

## SECTION 1

Time –30 minutes

38 Questions

1. While scientists dismiss as fanciful the idea of sudden changes in a genetic code (spontaneous mutation), it is possible that nature, like some master musician, ---- on occasion, departing from the expected or predictable.
- (A) repeats  
(B) improvises  
(C) ornaments  
(D) corrects  
(E) harmonizes
2. Despite the ---- of time, space, and history, human societies the world over have confronted the same existential problems and have come to remarkably ---- solutions, differing only in superficial details.
- (A) continuity.. identical  
(B) uniformity.. diverse  
(C) actualities.. varied  
(D) contingencies.. similar  
(E) exigencies.. unique
3. Although he was known to be extremely ---- in his public behavior, scholars have discovered that his diaries were written with uncommon ----.
- (A) reserved.. frankness  
(B) polite.. tenderness  
(C) modest.. lucidity  
(D) reticent.. vagueness  
(E) withdrawn.. subtlety
4. With the ---- of scientific knowledge, work on the new edition of a textbook begins soon after completion of the original.
- (A) limitation  
(B) culmination  
(C) veneration  
(D) certainty  
(E) burgeoning
5. She is most frugal in matters of business, but in her private life she reveals a streak of ----.
- (A) antipathy  
(B) misanthropy  
(C) virtuosity  
(D) equanimity  
(E) prodigality
6. If the state government's latest budget problems were ----, it would not be useful to employ them as ----examples in the effort to avoid the inevitable effects of shortsighted fiscal planning in the future.
- (A) typical.. representative  
(B) exceptional.. aberrant  
(C) anomalous.. illuminating  
(D) predictable.. helpful  
(E) solvable.. insignificant
7. Just as some writers have ---- the capacity of language to express meaning, Giacometti ---- the failure of art to convey reality.
- (A) scoffed at .. abjured  
(B) demonstrated.. exemplified  
(C) denied.. refuted  
(D) proclaimed.. affirmed  
(E) despaired of .. bewailed
8. WALLET: MONEY::
- (A) bank: vault  
(B) suitcase: clothing  
(C) checkbook: balance  
(D) wealth: prestige  
(E) envelope: stamp
9. INSTRUMENTALIST: SYMPHONY::
- (A) author: drama  
(B) photographer: cinema  
(C) composer: concerto  
(D) artist: painting  
(E) dancer: ballet
10. PLATEAU: CHANGE:
- (A) respite: activity  
(B) asylum: security  
(C) terminus: journey  
(D) interval: time  
(E) lull: rest
11. ISTHMUS: LAND::
- (A) peninsula: island  
(B) canal: river

- (C) stratosphere: air
- (D) strait: water
- (E) tunnel: mountain

## 12. EMBARGO: COMMERCE::

- (A) abstention: election
- (B) strike: lockout
- (C) boycott: development
- (D) quarantine: contact
- (E) blockade: port

## 13. DILATORY: PROCRASTINATE::

- (A) recalcitrant: comply
- (B) malcontent: complain
- (C) ambivalent: decide
- (D) inept: modify
- (E) credulous: learn

## 14. NOMINAL: SIGNIFICANCE::

- (A) titular: honor
- (B) ephemeral: brevity
- (C) divisible: continuity
- (D) anomalous: distinction
- (E) disjunctive: unity

## 15. PLAGIARISM: IDEAS::

- (A) libel: words
- (B) forgery: documents
- (C) arson: buildings
- (D) kidnapping: ransom
- (E) rustling: cattle

## 16. POLITIC: OFFEND::

- (A) distressing: terrify
- (B) aloof: associate
- (C) misunderstood: surmise
- (D) vacuous: deplete
- (E) trivial: bore

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 inheritances 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.

17. 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.

18. 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.
19. 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.
20. Which of the following can be inferred from the passage concerning Britain's rule in its Canadian colonies after the American Revolution?
- (A) Humiliated by their defeat by the Americans, the British sharply curtailed civil rights in their Canadian colonies.
- (B) The British largely ignored their Canadian colonies.
- (C) The British encouraged the colonization of Canada by those African Americans who had served on the American side as well as by those who had served on the British side.
- (D) Some of Britain's policies in its Canadian colonies were similar to its policies in its American colonies before the American Revolution.

- (E) To reduce the debt incurred during the war, the British imposed even higher taxes on the Canadian colonists than they had on the American colonists.

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.

21. 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
22. The author mentions the peacock's tail in line 8 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
23. 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
24. Which of the following, if true, would most clearly demonstrate the interaction mentioned in lines 11-13?
- (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.
25. The passage indicates that researchers raised female cowbirds in acoustic isolation in order to
- (A) eliminate confounding variables
  - (B) approximate field conditions
  - (C) measure reproductive success
  - (D) quantify repertoire complexity
  - (E) prevent early mating
26. According to the passage, the song sparrow is unlike the warbler in that the song sparrow
- (A) uses songs mainly in territorial behavior
  - (B) continuously composes long and complex songs
  - (C) has a much larger song repertoire
  - (D) repeats one song type before switching to another
  - (E) responds aggressively to recorded songs
27. The passage suggests that the song sparrow experiments mentioned in lines 37-43 failed to confirm the role of intersexual selection because
- (A) females were allowed to respond only to the song structure
  - (B) song sparrows are unlike other species of birds
  - (C) the experiments provided no evidence that

- elaborate songs increased male reproductive success
- (D) the experiments included the songs of only a small number of different song sparrows
- (E) the experiments duplicated some of the limitations of previous field studies
28. STRINGENT:
- (A) lax
- (B) elusive
- (C) impartial
- (D) evident
- (E) vast
29. INTERIM:
- (A) obscure
- (B) permanent
- (C) prudent
- (D) resolute
- (E) secure
30. SCATHING:
- (A) easily understood
- (B) politely cooperative
- (C) intentionally involuted
- (D) calmly complimentary
- (E) strongly partisan
31. CAPITULATE:
- (A) enjoin
- (B) resist
- (C) observe closely
- (D) consider carefully
- (E) appraise critically
32. RECONSTITUTE:
- (A) detail
- (B) invent
- (C) spoil
- (D) conform
- (E) dehydrate
33. REPUTE:
- (A) lack of caution
- (B) lack of knowledge
- (C) lack of emotion
- (D) lack of generosity
- (E) lack of distinction
34. TAME:
- (A) resolute
- (B) ruinous
- (C) racy
- (D) erratic
- (E) experienced
35. INDURATE:
- (A) soften
- (B) puncture
- (C) denude
- (D) immure
- (E) exchange
36. PROLIXITY:
- (A) succinctness
- (B) profundity
- (C) persuasiveness
- (D) complacency
- (E) cleverness
37. CALLOW:
- (A) displaying keen intelligence
- (B) behaving with adult sophistication
- (C) reacting cheerfully
- (D) showing foresight
- (E) deciding quickly
38. FRIABLE:
- (A) not easily crumbled
- (B) not easily torn
- (C) not easily melted
- (D) not easily eroded
- (E) not easily punctured

**SECTION 2**

Time –30 inutes

25 Questions

1. The ancient Greek playwright Euripides followed the established conventions of verse composition less rigorously at the end of his career than at the beginning. Since the lines from a recently discovered Euripidean play adhere to those conventions as rigorously as do lines from Euripides' early plays, the recently discovered play must have been composed early in Euripides' career.

Which of the following is an assumption made in the argument?

- (A) All of Euripides' plays were written in verse.
- (B) Euripides did not write any plays late in his career in which he imitated the style of his early plays.
- (C) Euripides grew increasingly unaware of the established conventions of verse composition as his career progressed.
- (D) Late in his career, Euripides was the only playwright of his day who consciously broke with the established conventions of verse composition.
- (E) Ancient playwrights tended to be less willing to violate certain conventions early in their careers than they were later in their careers

2. In the United States, average fuel efficiency of newly manufactured domestic cars, although remaining worse than that of newly manufactured imported cars, substantially improved between 1983 and 1988. Average fuel efficiency of new domestic cars has not improved since, but the difference in average fuel efficiencies of new domestic cars and new imported cars has steadily decreased.

If the statements above are true, which of the following must also be true on the basis of them?

- (A) Average fuel efficiency of domestic cars manufactured after 1988 was better than that of imported cars manufactured before 1988.
- (B) Average fuel efficiency of newly manufactured domestic cars has steadily worsened since 1988.

- (C) Average fuel efficiency of newly manufactured imported cars has steadily worsened since 1988.
- (D) Average fuel efficiency of newly manufactured imported cars has steadily improved since 1983.
- (E) Average fuel efficiency of imported cars manufactured in 1983 was better than that of imported cars manufactured in 1988.

Questions 3-8

In order to remodel a kitchen, exactly six major tasks—installing appliances, plumbing, refinishing, sanding, tiling, and wallpapering? are to be done over six consecutive days? numbered 1 through 6. The order of the tasks is governed by the following conditions :

- Exactly one task must be done each day.
- Refinishing must be done on the day after sanding is done.
- Installing appliances and tiling must each be done on some day after the day on which plumbing is done.
- Wallpapering must be done on some day after the day on which refinishing is done.

- 3. Which of the following is an acceptable order in which the tasks can be done on days 1 through 6?
  - (A) Installing appliances, sanding, refinishing, wallpapering, plumbing, tiling
  - (B) Plumbing, installing appliances, wallpapering, sanding, refinishing, tiling
  - (C) Plumbing, sanding, refinishing, installing appliances, wallpapering, tiling
  - (D) Sanding, plumbing, installing appliances, refinishing, tiling, wallpapering
  - (E) Sanding, refinishing, tiling, wallpapering, plumbing, installing appliances
- 4. The latest day on which plumbing can be done is day
  - (A) 1
  - (B) 2
  - (C) 3
  - (D) 4
  - (E) 5
- 5. If sanding is done on day 1, then wallpapering CANNOT be done on day
  - (A) 2

- (B) 3
- (C) 4
- (D) 5
- (E) 6

6.If tiling is done on day 2 and installing appliances is done on day 5, which of the following are the tasks that must be done on days 1 and 6, respectively?

- (A) Plumbing, refinishing
- (B) Plumbing, wallpapering
- (C) Sanding, plumbing
- (D) Sanding, wallpapering
- (E) Wallpapering, sanding

7.If plumbing is done on day 1 and wallpapering is done on day 5, which of the following can be the tasks that are done on days 2 and 6, respectively?

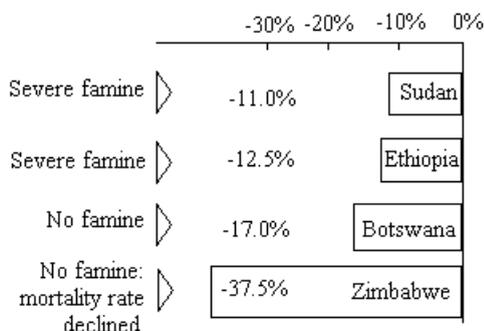
- (A) Refinishing, tiling
- (B) Sanding, installing appliances
- (C) Sanding, refinishing
- (D) Tiling, refinishing
- (E) Tiling, sanding

8.If tiling is done on day 3, which of the following must be done on day 2?

- (A) Installing appliances
- (B) Plumbing
- (C) Refinishing
- (D) Sanding
- (D) Wallpapering

Questions 9-10 are based on the following graph.

EFFECTS OF THE DROUGHT OF 1981-1984  
Percentage change in food production per person  
from 1979-1981(before the drought)to 1983-1984



9. It can be properly concluded from the graph that

- (A) the drought beginning after 1981 affected crops

to a similar degree in the four countries

- (B) a country can withstand a severe famine without a substantial increase in mortality
- (C) a substantial decline in production of food per person in a country does not necessarily result in famine and increased deaths
- (D) the drought was more severe in the four countries by 1984 than it had been in 1982
- (E) there is no way to differentiate between countries that will and countries that will not suffer severe famine when food production drops sharply

10.Which of the following, if true, contributes most to an explanation of differences in the presence of famine that are shown on the graph?

- (A) The drought that began in 1981 was more severe in the countries of Botswana and Zimbabwe than in Sudan and Ethiopia.
- (B) Before the drought, Sudan, Ethiopia, and Botswana were exporters of their major food crops, including grain, but Zimbabwe was not an exporter of its major food crops.
- (C) During 1979-1984, the population of Botswana and Zimbabwe combined was less than the population of either Sudan or Ethiopia.
- (D) At the beginning of the drought, surplus food stocks in Sudan and Botswana were larger, relative to population, than in Ethiopia and Zimbabwe.
- (E) Popular demand for relief elicited a prompt response from the governments of Botswana and Zimbabwe, because they were democracies, but not from the nondemocratic governments of Sudan and Ethiopia.

11. 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.

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

- (A) Many industries switched to the greatest extent possible from high-priced oil to lower-priced alternatives throughout the 1970's.
- (B) Total residential energy consumption was higher in the United States in 1980 than it had been in 1970
- (C) Many industrial users of energy had paid little attention to energy conservation prior to 1970.
- (D) Industrial output grew less rapidly from 1970 to 1980 than it had from 1960 to 1970.
- (E) The industries whose production dropped sharply during the 1970's included a disproportionately large number of energy-intensive industries.

12. Many people acquire software programs for their home computers by illegally copying those programs rather than purchasing them. People who own home computers must be making, on average, fewer illegal copies of software programs than before, however, since the average number of software programs that people purchase to use on their home computers has increased substantially over the past five years.

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

- (A) The number of home computers in use has increased substantially over the past five years.
- (B) Five years ago, about half of the software programs used on home computers had been illegally copied rather than purchased.
- (C) Most people who have home computers use their computers more frequently the longer they have them.
- (D) Few people who prefer to copy computer software programs illegally cannot copy the software programs they want because they have no acquaintances who have those software programs.
- (E) On average, people with home computers have the same number of software programs today as people with home computers did five years ago.

### Questions 13-17

Exactly seven detectives—G, H, J, K, M, O, and P—will investigate two cases—case 1 and case 2. Each of the seven detectives will investigate exactly one of the two cases. Four of the detectives will investigate case 1, and three of the detectives will investigate case 2. Detectives will be assigned to cases in accordance with the following conditions :

- G cannot investigate the same case that J investigates.
- Whichever case K investigates must also be the case that M investigates.
- H must investigate case 1.

13. Which of the following is an acceptable assignment of the detectives to the two cases?

- | <u>Case 1</u>  | <u>Case 2</u> |
|----------------|---------------|
| (A) G, H, J, P | K, M, O       |
| (B) G, K, M, O | H, J, P       |
| (C) H, J, O    | G, K, M, P    |
| (D) H, J, K, M | G, O, P       |
| (E) H, J, K, P | G, M, O       |

14. If J investigates the same case that P investigates, which of the following detectives must investigate the same case that K investigates?

- (A) G
- (B) H
- (C) J
- (D) O
- (E) P

15. If O investigates case 2, which of the following must also investigate case 2?

- (A) G
- (B) J
- (C) K
- (D) M
- (E) P

16. If J investigates case 2, which of the following is a pair of detectives who must investigate the same case as each other?

- (A) G and H
- (B) G and P

- (C) H and O  
(D) J and K  
(E) J and M

17. Any of the following can be true EXCEPT :

- (A) G investigates the same case that H investigates.  
(B) H investigates the same case that M investigates.  
(C) K investigates the same case that O investigates.  
(D) J investigates case 1.  
(E) P investigates case 2.

Questions 18-22

Each year, a gardener will plant five kinds of vegetables — F, G, J, K, and M, not necessarily in that order—in a garden consisting of five parallel, adjacent rows, numbered consecutively 1 through 5. One kind of vegetable will be planted per row each year according to the following rules :

- K cannot be planted in the same row in any two successive years.  
If J is planted in a given row in one year, M must be planted in that row the next year.  
Because of nutrient requirements, F and M cannot in any year be planted in rows that are adjacent to each other.  
In any year, J must be planted in a row that is adjacent to the row in which G is planted.

18. Which of the following is an acceptable plan for planting in the first year the garden is planted, with the kinds of vegetables in order from row 1 through row 5?

- (A) F, G, J, M, K  
(B) G, M, J, K, F  
(C) J, K, M, G, F  
(D) K, J, G, M, F  
(E) M, G, K, J, F

19. If in a given year the order of the vegetables planted, from row 1 through row 5, is K, F, G, J, M, then in the next year, F must be planted in row

- (A) 1  
(B) 2  
(C) 3

- (D) 4  
(E) 5

20. Which of the following must be true in a year in which G is planted in row 5?

- (A) F is planted in row 1.  
(B) J is planted in row 3.  
(C) K is planted in row 2.  
(D) M is planted in row 1.  
(E) M is planted in row 3.

21. If M is to be planted in row 5 in the second year the garden is planted, then which of the following must be planted in row 4 in the first year?

- (A) F  
(B) G  
(C) J  
(D) K  
(E) M

22. If in a given year J is planted in row 1, then in the next year K can be planted in row

- (A) 1 or 5 but cannot be planted in any other row  
(B) 2 or 4 but cannot be planted in any other row  
(C) 2 or 5 but cannot be planted in any other row  
(D) 3 or 5 but cannot be planted in any other row  
(E) 4 or 5 but cannot be planted in any other row

23. From a newspaper editorial :

Many people who are addicted to heroin will eventually attempt to overcome their addiction, principally for two reasons : the expense of maintaining a heroin addiction and the fear of arrest. If heroin were legalized and made available cheaply, as some people advocate, neither of these reasons would apply

The considerations above can best serve as part of an argument that

- (A) legalizing the sale of heroin would cause the price of this drug to go down  
(B) making it easier for heroin addicts to obtain treatment for their addiction would encourage many heroin addicts to attempt to overcome their addiction  
(C) legalizing the sale of heroin would increase the

number of crimes committed by heroin addicts to support their addiction

- (D) making heroin available legally and cheaply would make it less likely that heroin addicts will attempt to overcome their addiction
- (E) decreasing the severity of penalties for individuals who use heroin would not increase the number of new heroin addicts

24. Stem borers are insect pests that often ruin North American corn crops. On some other continents, crop damage by stem borers is controlled by a certain species of wasp. Since these wasps eat nothing but stem borers, importing them into North America will keep crop damage from stem borers under control without endangering other North American insect species.

Which of the following is an assumption on which the argument depends?

- (A) Corn is the principal food of stem borers that live on continents other than North America.
- (B) The wasps are capable of surviving in North America long enough to eat significant numbers of stem borers.
- (C) No wasp in North America is closely related to the species of wasp that eats stem borers.
- (D) On continent other than North America, the wasps control stem borers more effectively than does any other pest control measure.
- (E) Corn crops on continents other than North America are not damaged by any insect pests other than stem borers.

25. In the country of Laurelia, legal restrictions on the sale of lock-picking equipment were relaxed ten years ago, and since then Laurelia's burglary rate has risen dramatically. Hence, since legally purchased lock-picking equipment was used in most burglaries, reintroducing strict limits on the sale of this equipment would help to reduce Laurelia's burglary rate.

Which of the following, if true, gives the strongest support to the argument?

- (A) Laurelia's overall crime rate has risen dramatically over the last ten years.

- (B) There is wide popular support in Laurelia for the reintroduction of strict limits on the sale of lock-picking equipment.
- (C) The reintroduction of strict limits on the sale of lock-picking equipment in Laurelia would not prevent legitimate use of this equipment by police and other public safety officials.
- (D) Most lock-picking equipment used in Laurelia is fragile and usually breaks irreparably within a few years of purchase.
- (E) The introduction five years ago of harsher punishments for people convicted of burglary had little effect on Laurelia's burglary rate.

**SECTION 3**

Time –30 minutes

30 Questions

1.  $\frac{1}{0.82}$   $\frac{1}{0.81}$

2. The number of miles the rocket travels in 2 hours 10,000

$$\begin{aligned} -x + 4y &= 20 \\ x - y &= 1 \end{aligned}$$

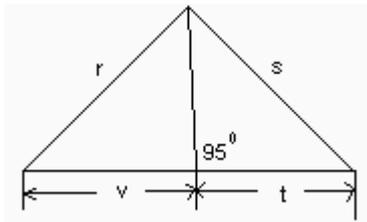
3.  $x$   $y$

4.  $2^{(2^3)}$   $(2^2)^3$

$$0 < n < 1$$

5.  $\frac{4}{n+3}$

6.  $2 + \sqrt{2}$   $2\sqrt{2}$

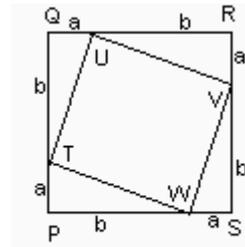


7.  $r + v$   $s + t$

A grocer buys apples at the regular price of 38 cents per pound.

<p>8. The amount saved by the grocer on a purchase of 100 pounds of apples if the price per pound is <math>x</math> cents less than the regular price</p>	<p>The additional amount paid by the grocer on a purchase of 100 pounds of apples if the price per pound is <math>x</math> cents more than the regular price</p>
-----------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------

9.  $2x + y$   $x + y$



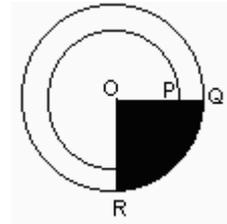
PQRS is a square.

10. The area of square region TUVW  $a^2 + b^2$

11. The median of the positive integers  $l, m, n, r,$  and  $s$  is 10, where  $l < m < n < r < s$ .

$$\frac{s}{2}$$

10



O is the center of both circles.

12. The area of the circular region with radius OP The area of the shaded sector ROQ

$$\begin{aligned} -4 &\leq x \leq 4 \\ -8 &\leq y \leq -4 \end{aligned}$$

13. The greatest possible value of  $25x - 12.5y$  200



$p, q, r,$  and  $s$  are the coordinates of the points indicated on the number line.

14.  $p + q$   $r + s$

$$x \neq 0$$

15.  $-|x|$   $-(x)$

16. If  $3x + 9y = 7x + y$ , then  $8y =$

- (A)  $4x$
- (B)  $6x$
- (C)  $8x$
- (D)  $10x$
- (E)  $12x$

17. If the number of microbes in a test tube increases by 25 percent per day, how many microbes are there in the test tube at the end of a given day if the number of microbes at the end of the next day is 240,000 ?

- (A) 180,000
- (B) 192,000
- (C) 210,000
- (D) 288,000
- (E) 300,000

18. The average (arithmetic mean) of five numbers is 88.

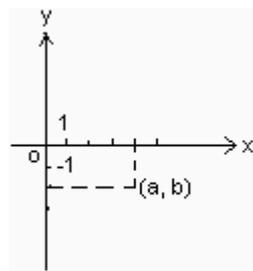
Four of the numbers are 92, 89, 91.....84. What is the fifth number?

- (A) 82
- (B) 84
- (C) 86
- (D) 89
- (E) 92

19. The scores reported for a certain multiple-choice test

were derived by subtracting  $1/3$  of the number of wrong answers from the number of right answers. On a 40-question test, if none of the questions was omitted and the score reported was 20, how many wrong answers were there?

- (A) 5
- (B) 10
- (C) 15
- (D) 25
- (E) 30



20. In the figure above,  $a - 2b =$

- (A) -10
- (B) -8
- (C) 0
- (D) 8
- (E) 10

ACTUAL ENERGY SAVINGS AS A PERCENT OF PROJECTED ENERGY SAVINGS FOR EACH OF TEN PROGRAMS

Program	Energy Savings	Program	Energy Savings
G	36%	N	62%
H	45%	P	98%
J	107%	Q	72%
K	105%	R	109%
M	-12%	T	59%

Note: Projected savings were based on the expected decrease in use of kilowatt hours of electricity as a result of plans to cut demand for electricity

21. Which program resulted in an increase in energy use instead of a decrease as projected?

- (A) Program G
- (B) Program J
- (C) Program K
- (D) Program M
- (E) Program R

22. For which Program were actual energy savings a closest to  $3/4$  of the projected savings?

- (A) Program G
- (B) Program H
- (C) Program P
- (D) Program Q
- (E) Program T

23. How many of the programs resulted in greater energy savings than were projected?

- (A) One
- (B) Three
- (C) Four
- (D) Five
- (E) Eight

24. For which program was the ratio of actual energy savings to projected energy savings closest to 1?

- (A) Program G
- (B) Program K
- (C) Program M
- (D) Program P
- (E) It cannot be determined from the information given.

25. Actual energy savings for Program G were approximately what fraction of actual energy savings for Program T?

- (A)  $\frac{1}{5}$
- (B)  $\frac{1}{4}$
- (C)  $\frac{3}{5}$
- (D)  $\frac{5}{3}$
- (E) It cannot be determined from the information given

26. If  $x$  is the sum of seven consecutive odd integers beginning with 3 and  $y$  is the sum of seven consecutive odd integers beginning with 5, then  $y-x$  equals

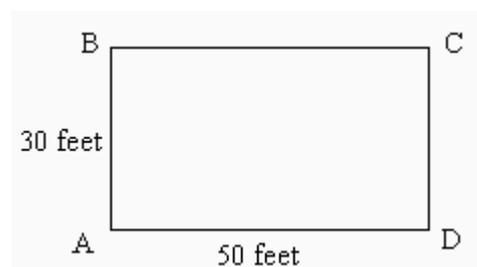
- (A) 2
- (B) 7
- (C) 8
- (D) 12
- (E) 14

27. If  $\frac{5^{-1} \times 5^5}{5^4} = 5^y$ , what is the value of  $y$ ?

- (A) 0
- (B) 1
- (C) 2
- (D) 3
- (E) 4

28. In a rectangular coordinate system, the set of all points  $(x, y)$  such that  $-2 < x < 2$  and  $-2 < y < 2$  comprises

- (A) two perpendicular line segments
- (B) two parallel line segments
- (C) a circular region
- (D) a triangular region
- (E) a square region



29. The figure above shows a rectangular play area in which one child stands at B while another child runs back and forth along the entire side AD. If the running child is in a position randomly located along side AD at a given time, what is the probability that the two children are at most 50 feet apart at that time?

- (A)  $\frac{1}{5}$
- (B)  $\frac{2}{5}$
- (C)  $\frac{3}{5}$
- (D)  $\frac{4}{5}$
- (E) 1

30. On a highway there is an electric pole every 96 feet. If the poles are numbered consecutively, what is the number of the pole 2 miles past pole number 56? (1 mile = 5,280 feet)

- (A) 109
- (B) 110
- (C) 152
- (D) 165
- (E) 166

**SECTION 4**

Time –30 minutes

30 Questions

1.  $\frac{9}{13}$   $\frac{90}{130}$

$x < 10 < y$

2.  $x - 10$   $y - 10$

3. 10 percent of 25 percent of \$69.97 35 percent of \$69.97

$a = -1$

$b = 2$

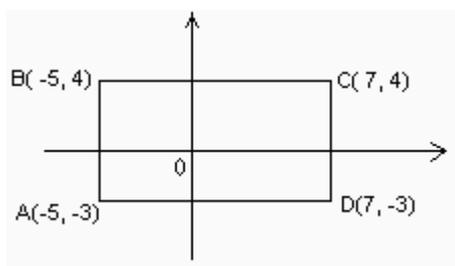
$c = 3$

4.  $\frac{a^2 + b^2}{c^2}$   $\frac{1}{3}$



5.  $x$  50

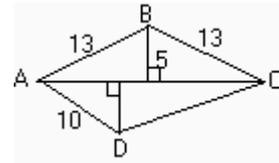
6.  $\sqrt{26} + \sqrt{10}$  8



7. The area of rectangular region  $ABCD$  84

$M(r, s, t)$  denotes the average (arithmetic mean) of  $r$ ,  $s$ , and  $t$ , and  $M(x, y)$  denotes the average of  $x$  and  $y$ .

8.  $M(70, 80, 90)$   $M(x, 90)$  where  $x = M(70, 80)$



9. The area of triangular region  $ABC$  The area of triangular region  $ABC$

$x^2 + (2\sqrt{5})^2 = 6^2$

10.  $|x|$  4

$x = y^2$   
 $1 = cy$

11.  $xc$   $y$

Cylindrical tank  $X$  has radius 4 meters and height 3 meters. Cylindrical tank  $Y$  has radius 3 meters and height 4 meters.

12. The volume of tank  $X$  The volume of tank  $Y$

$\frac{x}{y} = \frac{4}{6}$

13.  $y - x$  1

$O$  is the center of the circle.

$PQ < OP$

14.  $x$  60

COMPARISON OF TEST SCORES FOR TWO CLASS

	Number of scores	Mean score	Median score
Class A	15	80	84
Class B	30	74	72

15. The mean of the 45 scores The median of the 45 scores

16. If the temperature of a compound increases at a constant rate of 15 degrees per minute, how many minutes does it take for the temperature of the compound to increase from 60 degrees to 300 degrees?

- (A) 12  
(B) 16

- (C) 20  
(D) 24  
(E) 30
17. If  $\frac{12}{7 - \frac{r}{s}} = 2$ , which of the following must be true?  
(A)  $r = 0$   
(B)  $r = 6$   
(C)  $r = s$   
(D)  $r = 2s$   
(E)  $r = 3s$
18. If the edges of a 3-inch by 4-inch rectangular photograph were each lengthened by 50 percent, what would be the area, in square inches, of the enlarged rectangular photograph?  
(A) 18  
(B) 20  
(C) 24  
(D) 27  
(E) 30
19. If  $\frac{x}{y} = 2$  and  $\frac{1}{x} = 3$ , then  $y =$   
(A)  $\frac{1}{6}$   
(B)  $\frac{2}{3}$   
(C) 1  
(D)  $\frac{3}{2}$   
(E) 6
20. Three pumps, X, Y, and Z, removed water from a tank. Pump X removed 550 gallons, pump Y removed 1,250 gallons, and pump Z removed  $\frac{1}{3}$  of the total number of gallons removed by the three pumps combined. How many gallons of water did pump Z remove from the tank?  
(A) 450  
(B) 600  
(C) 900  
(D) 1,800  
(E) 2,700

UNITED STATES FILM BOX OFFICE RECEIPTS AND  
AVERAGE ADMISSION CHARGE  
1940-1990

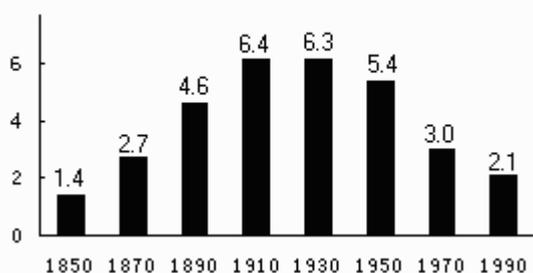
Year	Box Office Receipts* (in millions of dollars)	Average Admission Charge
1940	\$735.0	\$0.24
1950	\$1,376.0	\$0.53
1960	\$951.0	\$0.69
1970	\$1,162.0	\$1.55
1980	\$2,748.5	\$2.69
1990	\$5,021.8	\$4.75

\*Box office receipts are the total amounts collected from admission charges

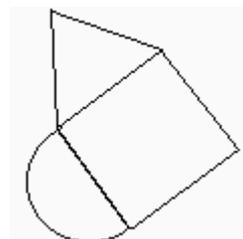
21. For the year after 1940 in which box office receipts were less than they were ten years before, what was the average admission charge?  
(A) \$0.53  
(B) \$0.69  
(C) \$1.55  
(D) \$2.69  
(E) \$4.75
22. Which of the following is closest to the ratio of the average admission charge in 1950 to that in 1990?  
(A)  $\frac{1}{2}$  9:59  
(B)  $\frac{1}{4}$   
(C)  $\frac{1}{2}$   
(D)  $\frac{1}{9}$   
(E)  $\frac{1}{15}$
23. Approximately how many admissions were paid in 1940?  
(A) 300,000  
(B) 1,800,000  
(C) 3,000,000  
(D) 177,000,000  
(E) 3,000,000,000

NUMBER OF FARMS IN THE UNITED STATES, 1850-1990

(in millions)



24. What was the percent decrease in the number of farms from 1970 to 1990 ?
- (A) 9%  
 (B) 21%  
 (C) 30%  
 (D) 70%  
 (E) 90%
25. The average acreage per farm was approximately 140 in 1910 and 220 in 1950. The ratio of the total farmland acreage in 1910 to the total in 1950 was most nearly
- (A)  $\frac{3}{4}$   
 (B)  $\frac{2}{3}$   
 (C)  $\frac{3}{5}$   
 (D)  $\frac{1}{2}$   
 (E)  $\frac{2}{5}$
26. A research scientist wants to study a certain attribute of dogs. It is estimated that approximately 5 percent of all dogs have this attribute. If the scientist wants to study a sample of  $N$  dogs having the attribute, approximately how many dogs should be screened in order to obtain the desired sample size?
- (A)  $N/5$   
 (B)  $5N$   
 (C)  $20N$   
 (D)  $105N$   
 (E)  $120N$
27. A square is inscribed in a circle. If the circle has radius 4, what is the perimeter of the square ?
- (A) 8  
 (B)  $8\sqrt{2}$   
 (C) 16  
 (D)  $16\sqrt{2}$   
 (E)  $32\sqrt{2}$
28. How many 3-digit integers, greater than 100, are there in which the sum of the digits equals 3?
- (A) Three  
 (B) Four  
 (C) Six  
 (D) Nine  
 (E) Twelve



29. An equilateral triangle with perimeter  $p$ , a square and a semicircle were joined to form the figure shown above. What is the perimeter of this figure?
- (A)  $3p$   
 (B)  $\frac{p}{2} + pp$   
 (C)  $7p + \frac{p}{2}p$   
 (D)  $\frac{7}{3}p + \frac{p}{3}p$   
 (E)  $\frac{4}{3}p + \frac{p}{6}p$
30. If  $x$  is  $11\frac{1}{9}$  percent more than  $y$ , then  $y$  is what percent less than  $x$ ?
- (A) 9%  
 (B) 10%  
 (C)  $11\frac{1}{9}\%$   
 (D)  $12\frac{1}{2}\%$   
 (E) 15%

## SECTION 5

Time –30 minutes

38 Questions

1. In spite of the fact that it is convenient to divide the life span of animals into separate stages such as pre-natal, adolescent, and senescent, these periods are not really----.
  - (A) advanced
  - (B) variable
  - (C) repeatable
  - (D) connected
  - (E) distinct
2. Although the number of reported volcanic eruptions has risen exponentially since 1850, this indicates not ---- volcanic activity but rather more widespread and ---- record keeping.
  - (A) abating..detailed
  - (B) increasing..systematic
  - (C) substantial..erratic
  - (D) stable..superficial
  - (E) consistent..meticulous
3. The challenge of interpreting fictional works written under politically repressive regimes lies in distinguishing what is ---- to an author's beliefs, as opposed to what is ---- by political coercion.
  - (A) innate.. understood
  - (B) organic.. imposed
  - (C) contradictory.. conveyed
  - (D) oblique.. captured
  - (E) peripheral.. demanded
4. I am often impressed by my own ---- other people's idiocies: what is harder to ---- is that they, in their folly, are equally engaged in putting up with mine.
  - (A) analysis of.. justify
  - (B) forbearance toward.. underestimate
  - (C) exasperation with .. credit
  - (D) involvement in .. allow
  - (E) tolerance of .. appreciate
5. Despite vigorous protestations, the grin on the teenager's face ----her denial that she had known about the practical joke before it was played on her parents.
  - (A) belied
  - (B) illustrated
  - (C) reinforced
  - (D) exacerbated
  - (E) trivialized
6. Far from undermining the impression of permanent decline, the ---- statue seemed emblematic of its ---- surroundings.
  - (A) indecorous.. opulent
  - (B) grandiose.. ramshackle
  - (C) pretentious.. simple
  - (D) ungainly.. elegant
  - (E) tawdry.. blighted
7. Despite the fact that it is almost universally ----, the practice of indentured servitude still ---- in many parts of the world.
  - (A) condemned... abates
  - (B) tolerated.. survives
  - (C) proscribed.. persists
  - (D) mandated.. lingers
  - (E) disdained.. intervenes
8. CANDY: SUGAR::
  - (A) chick: egg
  - (B) tire: rubber
  - (C) pen: ink
  - (D) mushroom: spore
  - (E) rag: scrap
9. SCRIPT: DRAMA::
  - (A) theater: play
  - (B) movement: symphony
  - (C) photograph: scene
  - (D) map: town
  - (E) score: music
10. AMBIGUOUS: UNDERSTAND::
  - (A) veracious: defend
  - (B) blatant: ignore

<p>(C) prosaic: classify (D) arcane: conceal (E) plausible: believe</p> <p>11. MERCURIAL: MOOD:: (A) callous: emotion (B) doleful: energy (C) jaundiced: attitude (D) whimsical: behavior (E) unversed: experience</p> <p>12. PRISTINE: DECAY:: (A) adequate: imprecision (B) stable: fluctuation (C) volatile: force (D) symmetric: flaw (E) valid: exception</p> <p>13. DIGRESS: EXCURSIVE:: (A) improvise: studied (B) reiterate: redundant (C) excise: prolix (D) refute: plausible (E) accede: contentious</p> <p>14. PONTIFICATE: SPEAK:: (A) indoctrinate: preach (B) impersonate: imitate (C) obey: listen (D) soar: fly (E) strut: walk</p> <p>15. OFFICIOUS: MEDDLE:: (A) disaffected: rebel (B) bustling: excel (C) profligate: conserve (D) subservient: esteem (E) acrimonious: soothe</p> <p>16. ATTENUATE: THICKNESS:: (A) separate: substance (B) ventilate: circulation (C) vaccinate: immunity (D) transfer: location (E) cool: temperature</p>	<p>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 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.</p> <p>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 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.</p> <p>17. 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.</p> <p>18. 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</p>
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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.

19. 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.

20. The passage suggests that the author would most probably agree with which of the following assessments of the results of the Space Lab experiment?

- (A) Although the results of the experiment are impressive, the experiment was too limited in scope to allow for definitive conclusions.
- (B) The results of the experiment are impressive on the surface, but the report is misleading.
- (C) The results of the experiment convincingly confirm what researchers have long suspected.
- (D) Because of design flaws, the experiment did not yield any results relevant to the issue under investigation.
- (E) The results of the experiment are too contradictory to allow for easy interpretation.

In 1923 the innovative Russian filmmaker Dziga Vertov described filmmaking as a process that leads viewers toward a "fresh perception of the world." Vertov's description of filmmaking should apply to films on the subject of art. Yet films on art have not had a powerful and pervasive effect on the way we see.

Publications on art flourish, but these books and articles do not necessarily succeed in teaching us to see more deeply or more clearly. Much writing in art history advances the discourse in the field but is unlikely to inform the eye of one unfamiliar with its polemics. Films, however, with their capacity to present material visually and to reach a broader audience, have the potential to enhance visual literacy (the ability to identify the details that characterize a particular style) more effectively than publications can. Unfortunately, few of the hundred or so films on art that are made each year in the United States are broadcast nationally on prime-time television.

The fact that films on art are rarely seen on prime-time television may be due not only to limitations on distribution but also to the shortcomings of many such films. Some of these shortcomings can be attributed to the failure of art historians and filmmakers to collaborate closely enough when making films on art. These professionals are able, within their respective disciplines, to increase our awareness of visual forms. For close collaboration to occur, professionals in each discipline need to recognize that films on art can be both educational and entertaining, but this will require compromise on both sides.

A filmmaker who is creating a film about the work of an artist should not follow the standards set by rock videos and advertising. Filmmakers need to resist the impulse to move the camera quickly from detail to detail for fear of boring the viewer, to frame the image for the sake of drama alone, to add music for fear of silence. Filmmakers are aware that an art object demands concentration and, at the same time, are concerned that it may not be compelling enough? and so they hope to provide relief by interposing "real" scenes that bear only a tangential relationship to the subject. But a work of art needs to be explored on its own terms. On the other hand, art historians need to trust that one can indicate and analyze, not solely with words, but also by directing the viewer's gaze. The specialized written language of art history needs to be relinquished or at least tempered for the screen. Only an effective collaboration

between filmmakers and art historians can create films that will enhance viewers' perceptions of art.

21. The passage suggests that a filmmaker desiring to enhance viewers' perceptions of art should do which of the following?

- (A) Rely on the precise language of art history when developing scripts for films on art.
- (B) Rely on dramatic narrative and music to set a film's tone and style.
- (C) Recognize that a work of art by itself can be compelling enough to hold a viewer's attention
- (D) Depend more strongly on narration instead of camera movements to guide the viewer's gaze.
- (E) Emphasize the social and the historical contexts within which works of art have been created.

22. The author of the passage refers to Vertov in the first paragraph most probably in order to

- (A) provide an example of how films can be used to influence perceptions
- (B) present evidence to support the argument that films have been used successfully to influence viewers' perceptions
- (C) introduce the notion that film can influence how viewers see
- (D) contrast a traditional view of the uses of film with a more modern view
- (E) describe how film can change a viewer's perception of a work of art

23. Which of the following best describes the organization of the passage?

- (A) An observation about an unsatisfactory situation is offered, the reasons for the situation are discussed, and then ways to change it are suggested.
- (B) Two opinions regarding a controversial phenomenon are contrasted, supporting evidence for each is presented, and then the two opinions are reconciled.
- (C) Criticism of a point of view is discussed, the criticism is answered, and then the criticism is applied to another point of view.
- (D) A point of view is described, evidence supporting the view is provided, and then a summary is

presented.

- (E) A strategy is presented, reasons for its past failure are discussed, and then a recommendation that will be abandoned is offered.

24. The passage is primarily concerned with

- (A) discussing why film's potential as a medium for presenting art to the general public has not been fully realized and how film might be made more effective in this regard
- (B) discussing the shortcomings of films on art and the technological innovations required to increase the impact of film on visual literacy
- (C) discussing the advantages and the disadvantages of using films rather than publications to present works of art to the general public
- (D) presenting information to support the view that films on art must focus more on education and less on entertainment in order to increase visual literacy
- (E) presenting information to support the view that films on art, because they reach a broader audience than many other kinds of media, have had greater success in promoting visual literacy

25. The author would most likely agree with which of the following statements about film and visual literacy?

- (A) Reading a publication about a work of art and then seeing a film about the same work is the most effective way to develop visual literacy.
- (B) An increase in a viewer's awareness of visual forms will also lead to an increased attention span.
- (C) Film has a great but not yet fully exploited capacity to increase viewers' awareness of visual forms.
- (D) A film that focuses on the details of a work of art will hinder the development of visual literacy.
- (E) Films on art would more effectively enhance the visual literacy of teenagers if filmmakers followed the standards set by rock videos.

26. According to the passage, art historians desiring to work with filmmakers to enhance the public's appreciation of art need to acknowledge which of the fol-

lowing?

- (A) The art historian's role in the creation of a film on art is likely to be a relatively minor one.
- (B) Film provides an ideal opportunity to acquaint viewers with a wide range of issues that relate incidentally to a work of art.
- (C) An in-depth analysis of a work of art is not an appropriate topic for a film on art.
- (D) Although silence may be an appropriate background when viewing a work of art in a museum, it is inappropriate in a film.
- (E) Film can use nonverbal means to achieve some of the same results that a spoken or written discourse can achieve.

27. Which of the following would describe the author's most likely reaction to a claim that films on art would more successfully promote visual literacy if they followed the standards set for rock videos?

- (A) Ambivalence
- (B) Indifference
- (C) Sympathy
- (D) Interest
- (E) Disdain

28. ACCESSORY:

- (A) insubordinate
- (B) invisible
- (C) of high quality
- (D) of massive proportions
- (E) of primary importance

29. CHAMPION:

- (A) emulate
- (B) disparage
- (C) compel
- (D) anticipate
- (E) disappoint

30. DECADENCE:

- (A) cheerfulness
- (B) promptness
- (C) cleanliness
- (D) wholesomeness
- (E) carefulness

31. OPACITY:

- (A) transparency
- (B) smoothness
- (C) colorlessness
- (D) elongation and thinness
- (E) hardness and durability

32. MISGIVING:

- (A) consistency
- (B) certainty
- (C) generosity
- (D) loyalty
- (E) affection

33. HARANGUE:

- (A) overtly envy
- (B) intermittently forget
- (C) gratefully acknowledge
- (D) speak temperately
- (E) sacrifice unnecessarily

34. GERMANE:

- (A) unproductive
- (B) irregular
- (C) indistinguishable
- (D) irrelevant
- (E) unsubstantiated

35. IMPUGN:

- (A) rectify
- (B) classify
- (C) vindicate
- (D) mollify
- (E) chastise

36. INEXORABLE:

- (A) discernible
- (B) quantifiable
- (C) relenting
- (D) inspiring
- (E) revealing

37. RESTIVE:

- (A) necessary

- (B) interesting
- (C) calm
- (D) healthy
- (E) deft

38. BAIT:

- (A) perplex
- (B) disarm
- (C) delude
- (D) release
- (E) fortify

## SECTION 6

Time –30 minutes

25 Questions

### Questions 1-7

A professor of economics is writing a textbook that will consist of eight chapters, numbered consecutively from 1 through 8, each of which will explain exactly one of eight subjects : N, O, R, S, T, X, Y, and Z. No subject will be explained in more than one chapter. Considerations of background knowledge and relatedness between subjects require that the order in which the eight subjects are explained be subject to the following conditions :

N and O must be explained in two successive chapters, not necessarily in that order.

R, S, and T must be explained in three successive chapters, with S explained in an earlier chapter than T is explained.

X, Y, and Z must be explained in three successive chapters, with Z explained in an earlier chapter than X is explained and in an earlier chapter than Y is explained.

R must be explained in chapter 6.

1. Which of the following is an acceptably ordered list of the subjects to be explained, in order from chapter 1 through chapter 8?

- (A) N, O, Y, Z, X, R, S, T
- (B) O, N, S, T, X, R, Y, Z
- (C) O, N, Z, X, Y, S, T, R
- (D) Z, X, Y, S, T, R, N, O
- (E) Z, X, Y, T, S, R, N, O

2. If O is explained in chapter 5, which of the following could be true?

- (A) S is explained in chapter 4.
- (B) T is explained in chapter 7.
- (C) X is explained in chapter 2.
- (D) Y is explained in chapter 1.
- (E) Z is explained in chapter 3.

3.If S is explained in an earlier chapter than N is explained, which of the following must be true?

- (A) N is explained in chapter 7.
- (B) O is explained in chapter 8.
- (C) X is explained in chapter 3.
- (D) Y is explained in chapter 2.
- (E) Z is explained in chapter 1.

4.If N is explained in the chapter immediately preceding the chapter in which Z is explained, which of the following could be explained in chapter 5?

- (A) N
- (B) O
- (C) S
- (D) T
- (E) X

5.If T is not explained in chapter 5, which of the following must be true?

- (A) N is explained in chapter 3.
- (B) O is explained in chapter 8.
- (C) S is explained in chapter 7.
- (D) X is explained in chapter 2.
- (E) Y is explained in chapter 4.

6.O can be explained in any of the following chapters EXCEPT

- (A) 2
- (B) 3
- (C) 4
- (D) 5
- (E) 7

7.If Y is explained in the chapter immediately preceding the chapter in which O is explained, which of the following must be explained in chapter 5?

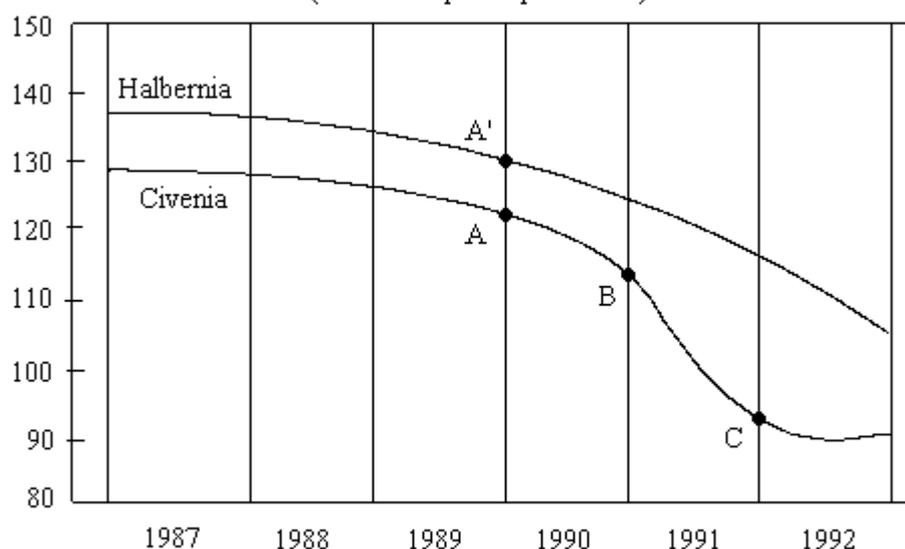
- (A) N
- (B) T
- (C) X
- (D) Y
- (E) Z

8.Salesperson : The picture tube is the central component of any television, and Picturesque televisions use the same high-quality picture tubes as those used in TruVue televisions. Since you pay a much lower price for a Picturesque, you pay a lower price for a television with the same picture quality when you buy a Picturesque instead of a TruVue.

Which of the following is an assumption that, if justified, would allow the conclusion of the salesperson's argument to be properly drawn?

- (A) TruVue televisions are much more widely advertised than are Picturesque televisions.
- (B) The picture quality of a television is determined solely by the quality of its picture tube.
- (C) A salesperson earns much less on the sale of each Picturesque television than on the sale of each TruVue television.
- (D) Many more Picturesque televisions are sold each year than TruVue television.
- (E) Picturesque televisions are assembled in the same factory that assembles TruVue televisions.

CIGARETTE SALES IN TWO NONADJACENT  
KIMMERLAND PROVINCES 1987-1992  
(millions of packs per month)



- A : Civenia institutes 40 % increase in cigarette tax  
 A' : Halbernia institutes 40 % increase in cigarette tax  
 B : Civenia begins intensive antismoking television advertising campaign  
 C : Civenia concludes intensive antismoking television advertising campaign

9. The claim that Civenia's antismoking television advertising campaign contributed significantly to the steep decline in cigarette purchases in that province during 1991 is best supported if which of the following has been true about the province of Halbernia from the beginning of 1991?
- (A) It kept its cigarette tax at the 1990 level and instituted an antismoking television advertising campaign similar to Civenia's.
- (B) It kept its cigarette tax at the 1990 level and did not institute an antismoking television advertising campaign.
- (C) It rescinded the 1990 cigarette tax increase and did not institute an antismoking television advertising campaign.
- (D) It eliminated all cigarette taxes and did not institute an antismoking television advertising campaign.
- (E) It increased its cigarette tax by an additional 40 percent over the 1990 level and instituted an antismoking television advertising campaign similar to Civenia's.
10. Which of the following, if true, most helps to explain why cigarette purchases in Civenia declined more slowly after the completion of the television antismoking advertising campaign than they did before the campaign began?
- (A) Laws restricting smoking in public places in Civenia went into effect at the beginning of 1992.
- (B) Most of those smokers in Civenia who were likely to quit or cut down on smoking had done so by the beginning of 1992.
- (C) At the beginning of 1992, health insurance companies in Civenia offered lower rates to nonsmoking residents than to those who smoked.
- (D) Cigarette companies increased their prices to Civenia distributors at the beginning of 1992 to offset the decrease in the number of packs sold.
- (E) Some cigarette companies withdrew their advertisements from Civenia newspapers and magazines at the beginning of 1992.

A real estate agent will show exactly five apartments, one after another, in a single afternoon. The apartments will be selected from among four large apartments—G, H, J, and K—and three small apartments—P, Q and R. The agent will show three large apartments and two small apartments. The agent's selection of apartments and the order in which they will be shown are constrained as follows :

The two small apartments selected must be shown second and fourth, respectively.

H and Q cannot both be shown.

If G is shown, it must be shown first.

If P is shown, H must also be shown.

If J and K are both shown, J must be shown at some time before K is shown.

If R and P are both shown, R must be shown at some time before P is shown.

11. Which of the following can be the apartments selected in an order, from first through fifth, in which they can be shown?

- (A) G, H, R, K, P
- (B) G, Q, J, P, K
- (C) G, Q, J, R, K
- (D) H, P, J, R, K
- (E) J, Q, H, P, K

12. Which of the following is a pair of apartments that CANNOT both be shown?

- (A) G and H
- (B) G and P
- (C) H and J
- (D) P and Q
- (E) Q and R

13. If Q and K are both shown, which of the following must be true?

- (A) J is shown third.
- (B) J is shown fifth.
- (C) K is shown third.
- (D) Q is shown second.
- (E) Q is shown fourth.

14. If R is shown fourth, which of the following must be true?

- (A) H is shown first.
- (B) H is shown third.
- (C) K is shown third.
- (D) P is shown second.
- (E) Q is shown second.

15. If J is shown first, then a pair of apartments that can be shown fourth and fifth, respectively, are

- (A) K and P
- (B) K and R
- (C) P and K
- (D) Q and K
- (E) R and K

Out of nine nominees, seven will be selected to form a committee. Exactly four of the nine nominees—two women and two men? belong to party P; another three—one woman and two men—belong to party Q, and the remaining two? one woman and one man—belong to party R. The rules governing the selection of the committee are as follows :

At least three women must be selected.

No party can have more than three of its members selected.

16. Which of the following is an acceptable committee?

	<u>Party P</u>	<u>Party Q</u>	<u>Party R</u>
(A)	1 woman 2 men	---	1 woman 1 man
(B)	2 women 1 man	---	1 woman ---
(C)	2 women 2 men	1 woman 1 man	---
(D)	2 women 1 man	1 woman 2 men	---
(E)	---	1 woman 2 men	1 woman 1 man

17. If both of the men belonging to party P are selected, which of the following must be true?

- (A) More men than women are selected.
- (B) More women than men are selected.

- (C) More members of party P than members of party Q are selected.
- (D) More members of party Q than members of party R are selected.
- (E) More women than members of party Q are selected.
- 18.If more women than men are selected, which of the following must be true?
- (A) The man belonging to party R is selected
- (B) At least one of the men belonging to party Q is selected.
- (C) Members of party Q outnumber members of party P on the committee.
- (D) Members of party P outnumber members of party Q on the committee.
- (E) There are equal numbers of members of party P and members of party Q on the committee.
- 19.Which of the following can be true?
- (A) All of the members of party P are selected.
- (B) The only members of party P who are selected are men.
- (C) The only members of party P who are selected are women.
- (D) The only nominees selected who are not members of party P are men.
- (E) The only nominees selected who are not members of party P are women.
- 20.Which of the following must be true?
- (A) Exactly four women are selected.
- (B) Exactly four men are selected.
- (C) At least one nominee belonging to party R is selected.
- (D) At least three of the nominees belonging to party P are selected.
- (E) All three of the nominees belonging to party Q are selected.
- 21.If one of the people not selected is the woman belonging to party Q, which of the following must be true?
- (A) A man belonging to party P is not selected.
- (B) A man belonging to party Q is not selected.
- (C) The man belonging to party R is not selected.
- (D) A woman belonging to party P is not selected.
- (E) The woman belonging to party R is not selected.
- 22.If members of party Q outnumber members of party P on the committee, which of the following can be true?
- (A) The man belonging to party R is not selected.
- (B) The woman belonging to party R is not selected.
- (C) Both of the men belonging to party P are selected.
- (D) All of the women who were nominated are selected.
- (E) All of the men who were nominated are selected.
- 23.In a recent film set in seventeenth-century Europe, the hero is seen doing the crawl, a swimming stroke not known in Europe before the 1920's.However, since moviegoers obviously are not experts in the history of swimming strokes, for most of the film's audiences this blunder clearly cannot have interfered with whatever sense of historical authenticity the film otherwise achieved.
- Which of the following, if true, most seriously weakens the argument given?
- (A) The film was widely praised for being historically plausible, even though it portrayed many events that were not historically attested.
- (B) The scene that shows the film's hero doing the crawl is a rescue scene pivotal to the film's action, and parts of it are even shown a second time, in a flashback.
- (C) Makers of historical films, even of those set as recently as the nineteenth century, routinely strike compromises between historical authenticity and the need to keep their material accessible to a modern audience, as in the actors' speech patterns.
- (D) The crawl that European swimmers used in the 1920's was much less efficient and more awkward-looking than the crawl that is currently taught.

- (E) A slightly earlier film featuring an eighteenth century sea battle in Europe was ridiculed in numerous popular reviews for the historical lapse of showing a sailor doing the crawl in swimming to safety.

24. The government of Pontran claims that Tor City, one of the six major cities in that country, is alone among Pontran's cities in having sustained strong job growth this year. Clearly, however, any job growth this year. Clearly, however, any job growth there must be purely imaginary; in fact, in Tor City and only there, more people are unemployed this year than were last year.

The argument countering the government's claim depends on the assumption that :

- (A) unemployed workers in Pontran did not, in significant numbers, move to Tor City when the government claimed Tor City had strong job growth
- (B) the unemployment rate in Tor City is higher year than in any previous year
- (C) actions taken by the government of Pontran significantly affect the unemployment rate in Tor City
- (D) the unemployment rate in Tor City, though increased, is still the lowest of any city in Pontran
- (E) there is no significant seasonal variation in the unemployment rate for Pontran as a whole

25. As people age, the number of calories they need each day decreases while their daily requirement of vitamin B<sub>6</sub> increases. Clearly, unless older people take B<sub>6</sub> supplements or eat a diet that contains more B<sub>6</sub> than did the diet they ate when they were young adults, there is little likelihood that they will get B<sub>6</sub> in needed amounts.

Which of the following would be most helpful to know to evaluate the argument?

- (A) Whether the relative decrease in the daily requirement of calories is greater than the relative increase in the daily requirement of vitamin B<sub>6</sub>.
- (B) Whether the form of vitamin B<sub>6</sub> found in dietary supplements is more readily absorbed and utilized by the body than is the form of this vitamin that

is found in food.

- (C) Whether the consequences of not getting vitamin B<sub>6</sub> in required daily amounts are more serious for older people than for young adults.
- (D) Whether the diets of most people, when they are young adults, include vitamin B<sub>6</sub> in amounts far in excess of their daily needs.
- (E) Whether the diets of older people are more likely than those of young adults to include one or more meals a day that are devoid of foods containing vitamin B<sub>6</sub>.