in her accounts of the walk in Green Heys Fields, of tea at the Bartons’ 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 Gaskell never quite conveys the sense of full 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 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.

17. Which of the following best describes the author’s attitude toward Gaskell’s use of the method of C documentary record in *Mary Barton*?

(A) Uncritical enthusiasm

(B) Unresolved ambivalence

(C) Qualified approval

(D) Resigned acceptance

(E) Mild irritation

18. 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 A

(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

19. Which of the following is most closely analogous to Job Legh in *Mary Barton*, as that character is described in the passage? D

(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

20. 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 46-47) for many members of the English working class in the nineteenth century? B

(A) Extortionate food prices

(B) Geographical displacement

(C) Hazardous working conditions

(D) Alienation from fellow workers

(E) Dissolution of family ties

21. It can be inferred that the author of the passage believes that *Mary Barton* might have been an even better novel if Gaskell had E

(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

22. Which of the following phrases could best be substituted for the phrase “this aspect of *Mary Barton*” in line 29 without changing the meaning of the passage as a whole? E

(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

23. The author of the passage describes *Mary Barton* as each of the following EXCEPT: E

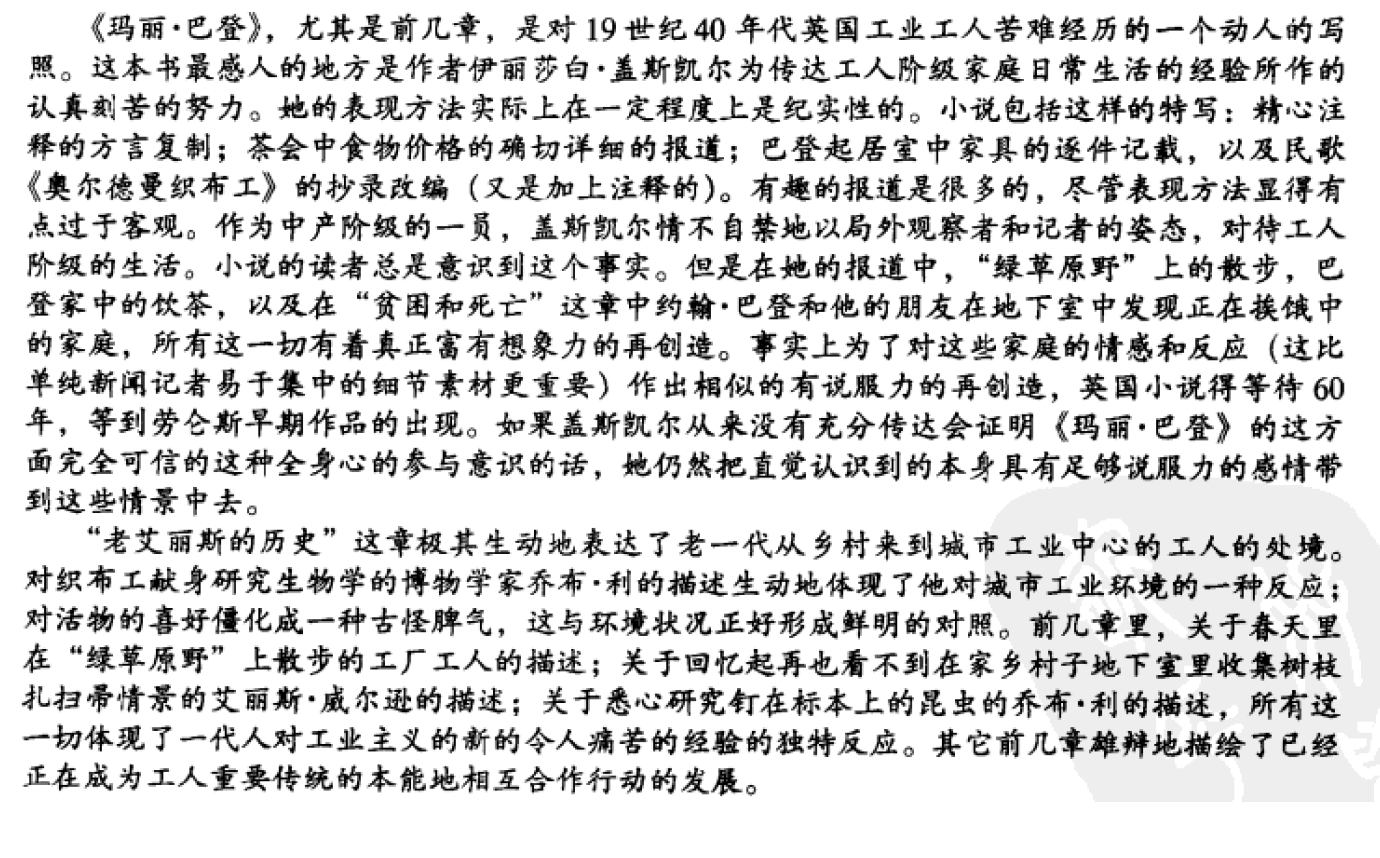
(A) insightful

(B) meticulous

(C) vivid

(D) poignant

(E) lyrical





As of (As of: 到...时为止;从...时起) the late 1980’s, neither theorists nor large-scale computer climate models could accurately predict whether cloud systems would help or hurt a warming globe. Some studies suggested that a four percent increase in stratocumulus (stratocumulus: n.[气]层积云) 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 (cirrus: n. 〈气〉卷云) 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.

24. 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（B）

(E) reconciling discrepant findings

25. It can be inferred that one reason the fourteen models described in the passage failed to agree was that

(A) they failed to incorporate the most up-to-date information about the effect of clouds on climate

(B) they were based on faulty information about factors other than clouds that affect climate

(C) they were based on different assumptions about the overall effects of clouds on climate

(D) their originators disagreed about the kinds of forecasts the models should provide（C）

(E) their originators disagreed about the factors other than clouds that should be included in the models

26. 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

(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 planetwide temperature increase

(D) assess the percentage of the Earth’s surface covered by cloud systems（A）

(E) estimate by how much the amount of carbon dioxide in the Earth’s atmosphere will increase

27. 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?

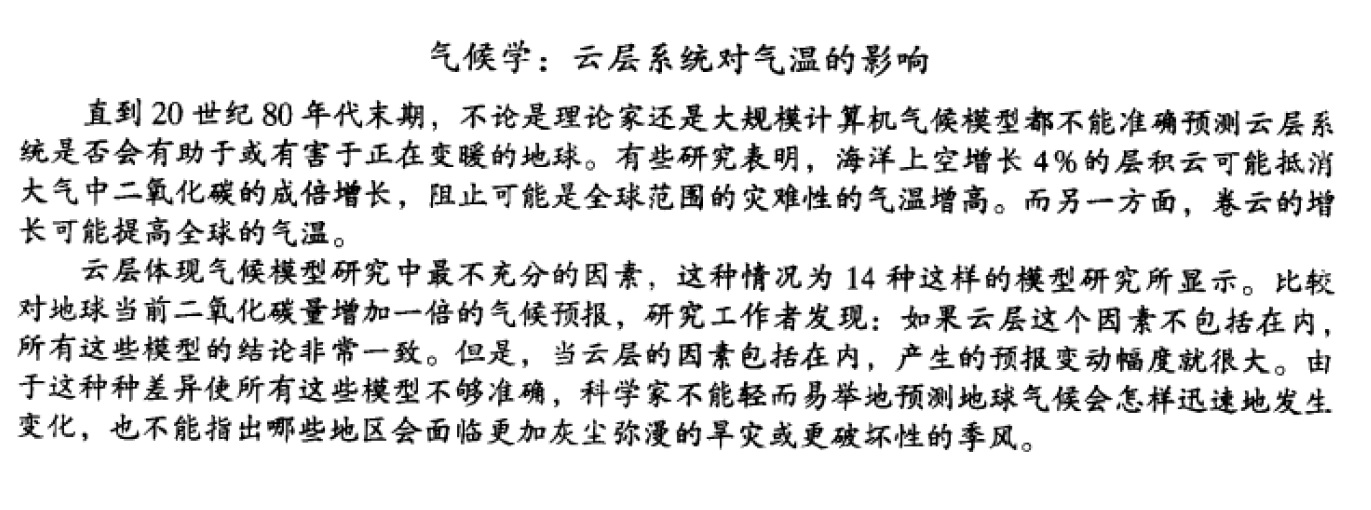
(A) What kinds of cloud systems will form over the Earth?

(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?（A）

(E) What proportion of the clouds in the atmosphere form over land masses?





If a supernova (the explosion of a massive star) triggered star formation from dense clouds of gas and dust, and if the most massive star to be formed from the cloud evolved into a supernova and triggered a new round of star formation, and so on, then a chain of star-forming regions would result. If many such chains were created in a differentially rotating galaxy, the distribution of stars would resemble the observed distribution in a spiral galaxy.

This line of reasoning underlies an exciting new theory of spiral-galaxy structure. A computer simulation based on this theory has reproduced the appearance of many spiral galaxies without assuming an underlying density wave, the hallmark (a distinguishing characteristic, trait, or feature “the dramatic flourishes which are the hallmark of the trial lawyer Marion K. Sanders”) of the most widely accepted theory of the large-scale structure of spiral galaxies. That theory maintains that a density wave of spiral form sweeps through the central plane of a galaxy, compressing clouds of gas and dust, which collapse into stars that form a spiral pattern.

1. The primary purpose of the passage is to D
2. describe what results when a supernova triggers the creation of chains of star-forming regions
3. propose a modification in the most widely accepted theory of spiral-galaxy structure
4. compare and contrast the roles of clouds of gas and dust in two theories of spiral-galaxy structure
5. describe a new theory of spiral-galaxy structure and contrast it with the most widely accepted theory
6. describe a new theory of spiral-galaxy structure and discuss a reason why it is inferior to the most widely accepted theory
7. The passage implies that, according to the new theory of spiral-galaxy structure, a spiral galaxy can be created by supernovas when the supernovas are E
8. producing an underlying density wave
9. affected by a density wave of spiral form
10. distributed in a spiral pattern
11. located in the central plane of a galaxy
12. located in a differentially rotating galaxy
13. Which of the following, if true, would most discredit the new theory as described in the passage? C
14. The exact mechanism by which a star becomes a supernova is not yet completely known and may even differ for different stars.
15. Chains of star-forming regions like those postulated in the new theory have been observed in the vicinity of dense clouds of gas and dust.
16. The most massive stars formed from supernova explosions are unlikely to evolve into supernovas.
17. Computer simulations of supernovas provide a poor picture of what occurs just before a supernova explosion.
18. A density wave cannot compress clouds of gas and dust to a density high enough to create a star.

倘若一颗超新星（supernova，即一颗质量庞大的星星的爆炸）触发星星从稠密的气体和尘埃云中形成，且倘若从云层中形成的质量最庞大的星星演变成一颗超新星并触发新的一轮星星形成过程，如此循环下去的话，那么，一系列能形成星星的区域便告产生。倘若许多这样的系列在一个以不同的方式旋转着的星系中得以形成的话，那以，星星的分布将类似于所观察到的螺旋形星系（spiral galaxy）内的星星分布。

这一推理思路构成了一种激动人心的有关螺旋形星系结构的新理论的基础。建立在这一理论基础上的一种计算机模拟研究再现了许多螺旋形星系的外观，在此过程中并不假设一基本密度波（density wave）的存在，而所谓的密度波则是那种最广为人们接受的有关大规模螺旋形星结构理论的标志特征。那种理论坚持认为，螺旋形状的密度波贯穿星系的中央层面，将气体和尘埃的云层压缩，这些云层则坍缩为一颗颗星星，形成一螺旋状结构。



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 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 sound-proof chambers were exposed to recordings of male song, they 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; 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, 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 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 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 C
2. showing that intrasexual selection has a greater effect on birdsong than does intersexual selection
3. contrasting the role of song complexity in several species of birds
4. describing research confirming the suspected relationship between intersexual selection and the complexity of birdsong
5. demonstrating the superiority of laboratory work over field studies in evolutionary biology
6. illustrating the effectiveness of a particular approach to experimental design in evolutionary biology
7. The author mentions the peacock’s tail in the first paragraph most probably in order to D
8. cite an exception to the theory of the relationship between intrasexual selection and male competition
9. illustrate the importance of both of the pathways that shaped the evolution of birdsong
10. draw a distinction between competing theories of intersexual selection
11. give an example of a feature that may have evolved through intersexual selection by female choice
12. refute a commonly held assumption about the role of song in mate attraction
13. According to the passage, which of the following is specifically related to intrasexual selection? B
14. Female choice
15. Territorial behavior
16. Complex song types
17. Large song repertoires
18. Visual ornamentation
19. Which of the following, if true, would most clearly demonstrate the interaction mentioned in the first paragraph? D
20. Female larks respond similarly both to short, simple songs and to longer, more complicated songs.
21. Male canaries use visual ornamentation as well as elaborate song repertoires for mate attraction.
22. Both male and female blackbirds develop elaborate visual and vocal characteristics.
23. Male jays use songs to compete among themselves and to attract females.
24. Male robins with elaborate visual ornamentation have as much reproductive success as rivals with elaborate vocal characteristics.
25. The passage indicates that researchers raised female cowbirds in acoustic isolation in order to A
26. eliminate confounding variables
27. approximate field conditions
28. measure reproductive success
29. quantify repertoire complexity
30. prevent early mating
31. According to the passage, the song sparrow is unlike the warbler in that the song sparrow D
32. uses songs mainly in territorial behavior
33. continuously composes long and complex songs
34. has a much larger song repertoire
35. repeats one song type before switching to another
36. responds aggressively to recorded songs
37. The passage suggests that the song sparrow experiments mentioned in the third paragraph failed to confirm the role of intersexual selection because C
38. females were allowed to respond only to the song structure
39. song sparrows are unlike other species of birds
40. the experiments provided no evidence that elaborate songs increased male reproductive success
41. the experiments included the songs of only a small number of different song sparrows
42. the experiments duplicated some of the limitations of previous field studies

Iridium, a hard, whitish metal similar to platinum, is extremely rare on Earth. Extremely high concentrations of iridium on Earth result from only two scenarios: massive volcanic eruptions that release iridium from deep within the Earth and meteorites that shower down on Earth from space. When scientists found concentrations of iridium 30 times higher than normal in rock stratum from 65 million years ago, they concluded that a massive meteor or comet hit the Earth and caused the massive extinction of the dinosaurs.

Which of the following, if true, most strongly supports the scientist’s conclusion? A

A. Volcanoes massive enough to generate high concentrations of iridium are very rare.

B. Massive volcanic eruptions occurred frequently 80 million years ago.

C. Most scientists support the hypothesis that a cosmic impact wiped out the dinosaurs.

D. The massive extinction that occurred 70 million years ago killed not only the dinosaurs but also 70 percent of all life on Earth.

E. A comet struck the earth some 120 million years ago, but no widespread extinction occurred.



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 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 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 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 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 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 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 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 B
2. identifying the kinds of thinking that are used by technologists
3. stressing the importance of nonverbal thinking in engineering design
4. proposing a new role for nonscientific thinking in the development of technology
5. contrasting the goals of engineers with those of technologists
6. criticizing engineering schools for emphasizing science in engineering curricula
7. It can be inferred that the author thinks engineering curricula are A
8. strengthened when they include courses in design
9. weakened by the substitution of physical science courses for courses designed to develop mathematical skills
10. strong because nonverbal thinking is still emphasized by most of the courses
11. strong despite the errors that graduates of such curricula have made in the development of automatic control systems
12. strong despite the absence of nonscientific modes of thinking
13. Which of the following statements best illustrates the main point of the passage? E
14. When a machine like a rotary engine malfunctions, it is the technologist who is best equipped to repair it.
15. Each component of an automobile—for example, the engine or the fuel tank—has a shape that has been scientifically determined to be best suited to that component’s function.
16. A telephone is a complex instrument designed by technologists using only nonverbal thought.
17. The designer of a new refrigerator should consider the designs of other refrigerators before deciding on its final form.
18. The distinctive features of a suspension bridge reflect its designer’s conceptualization as well as the physical requirements of its site.
19. Which of the following statements would best serve as an introduction to the passage? A
20. The assumption that the knowledge incorporated in technological developments must be derived from science ignores the many non-scientific decisions made by technologists.
21. Analytical thought is no longer a vital component in the success of technological development.
22. 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.
23. 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.
24. A technologist thinking about a machine, reasoning through the successive steps in a dynamic process, can actually turn the machine over mentally.
25. The author calls the predicament faced by the Historic American Engineering Record “paradoxical” (lines 18) most probably because E
26. the publication needed drawings that its own staff could not make
27. architectural schools offered but did not require engineering design courses for their students
28. college students were qualified to make the drawings while practicing engineers were not
29. the drawings needed were so complicated that even students in architectural schools had difficulty making them
30. engineering students were not trained to make the type of drawings needed to record the development of their own discipline
31. According to the passage, random failures in automatic control systems are “not merely trivial aberrations” (the last line but one) because B
32. automatic control systems are designed by engineers who have little practical experience in the field
33. the failures are characteristic of systems designed by engineers relying too heavily on concepts in mathematics
34. the failures occur too often to be taken lightly
35. designers of automatic control systems have too little training in the analysis of mechanical difficulties
36. designers of automatic control systems need more help from scientists who have a better understanding of the analytical problems to be solved before such systems can work efficiently
37. The author uses the example of the early models of high-speed railroad cars primarily to D
38. weaken the argument that modern engineering systems have major defects because of an absence of design courses in engineering curricula
39. support the thesis that the number of errors in modern engineering systems is likely to increase
40. illustrate the idea that courses in design are the most effective means for reducing the cost of designing engineering systems
41. support the contention that a lack of attention to the nonscientific aspects of design results in poor conceptualization by engineers
42. weaken the proposition that mathematics is a necessary part of the study of design

Between 1970 and 1980, energy consumption by United States industry peaked and then declined, so that by 1980 total industrial use of energy was below the 1970 level even though total industrial output had grown substantially in the same period. Industry must have instituted highly effective energy conservation measures in those years to have achieved such impressive results.

1. Which of the following, if true, most seriously weakens the conclusion of the argument? E
2. Many industries switched to the greatest extent possible from high-priced oil to lower-priced alternatives throughout the 1970's.
3. Total residential energy consumption was higher in the United States in 1980 than it had been in 1970
4. Many industrial users of energy had paid little attention to energy conservation prior to 1970.
5. Industrial output grew less rapidly from 1970 to 1980 than it had from 1960 to 1970.
6. The industries whose production dropped sharply during the 1970's included a disproportionately large number of energy-intensive industries.

Recent studies of sediment in the North Atlantic’s deep waters reveal possible cyclical patterns in the history of Earth’s climate. The rock fragments in these sediments are too large to have been transported there by ocean currents; they must have reached their present locations by traveling in large icebergs that floated long distances from their point of origin before melting. Geologist Gerard Bond noticed that some of the sediment grains were stained with iron oxide, evidence that they originated in locales where glaciers had overrun outcrops of red sandstone. Bond’s detailed analysis of deep-water sediment cores showed changes in the mix of sediment sources over time: the proportion of these red-stained grains fluctuated back and forth from lows of 5 percent to highs of about 17 percent, and these fluctuations occurred in a nearly regular 1,500-year cycle.

Bond hypothesized that the alternating cycles might be evidence of changes in ocean-water circulation and therefore in Earth’s climate. He knew that the sources of the red-stained grains were generally closer to the North Pole than were the places yielding a high proportion of “clean” grains. At certain times, apparently, more icebergs from the Arctic Ocean in the far north were traveling south well into the North Atlantic before melting and shedding their sediment.

Ocean waters are constantly moving, and water temperature is both a cause and an effect of this movement. As water cools, it becomes denser and sinks to the ocean’s bottom. During some periods, the bottom layer of the world’s oceans comes from cold, dense water sinking in the far North Atlantic. This causes the warm surface waters of the Gulf Stream to be pulled northward. Bond realized that during such periods, the influx of these warm surface waters into northern regions could cause a large proportion of the icebergs that bear red grains to melt before traveling very far into the North Atlantic. But sometimes the ocean’s dynamic changes, and waters from the Gulf Stream do not travel northward in this way. During these periods, surface waters in the North Atlantic would generally be colder, permitting icebergs bearing red-stained grains to travel farther south in the North Atlantic before melting and depositing their sediment.

The onset of the so-called Little Ice Age (1300-1860), which followed the Medieval Warm Period of the eighth through tenth centuries, may represent the most recent time that the ocean’s dynamic changed in this way. If ongoing climate-history studies support Bond’s hypothesis of 1,500-year cycles, scientists may establish a major natural rhythm in Earth’s temperatures that could then be extrapolated into the future. Because the midpoint of the Medieval Warm Period was about 850, an extension of Bond’s cycles would place the midpoint of the next warm interval in the twenty-fourth century.

1. According to the passage, which of the following is true of the rock fragments contained in the sediments studied by Bond? C
2. The majority of them are composed of red sandstone.
3. They must have reached their present location over 1,500 years ago.
4. They were carried by icebergs to their present location.
5. Most of them were carried to their present location during a warm period in Earth’s climatic history.
6. They are unlikely to have been carried to their present location during the Little Ice Age.
7. In the final paragraph of the passage , the author is concerned primarily with E
8. answering a question about Earth’s climatic history
9. pointing out a potential flaw in Bond’s hypothesis
10. suggesting a new focus for the study of ocean sediments
11. tracing the general history of Earth’s climate
12. discussing possible implications of Bond’s hypothesis
13. According to the passage, Bond hypothesized that which of the following circumstances would allow red-stained sediment grains to reach more southerly latitudes? E
14. Warm waters being pulled northward from the Gulf Stream.
15. Climatic conditions causing icebergs to melt relatively quickly.
16. Icebergs containing a higher proportion of iron oxide than usual.
17. The formation of more icebergs than usual in the far north.
18. The presence of cold surface waters in the North Atlantic.
19. It can be inferred from the passage that in sediment cores from the North Atlantic’s deep waters, the portions that correspond to the Little Ice Age C
20. differ very little in composition from the portions that correspond to the Medieval Warm Period
21. fluctuate significantly in composition between the portions corresponding to the 1300s and the portions corresponding to the 1700s
22. would be likely to contain a proportion of red-stained grains closer to 17 percent than to 5 percent
23. show a much higher proportion of red-stained grains in cores extracted from the far north of the North Atlantic than in cores extracted from further south
24. were formed in part as a result of Gulf Stream waters having been pulled northward

Upon maturity, monarch butterflies travel hundreds of miles from their places of origin and lay their eggs on milkweed. The caterpillars that emerge feed on milkweed and absorb the glycosides in milkweed sap. The specific glycosides present in milkweed differ from region to region within the monarch butterfly’s range. Mature butterflies retain the glycosides in a mature monarch butterfly could be used to determine its place of origin.

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

1. Mature monarch butterflies do not feed on parts of milkweed that contain glycosides.
2. The glycosides in milkweed sap are slightly toxic to caterpillars of other species.
3. The vast majority of the monarch butterflies that are laying eggs in a given region will have traveled there from a single region.
4. There are substances other than glycosides in milkweed sap that accumulate in a monarch caterpillar and are retained in the body of the mature butterfly.
5. There are certain glycosides that are found in the sap of all milkweeds, no matter where they grow within the monarch butterfly’s range.

The disappearance of Steller's sea cow from the Bering and Copper islands by 1768 has long been blamed on intensive hunting. But its disappearance took only 28 years from the time Steller first described the species, a remarkably short time for hunting alone to depopulate the islands, especially given the large populations initially reported. However, by 1750, hunters had also targeted nearby sea otter populations. Fewer otters would have allowed sea urchin populations on which the otters preyed to expand and the urchins' grazing pressure on kelp forests to increase. Sea cows were totally dependent on kelp for food, and within a decade of the onset of otter hunting, Steller noted that the islands' sea cows appeared malnourished.

1. Which of the following can be inferred from the passage about kelp forests in the Bering and Copper islands between 1750 and 1768? A
2. They were reduced significantly.
3. They disappeared entirely from the region.
4. They were the primary food source for sea otters.
5. They were harvested in record numbers by humans
6. They increased pressure on sea urchin populations.
7. According to the passage, it is likely that during the mid-1700s, sea urchin populations near the Bering and Copper islands B
8. were diminished by sea cow predation
9. experienced substantial increases
10. migrated to waters with more plentiful food supplies
11. were reduced by the pressures of hunting
12. appeared to be malnourished

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 author mentions all of the following as contributing to an understanding of the physics of dance EXCEPT E
2. the law of conservation of angular momentum
3. analyses of the way in which the body’s mass is distributed
4. equations of linear motion in three dimensions
5. analyses of the sources that produce rotational motions
6. the technical terms for movements such as leaps and turns
7. Analysis of which of the following would require the kind of complex approach described in the last sentence? C
8. A long leap across space
9. A short jump upward with a return to the same place
10. A sustained and controlled turn in place
11. Short, rapid steps forward and then backward without turning
12. Quick side steps in a diagonal line

对舞蹈的物理学原理进行分析，可以从根本上增强舞蹈者的技艺。虽然舞蹈者很少能从物理学的角度来全面彻底地认清自己——随着身体的质量在众所周知的力量的影响下在空间运动并遵循着物理规律——但是，他们亦不可能贸然地对运动的物理学原理漠然无视。例如，无论舞蹈者如何渴望能从地面上跳跃起并紧接着开始旋转，角动量的守恒律是绝对不允许这样的动作发生的。

有些主要涉及到人体全身垂直或水平运动的动作（其中，旋转可予忽略不计）可通过利用三维线性运动的一次方程来加予研究。然而，旋转运动则要求更为复杂的研究方法，涉及到对人体重量分配方式的研究，对不同类型的动作中所涉及到的旋转轴的分析，以及对产生旋转动作的力量来源的分析。



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 (hydrothermal: adj.热水的, 热液的) vents, areas of the ocean where warm water emerges from subterranean sources, live remarkable densities of huge clams, blind crabs, and fish.

Most deep-sea faunas rely for food on particulate matter (particulate matter: 颗粒物质), 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 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 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 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.

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 populations of large deep-sea animals have been found in the proximity of “smokers”—vents where water emerges at temperatures up to 350℃. 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 (rain in: 涌进, 纷纷而至) peripheral areas to nourish animals living some distance from the warm-water vents.

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 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 passage provides information for answering which of the following questions? C
2. What causes warm-water vents to form?
3. Do vent faunas consume more than do deep-sea faunas of similar size?
4. Do bacteria live in the vent water of smokers?
5. What role does hydrogen sulfide play in chemosynthesis?
6. What accounts for the locations of deep-sea smokers?
7. The information in the passage suggests that the majority of deep-sea faunas that live in nonvent habitats have which of the following characteristics? B
8. They do not normally feed on particles of food in the water.
9. They are smaller than many vent faunas.
10. They are predators.
11. They derive nutrition from a chemosynthetic food source.
12. They congregate around a single main food source.
13. The primary purpose of the passage is to D
14. describe a previously unknown natural phenomenon
15. reconstruct the evolution of a natural phenomenon
16. establish unequivocally the accuracy of a hypothesis
17. survey explanations for a natural phenomenon and determine which is best supported by evidence
18. entertain (to receive and take into consideration “refused to entertain our plea”) criticism of the author’s research and provide an effective response
19. Which of the following does the author cite as a weakness in the argument that bacterial chemosynthesis provides the foundation for the food chains at deep-sea vents? A
20. Vents are colonized by some of the same animals found in other areas of the ocean floor.
21. Vent water does not contain sufficient quantities of hydrogen sulfide.
22. Bacteria cannot produce large quantities of food quickly enough.
23. Large concentrations of minerals are found in vent water.
24. Some bacteria found in the vents are incapable of chemosynthesis.
25. 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? B

I. Large vent faunas move from vent to vent in search of food.

II. Vent faunas are not able to consume food produced by photosynthesis.

III. Vents are more densely populated than are other deep-sea areas.

1. I only
2. III only
3. I and II only
4. II and III only
5. I, II, and III
6. The author refers to “smokers” (paragraph 3) most probably in order to E
7. show how thermal shock can provide food for some vent faunas by stunning small animals
8. prove that the habitat of most deep-sea animals is limited to warm-water vents
9. explain how bacteria carry out chemosynthesis
10. demonstrate how advection compensates for the lack of food sources on the seafloor
11. present evidence that bacterial chemosynthesis may be an inadequate source of food for some vent faunas
12. Which of the following can be inferred from the passage about the particulate matter that is carried down from the surface of the ocean? B
13. It is the basis of bacterial chemosynthesis in the vents.
14. It may provide an important source of nutrition for vent faunas.
15. It may cause the internal temperature of the vents to change significantly.
16. It is transported as large aggregates of particles.
17. It contains hydrogen sulfide.

普遍而言，深海中分布着一个甚为稀少的动物群（fauna），以小虫和甲壳纲动物（crustacean）为主，较大动物的分布则更为稀少。然而，在热液排放口(hydrothermal vent）附近，即海洋中热水从地下来源涌出的区域，却生存着极为密集的巨形蛤蜊，瞎眼蟹和鱼类。

大多数深海动物群依赖从上面掉落下来的微粒物质（particulate matter）以获取食物，而这些微粒物质最终来源于光合作用（photosynthesis）。但是，用以供养规模庞大的热液口动物群落（vent community）所必须的食物供给必须是一般坠食量（fallout）的许多倍。描绘热液口动物群的最初报告提出了两种有可能的营养物来源：细菌化学合成（bacterial chemosynthesis），即细菌利用来自化学反应的能量制造食物，以及平流（advection），即食物材料从邻近区域漂逐而至。后来，支持强烈局部化学合成这一思想的证据渐趋积累起来：在热液口的水中发现了硫化氢（hydrogen sulfide）；许多热液口场址的细菌被发现具有化学合成的能力；此外，在那些曾被认为纯净无物的热液口水样中，发现了大量极为密集的细菌。最后这一项观察似乎具在决定性意义。假如如此令人吃惊的细菌密集可典型地代表热液口溢出物（outflow）的话，那以，热液口内的食物将致使来自平流的任何食物贡献显得微不足道。因此，一个广被援引的结论使告得出，即细菌化学合成给热液口的食物链提供了基础——这不啻是一个令人兴奋的前景，因为地球上没有任何其他动物群落可独立于光合作用。

但是，这一解释不乏某些疑难之处。例如，与热液口相关的某些庞大静栖生物体在深涨常温条件下也在离最近的热液源好几米处被发现。这表明细菌化学合成对这些生物体而言不足以构成一种充分的营养物来源。另一点疑难是，同样密集的庞大深海动物种群在“冒烟口”附近被发现——所谓“冒烟口”，是指水以高达350℃的温度涌出的那些热液口。没有任何细菌可经受如此的热量而存活下来，在那里也从未发现任何细菌。除非“冒烟口”始终位于更为适宜的热液口附近，不然的话，化学合成仅能解释热液口动物群中的一小部分。但可以想象的是，这些庞大的、静栖的生物体事实上确实以细菌为生，这些细菌在热液口内生长，随热液口的水升涌，然后洒落到周边区域，为生存在离热液口一定距离的动物提供营养物。

尽管如此，平流是一种更有可能的可供替代的一种食物源。研究证明，平流——形成于悬浮的微粒物质积聚的海面附近——会将那些物质和水的一部分输送以热液口。估算表明，对于每立方米的热液口释放物而言，350毫克的微粒有机物将通过平流来到热液口区域。因此，对于每个中等规模的热液口来说，平流每天可提供30公斤以上的潜在食物。此外，有可能的是，平流的水中活着的小动物有可能被热休克和（或）化学休克弄死或致晕，从而进一步增加了热液口的食物供给。



Echolocating bats emit sounds in patterns—characteristic of each species—that contain both frequency-modulated (FM) and constant-frequency (CF) signals. The broadband FM signals and the narrowband CF signals travel out to a target, reflect from it, and return to the hunting bat. In this process of transmission and reflection, the sounds are changed, and the changes in the echoes enable the bat to perceive features of the target.

The FM signals report information about target characteristics that modify the timing and the fine frequency structure, or spectrum, of echoes—for example, the target’s size, shape, texture, surface structure, and direction in space. Because of their narrow bandwidth, CF signals portray only the target’s presence and, in the case of some bat species, its motion relative to the bat’s. Responding to changes in the CF echo’s frequency, bats of some species correct in flight for the direction and velocity of their moving prey.

1. According to the passage, the information provided to the bat by CF echoes differs from that provided by FM echoes in which of the following ways? D
2. Only CF echoes alert the bat to moving targets.
3. Only CF echoes identify the range of widely spaced targets.
4. Only CF echoes report the target’s presence to the bat.
5. In some species, CF echoes enable the bat to judge whether it is closing in on its target.
6. In some species, CF echoes enable the bat to discriminate the size of its target and the direction in which the target is moving.
7. According to the passage, the configuration of the target is reported to the echolocating bat by changes in the B
8. echo spectrum of CF signals
9. echo spectrum of FM signals
10. direction and velocity of the FM echoes
11. delay between transmission and reflection of the CF signals
12. relative frequencies of the FM and the CF echoes
13. The author presents the information concerning bat sonar in a manner that could be best described as E
14. argumentative
15. commendatory
16. critical
17. disbelieving
18. objective
19. Which of the following best describes the organization of the passage? A
20. A fact is stated, a process is outlined, and specific details of the process are described.
21. A fact is stated, and examples suggesting that a distinction needs correction are considered.
22. A fact is stated, a theory is presented to explain that fact, and additional facts are introduced to validate the theory.
23. A fact is stated, and two theories are compared in light of their explanations of this fact.
24. A fact is stated, a process is described, and examples of still another process are illustrated in detail.

具有回声定位机能的蝙蝠以特定的模式发出声音——为每一种蝙蝠所独有——这些声音包含调频（FM,frequency‐modulated）信号和恒频（CF,constant‐frequency）信号。宽频带的调频信号和窄频带的恒频信号发射至目标物，由目标物反射，回复到正在觅食的蝙蝠。在发射与反射这一过程中，声音受到改变，而回声中的变化致使蝙蝠得以察觉出目标物的特征。

调频信号所报告的是有关目标物特征的信息，这些特征修改回声的时间控制（timing）以及回声的精细频率结构，或射频频谱——例如，目标物的大小，形状，质地，表层结构，以及空间方向。由于其狭窄的频宽，恒频信号只能描绘出目标物的存在以及，在某些蝙蝠种类的情形中，目标物相对蝙蝠的运动。通过对调频回声频率中的变化作出反应，某些种类的蝙蝠在飞行过程中可作出纠正，以追综其运动中的捕食物的方向及速度。



Hotter and more massive than the Sun, stars called “stragglers” are puzzling to astronomers because such rapidly burning stars would not be expected to persist in ancient star clusters. Some researchers believe that the typical blue stragglers formed when two ancient, lower-mass stars collide and merge form more massive, hotter star. Peter Leonard theorizes alternatively that in low density globular clusters, where mergers between single stars occur too infrequently to account for the observed quantity of blue stragglers, these stragglers are created instead by a group of stars. He suggests that a pair of stars already orbiting each other presents a larger target for a third star or another pair. Once this new grouping forms, close encounters between the stars could prompt any two to merge as a blue straggler. Leonard’s model predicts that each blue straggler has a distant orbiting companion—as appears true of many blue stragglers in the M67 cluster of the Milky Way galaxy.

18. The reference to a “larger target” serves primarily to suggest why a C

A. blue straggler would be more likely to collide and merge with another star than would be a lower-mass star

B. pair of stars would be more likely to encounter other stars than would the typical blue straggler

C. pair of stars would be more likely to interact with other stars than would a single star

D. blue straggler would be more likely to interact with a pair of stars than it would with a third star

E. third star would be more likely to encounter a pair than it would to encounter a blue straggler

19. Information presented in the passage suggests which of the following about blue stragglers? B

A. They originate from stars that are hotter and more massive than the Sun.

B. They are burning more rapidly than other types of stars observed in ancient star clusters.

C. They are older than most other types of stars within the same star cluster.

D. They are less numerous in low-density globular clusters than are pairs of stars.

E. They generally originate from the oldest stars among those found in ancient star clusters.

20. The passage cites which of the following as evidence undermining the theory presented in the second sentence?

E

A. A discrepancy between the number of mergers between single stars in certain low-density globular clusters and that in other low-density globular clusters

B. A discrepancy between the heat and mass of blue stragglers formed by one type of process and the heat and mass of blue stragglers formed by another type of process

C. A discrepancy between the frequency of star mergers in low-density globular clusters and those in high-density globular clusters

D. A discrepancy between the amount of heat and mass of ancient single stars and that of blue stragglers

E. A discrepancy between the number of mergers between single stars in certain star clusters and the number of blue stragglers in those clusters