GRE 最新试题汇编

2000.9

目　　录

1990 年 4 月

SECTION 1

Time—30 minutes

38 Questions

1. Even though formidable winters are the norm in the Dakotas, many people were unprepared for the ____ of the blizzard of 1888.
   (A) inevitability (B) ferocity (C) importance
   (D) probability (E) mildness
2. As the first streamlined car, the Airflow represented a ____ in automotive development, and although its sales were ____, it had an immense influence on automobile design.
   (A) milestone..disappointing
   (B) breakthrough..significant
   (C) regression..unimportant
   (D) misjudgment..calculable
   (E) revolution..tolerable
3. While nurturing parents can compensate for adversity, cold or inconsistent parents may ____ it.
   (A) exacerbate (B) neutralize (C) eradicate
   (D) ameliorate (E) relieve
4. The architects of New York's early skyscrapers, hinting here at a twelfth-century cathedral, there at a fifteenth-century palace, sought to legitimize the city's social strivings by ____ a history the city did not truly ____.
   (A) revealing..deserve (B) displaying..desire
   (C) evoking..possess (D) preserving..experience
   (E) flouting..believe
5. Actual events in the history of life on Earth are accidental in that any outcome embodies just one ____ among millions; yet each outcome can be ____ interpreted.
   (A) coincidence..randomly
   (B) relationship..predictably
   (C) fact..readily (D) happening..uniquely
   (E) possibility..rationally
6. Although some of her fellow scientists ____ the unorthodox laboratory methodology that others found innovative, unanimous praise greeted her experimental results: at once pioneering and ____.
   (A) ignored..untrustworthy
   (B) complimented..foreseeable
   (C) welcomed..mundane
   (D) decried..unexceptionable
   (E) attacked..inconclusive
7. Early critics of Emily Dickinson's poetry mistook for simple-mindedness the surface of artlessness that in fact she constructed with such ____.
   (A) astonishment (B) vexation
   (C) allusion (D) innocence
   (E) cunning
8. MICROSCOPE: SMALL::
   (A) telescope: distant
   (B) monocle: single
   (C) lens: refracted
   (D) camera: photographic
   (E) periscope: military
9. EXHIBITION: PAINTING::
   (A) concert: symphony
   (B) accompaniment: melody
   (C) audition: chorus
   (D) improvisation: solo
   (E) rehearsal: orchestra
10. STERILIZATION: MICROORGANISMS::
    (A) amnesty: deserters
    (B) defamation: enemies
    (C) inoculation: vaccine
    (D) deforestation: trees
    (E) assassination: murderers
11. RUFFLE: SHIRT::
    (A) rafter: roof (B) molding: cabinet
    (C) gate: path (D) curb: sidewalk
    (E) shade: window
12. EMIGRATE: EXILE::
    (A) select: organize
    (B) appoint: nominate
    (C) capture: imprison
    (D) enlist: conscript
    (E) contribute: deduct
13. BARRAGE: EXPLOSIVES::
    (A) cacophony: sounds
    (B) deluge: rain
    (C) vista: sights
    (D) grenade: bombs
    (E) volcano: lava
14. WARY: GULLED::
    (A) passionate: moved
    (B) taciturn: goaded
    (C) loquacious: befriended
    (D) vigilant: ambushed
    (E) shrill: satisfied
15. WILLFULNESS: HEADSTRONG::
    (A) glibness: astute
    (B) determination: attentive
    (C) elegance: grandiose
    (D) subservience: fawning
    (E) anxiety: pessimistic
16. UNTENABLE: DEFENDED
    (A) valuable: insured
    (B) fordable: crossed
    (C) unjustifiable: forgiven
    (D) unpretentious: admired
    (E) invulnerable: injured

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

tions from the rock interfaces. Then the data acquired at each of the specific source locations are combined to generate a physical profile of the subsurface, which can eventually be used to select targets for drilling.

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

18. According to the passage, in the seismic-reflection
(A) presence of unrelated wave trains
(B) placement of the seismic instruments
(C) number of sources in the grid pattern
(D) nature of the reflectivity of the rock interfaces
(E) properties of rocks through which the wave train has traveled

19. It can be inferred from the passage that the seismicreflection method would be likely to yield an inaccurate physical profile of the subsurface in which of the following circumstances?
(A) If the speed at which the wave train moved downward changed
(B) If the receiver were not positioned directly at the wave-train source
(C) If the rock on one side of a rock interface had similar elastic characteristics to those of the rock on the other side
(D) If the seismic records obtained for the different sources in a grid were highly similar to each other
(E) If there were no petroleum deposits beneath the area defined by the grid of wave-train sources

20. Which of the following best describes the organization of the passage?
(A) A method is criticized, and an alternative is suggested.
(B) An illustration is examined, and some errors are exposed.
(C) An assertion in made, and a procedure is outlined.
(D) A series of examples is presented, and a conclusion is drawn.
(E) A hypothesis is advanced, and supporting evidence is supplied.

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

The implication of the papyrus administered a severe shock to the vast majority of classical scholars who had confidently asserted that not only the role of the chorus but also language, metrics, and characterization all pointed to an early date. The discovery has resulted in no less than a total reevaluation of every chronological criterion that has been applied to or derived from Aeschylus' plays. The activity has been brisk, and a new creed has now spread. The activity has been brisk, and a new creed has now spread. The prominence of the chorus in *The Suppliant Women* now is seen not as a sign of primitivism but as analogous to the massive choral songs of the *Oresteia*. Statistics have been formulated, or reformulated, to show that stylistically *The Suppliant Women* does actually occupy a position after *The Persians* and *Seven Against Thebes*, which now become the "primitive" plays, and before the *Oresteia*. While the new doctrine seems almost certainly correct, the one papyrus fragment raises the specter that another may be unearthed, showing, for instance, that it was a posthumous production of the Danaid tetralogy which bested Sophocles, and throwing the date once more into utter confusion. This is unlikely to happen, but it warns us that perhaps the most salutary feature of the papyrus scrap is its message of the extreme difficulty of classifying and categorizing rigidly the development of a creative artist.

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

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

work.

23. According to the passage, in the absence of definite knowledge concerning the dates of composition of ancient literary works, literacy historians do which of the following when trying to establish the chronology of an author's work?
(A) Make assumptions about a single work's date of composition if such assumptions would not seriously affect interpretations of other works by the same author.
(B) Draw inferences concerning the date of a work's composition based on evidence internal to that work and on the author's other works.
(C) Ignore the date of a work's composition which is supplied by archaeological research when literary factors internal to the work contradict that date.
(D) Refrain from speculation concerning a work's date of composition unless archaeological finds produce information concerning it.
(E) Estimate the date of a work's composition without attempting to relate it to the author's development as an artist.

24. It can be inferred from the passage that which of the following plays or groups of plays is considered the latest in the date of its composition?
(A) *The Persians*
(B) The Danaid tetralogy
(C) The *Oresteia*
(D) *Seven Against Thebes*
(E) *The Suppliant Women*

25. With which of the following statements regarding the chronological criteria mentioned in lines 33-34 would the author be most likely to agree?
(A) Such criteria, whether applied to or derived from the plays, should only be used to confirm already existing knowledge.
(B) Such criteria, although derived from reliable external and internal evidence, should be changed continually to avoid rigidity in thinking.
(C) Such criteria, based on statistical analysis, are inherently more reliable than those of forty years ago.
(D) Such criteria, even when unsupported by external evidence, can resolve most questions.
(E) Such criteria, based on often ambiguous internal evidence, can lead to erroneous reconstructions of the chronology of an author's work.

26. The author's attitude toward the "activity" mentioned in line 35 and its consequences can best be described as one of
(A) amused tolerance
(B) mocking envy
(C) grave doubt
(D) angry disapproval
(E) unrestrained enthusiasm

27. The allusion to the hypothetical papyrus fragment in lines 45-49 does which of the following?
(A) Supports an argument concerning the date of *The Suppliant Women*.
(B) Refutes the views of the majority of scholars concerning the Oxyrhynchus papyrus find.
(C) Predicts the future results of archaeological research proposed in the passage.
(D) Undermines the validity of the currently accepted chronology of Aeschylus' works.
(E) Qualifies the author's agreement with the "new creed" developed since the Oxyrhynchus papyrus find.

28. SHALLOW:
(A) arbitrary (B) painstaking
(C) profound (D) restive
(E) contrite

29. IMMUNE:
(A) toxic (B) virulent
(C) convalescent (D) having little energy
(E) having no resistance

30. PROPAGATE:
(A) hesitate to join (B) hope to prosper
(C) decide to accept (D) begin to falter
(E) fail to multiply

31. LULL:
(A) pronounced interest
(B) intense discussion
(C) speedy resolution
(D) increased activity
(E) enhanced performance

32. PERPETUAL:
(A) antecedent (B) coincident
(C) intermittent (D) precipitous
(E) languorous

33. ACCOLADE:
(A) guarded emotion (B) scarce resource
(C) temporization (D) repercussion
(E) criticism

34. GAMBOL:
(A) admit (B) plod
(C) ruin (D) follow
(E) fret

35. REFUTATION:
(A) approval (B) verification
(C) amplification (D) concurrence
(E) computation

36. REQUITE:
(A) incite (B) applaud
(C) consume quickly (D) make inhospitable
(E) leave unrepaid

37. REVERE:
(A) imitate (B) dismiss
(C) confuse (D) profane
(E) disgrace

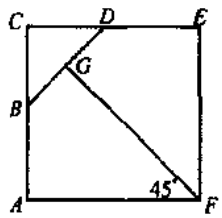
38. MOLLIFY:
(A) ire (B) commence
(C) abate (D) oppose
(E) infuse

SECTION 2

Time—30 minutes

30 Questions

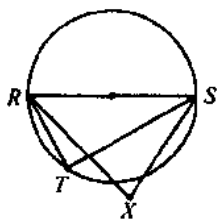
	Column A	Column B
	A team won 75 percent of the 24 games it played.	
1.	The number of games the team won	20
2.	$(4)(10^5)$	400,000
	$rt = 0$ $t \neq 0$	
3.	r	0
4.	$8 - (-12) - 5$	$5 + (-8) + 12$
	Seven cars were used to transport the members of a chess team to their match, and each car contained either 4 team members or 3 team members.	
5.	The total number of members on the chess team	25
6.	$\sqrt{41} + \sqrt{59}$	10
	$2x + 5y = 24$ $1 \leqslant x \leqslant 3$	
7.	x	y
	$x > 0$	
8.	$x + 1$	x^2



$ACEF$ is a square.

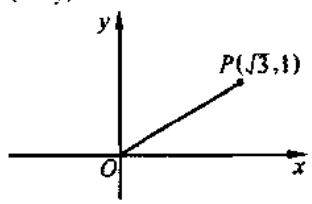
The area of triangular region BCD is 1.

9.	The area of region $ABGF$	3.5
10.	The area of a rectangular region with sides of lengths 25 and 3.1	The area of a circular region with radius 5
11.	The ratio of the lesser of two consecutive positive integers to the greater	$\frac{2}{3}$



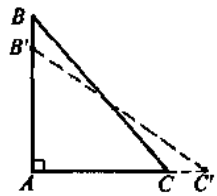
RS is a diameter of the circle.

	Column A	Column B
12.	The measure of $\angle RTS$	The measure of $\angle RXS$
	$x + y = 2$ $xy = -3$	
13.	$(x - y)^2$	16



In the rectangular coordinate system, segment OP is rotated counterclockwise through an angle of 90° to position OQ (not shown).

14.	The x-coordinate of point Q	-1



Triangular garden ABC is redesigned by increasing the length of AC by 20 percent to point C' and decreasing the length of AB by 20 percent to point B'.

15.	The area of the original garden ABC	The area of the redesigned garden $AB'C'$

16. $\dfrac{\frac{1}{3} + \frac{1}{4}}{\frac{1}{3} - \frac{1}{4}} =$

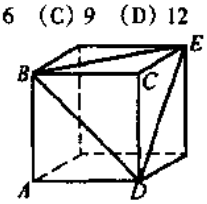
(A) 0 (B) $\frac{1}{7}$ (C) $\frac{1}{2}$ (D) 1 (E) 7

17. A train travels 60 miles per hour for 3 hours and then 45 miles per hour for 2 hours. What is the train's average speed in miles per hour during the 5-hour period?

(A) 55 (B) 54 (C) $52\frac{1}{2}$ (D) 51 (E) 50

18. If $4x$ is 9 greater than the sum of $3y$, then x is how much greater than y?

(A) 3 (B) 6 (C) 9 (D) 12 (E) 15



19. Each edge of the cube shown above has length s. What is the perimeter of $\triangle BDE$?

(A) $3s$ (B) $6s$ (C) $\frac{s\sqrt{3}}{2}$ (D) $3s\sqrt{2}$

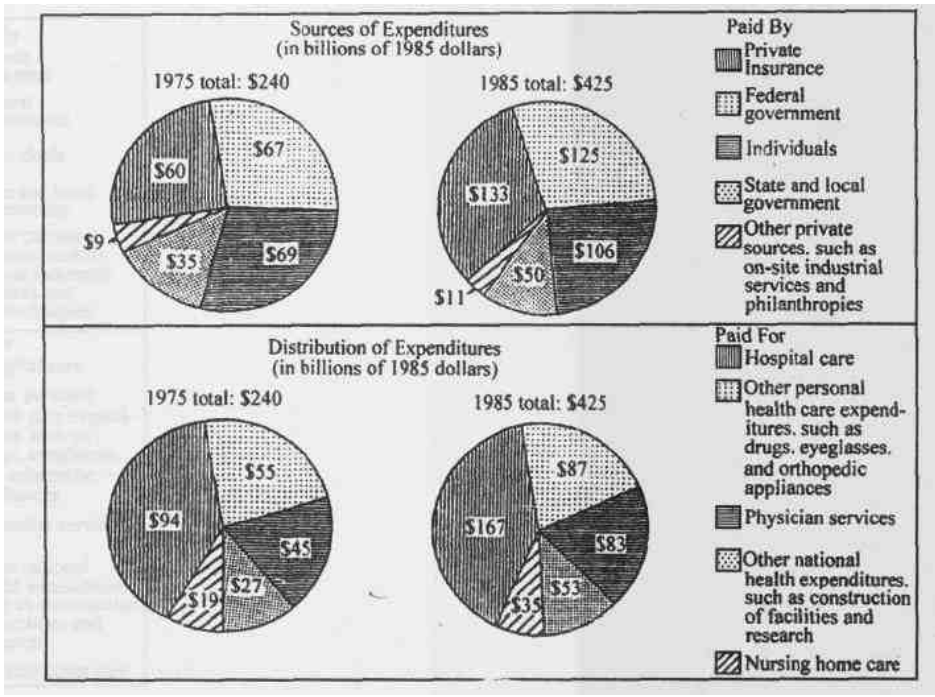
(E) $2s + s\sqrt{2}$

20. If the perimeter of a triangle is 18, then the length of one of the sides CANNOT be

(A) 1 (B) 3 (C) 6 (D) 8 (E) 9

Questions 21-25 refer to the following graphs. All references to "dollars" in these questions are the 1985 dollars referred to in the graphs.

TOTAL EXPENDITURES FOR MEDICAL CARE IN THE UNITED STATES
1975 AND 1985



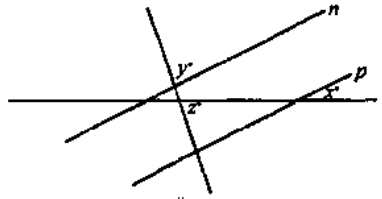
21. The category that accounted for $ 27 billion of the distribution of medical expenditures in 1975 accounted for how many billion dollars of the distribution of medical expenditures in 1985?
(A) 19 (B) 22 (C) 30 (D) 35 (E) 53

22. In 1985 the amount of medical expenditures paid by the federal government was how many times the amount paid by state and local government?
(A) $1\frac{1}{4}$ (B) $1\frac{3}{4}$
(C) $2\frac{1}{4}$ (D) $2\frac{1}{2}$
(E) $2\frac{3}{4}$

23. In 1985 approximately what percent of all medical expenditures was paid for physician services?
(A) 20% (B) 25% (C) 30% (D) 35%
(E) 40%

24. The percent of total medical expenditures paid by private insurance in 1975 was most nearly equal to the percent of total medical expenditures paid by which of the following in 1985?
(A) Private insurance
(B) Federal government
(C) Individuals
(D) State and local government
(E) Other private sources

25. What was the approximate percent increase in total medical expenditures from 1975 to 1985?
(A) 44% (B) 77% (C) 85% (D) 88%
(E) 135%



26. In the figure above, $n \parallel p$. If $x = 30$ and $y = 80$, what is the value of z?
(A) 70 (B) 65 (C) 60 (D) 55 (E) 50

27. Of the following, which is the closest approximation to $\sqrt{\frac{(97.942)(0.261)}{(0.51)^2}}$?
(A) 1 (B) 5 (C) 10 (D) 20 (E) 100

28. If x and y lie on the number line shown above, which of the following statements must be true?
(A) $\frac{1}{y} > 2$ (B) $\frac{1}{x} < 2$
(C) $\frac{1}{x} < \frac{1}{y}$ (D) $x + y < 1$
(E) $xy < \frac{1}{2}$

29. If the product of five integers is an odd integer, exactly how many of the five must be odd?
(A) One (B) Two (C) Three (D) Four (E) Five

30. One-k th of a circular pie has been served. If the rest of the pie is divided into n equal servings, then each of these servings is what fraction of the whole pie?

(A) $\frac{1}{nk}$ (B) $\frac{k-n}{nk}$

(C) $\frac{1}{n-k}$ (D) $\frac{k-1}{nk}$

(E) $\frac{k-1}{n}$

SECTION 3

Time—30 minutes

25 Questions

Questions 1-6

A group of eight people is going camping in tents—tent 1, tent 2, and tent 3. The group consists of two women—V and X—and six girls—K, L, M, O, P, and T. Tent assignments will be made as follows:

There will be no more than three persons in a tent. V will be in tent 1.

V will not be in a tent with her daughter O, and X will not be in a tent with her daughter P.

K, L, and M, who are close friends, will be in a tent together.

1. Which of the following can be in tent 1?
(A) K (B) L (C) M (D) O (E) X

2. If K is in tent 2, which of the following must be true?
(A) M is in tent 3. (B) O is in tent 3.
(C) P is in tent 2. (D) T is in tent 1.
(E) X is in tent 3.

3. If the two women are together in a tent, which of the following is a pair of girls who must be together in a tent?
(A) K and P (B) L and T
(C) M and O (D) O and P
(E) P and T

4. If X is in tent 2, which of the following must be in the same tent as V?
(A) K (B) L (C) O (D) P (E) T

5. If L is in tent 3 and the two women are not in the same tent as each other, the people in tent 2 can be
(A) M and T only (B) X and T only
(C) K, M, and O (D) O, P, and X
(E) O, T, and X

6. If V and T are together in a tent, it is possible that
(A) K and P are together in a tent
(B) O and T are together in a tent
(C) O and X are the only people in tent 2
(D) P and X are the only people in tent 3
(E) T aad V are the only people in tent 1

7. Grammarians have for years condemned as ungrammatical the English phrase "between you and me," with the objective case after a preposition. Such condemnations, however, are obviously unfounded, because Shakespeare himself, in *The Merchant of Venice*, wrote, "All debts are cleared between you and I."
(A) In his plays, Shakespeare intentionally had some of his characters use phrases he considered ungrammatical.
(B) The phrase "between you and I" appears infrequently in Shakespeare's writings.
(C) The more modern an English word or phrase, the less likely that modern grammarians will consider it acceptable or formal usage.
(D) Many modern speakers of English sometimes say "between you and I" and sometimes say "between you and me."
(E) Most native speakers of English who choose to say "between you and I" do so because they know that Shakespeare used that phrase.

8. Around 1850 there were about 800 farms in Otsego County. By the 1950's the number of farms had dropped to around 400. By 1988 there were only 81 farms in operation. Therefore, the amount of land in the county that is devoted to farming has dropped by about 90 percent in the past 140 years.
A major flaw in the argument above is that it
(A) counts the number of farms only approximately
(B) fails to say whether the use now being made of the land previously devoted to farming is income-producing
(C) ignores the possibility that the average size of farms has changed
(D) gives data for only 3 of the past 140 years
(E) does not take into account the type of product or crop each farm yields

9. Senator: Jones is highly qualified for appointment as a judge, as evidenced by Jones's receiving a unanimous vote of "qualified" on the formal rating scale used by the Lawyers' Committee. That committee advises the Senate on judicial appointments.
Which of the following, if true, is the best reason or dismissing the senator's claim that Jones is highly qualified? (A) Several members of the Lawyers' Committee are not themselves qualified or judicial appointments.
(B) The Lawyers' Committee does not advise the Senate on all judicial appointments.
(C) The Lawyers' Committee gives a unanimous vote of "qualified" only to those candidates for judicial appointments who meet the committee's stringent standards for appropriate prior experience and ethical conduct.
(D) The Lawyers' Committee gives a unanimous vote of either "highly qualified" or "very highly qualified" to 95 percent of all candidates for judicial appointments.
(E) Jones, like most lawyers, is a member of the professional organization that originally suggested the establishment of the Lawyers' Committee.

Questions 10-13

On a tax form, a taxpayer is filling in numbers on eleven lines—F, G, H, I, K, L, M, Q, R, V, and Z—according to the following instructions and no others:

Line F must be derived from lines G, H, and V as G plus H minus V.

Line L must be derived from lines I and K as I plus K.

Line Q must be derived from lines L and M as L minus M.

Line R must be derived from lines Q and F as Q minus F.

Line V must be derived from lines L as five percent of L.

Line Z must be derived from line R as half of R.

10. V cannot be derived unless which of the following is known?
(A) F (B) G (C) H (D) I (E) M

11. F cannot be derived unless which of the following is known?
(A) K (B) M (C) Q (D) R (E) Z

12. It is necessary for the taxpayer to know H before the taxpayer can derive
(A) L (B) M (C) Q (D) R (E) V

13. If the taxpayer knows I, H, K, and M but not G. which of the following is a pair of lines that the taxpayer can derive?
(A) F and V (B) L and Q
(C) L and R (D) R and V
(E) R and Z

Questions 14-19

At a conference, exactly seven speakers—Qualls, Ramirez, Smith, Titus, Umana, Vines, and Wertz—are to speak. In the schedule for the conference, there are seven time slots available for speakers, and the time slots are numbered consecutively 1 through 7. Exactly one speaker must be assigned to each time slot according to the following conditions:

Qualls must speak immediately before or immediately after Titus speaks.

Titus must speak sometime before Remirez speaks. Smith must speak in either time slot 1 or time slot 7. Vines must speak in time slot 4.

14. Which of the following must be true?
(A) Qualls speaks sometime before Ramirez speaks.
(B) Qualls speaks sometime before Vines speaks.
(C) Smith speaks sometime before Titus speaks.
(D) Vines speaks sometime before Ramirez speaks.
(E) Wertz speaks sometime before Vines speaks.

15. If Ramirez speaks immediately before Vines speaks, which of the following could be true?
(A) Qualls speaks in time slot 5.
(B) Smith speaks in time slot 1.
(C) Titus speaks in time slot 3.
(D) Umana speaks in time slot 2.
(E) Wertz speaks in time slot 6.

16. If Ramirez speaks sometime before Smith speaks, which of the following must be true?
(A) Qualls speaks sometime before Umana speaks.
(B) Ramirez speaks sometime before Vines speaks.
(C) Titus speaks sometime before Vines speaks.
(D) Umana speaks sometime before Ramirez speaks.
(E) Wertz speaks sometime before Qualls speaks.

17. If Umana is to speak in time slot 2, there will be a total of how many scheduling possibilities from which to select the schedule of speakers?
(A) One (B) Two (C) Three
(D) Four (E) Six

18. If Wertz speaks in time slot 7, any of the following pairs of speakers could speak in time slots immediately adjacent to each other EXCEPT
(A) Qualls and Ramirez
(B) Ramirez and Umana
(C) Smith and Qualls
(D) Smith and Titus
(E) Vines and Umana

19. If Umana speaks sometime before Qualls speaks, which of the following must be true?
(A) Smith speaks sometime before Umana speaks.
(B) Titus speaks sometime before Vines speaks.
(C) Umana speaks sometime before Wertz speaks.
(D) Vines speaks sometime before Ramirez speaks.
(E) Wertz speaks sometime before Simth speaks.

Questions 20-22

The relative hardness of five minerals —N, O, R, S, and T—is to be determined. One mineral is harder than another if drawing an edge of the first mineral across a surface of the second mineral produces a scratch; otherwise, the first mineral is either equally hard or not as hard as the second. The following results have so far been obtained:

N scratches O.

R scratches S.

O does not scratch T.

20. Which of the following could be the five minerals in order from the hardest to the softest if no two of them are equally hard?
(A) N, R, T, S, O (B) N, T, S, O, R
(C) R, N, O, S, T (D) R, O, S, T, N
(E) T, N, S, R, O

21. If O scratches S, which of the following must be true?
(A) N is harder than R. (B) N is harder than T.
(C) R is harder than N. (D) R is harder than T.
(E) T is harder than S.

22. If S scratches T, any of the following pairs of minerals could be the same hardness as each other EXCEPT
(A) N and R (B) N and S
(C) N and T (D) O and T
(E) R and T

23. The average life expectancy of the population of Japan has risen steadily since 1960 and is now the highest national average in the world, even though heart disease among the Japanese has increased since they began to eat more of the fatty foods typical of the diets of people in Western countries. Which of the following, if true, best helps to explain the steady rise in life expectancy that is cited above?
(A) The average Westerner is still five times more likely to develop heart disease than is the average Japanese person.
(B) Since 1960 the decline in illnesses that kill more Japanese people than does heart disease has been greater than the increase in heart disease.
(C) The life expectancy of the average Westerner has risen at a slower rate since 1960 than it did before 1960.
(D) The Japanese diet has traditionally included many non-fatty foods that are thought to reduce the risk of developing heart disease.
(E) The life-style of some Japanese people includes regular exercise, which is thought to help the heart resist the loss of strength that accompanies aging.

24. For some women the cost of giving birth can be an unexpectedly large burden. The average normal birth now costs $3,200, and a birth with complications can cost thousands of dollars more. Of women in the primary childbearing age range of eighteen to twenty-four, who account for about 40 percent of all births in this country annually, more than 25 percent have no health-care insurance to pay maternity costs.
If the statements above are true, which of the following must also be true?
(A) Each year, about 75 percent of all births in this country are to women who have health-care coverage of maternity costs.
(B) Each year, about 60 percent of all births is this country are to women who are younger than eighteen or older than twenty-four.
(C) For an average birth, health-care insurance pays about 75 percent of $3,200.
(D) In this country, about 75 percent of the women who do not have health-care overage of maternity costs are younger than eighteen or older than twenty-four.
(E) In this country, nearly 75 percent of the women in the primary childbearing age range give birth with no complications.

25. One theory of the Moon's origin is that the Earth, early in

its development, was a rapidly rotating body of molten rock in which most of the iron had settled to the core; some of this fluid was cast off from the surface of the spinning mass and later solidified to form the Moon.

Which of the following conclusions can best be supported by the theory above of the Moon's origin, if that theory is correct?

(A) The Moon is the only sizable heavenly body in orbit around the Earth.

(B) The Moon has proportionally less iron at its core than the Earth does.

(C) The surface of the Moon solidified after the surface of the Earth did.

(D) Most of the fluid cast off from the Earth was dispersed into outer space.

(E) The Moon, like the Earth, has a solid surface and a molten core.

SECTION 5

Time—30 minutes

38 Questions

1. This project is the first step in a long-range plan of research whose ____ goal, still many years off, is the creation of a new prototype.
   (A) cooperative (B) reasoned
   (C) original (D) ultimate
   (E) intentional
2. Eric was frustrated because, although he was adept at making lies sound ____, when telling the truth, he ____ the power to make himself believed.
   (A) plausible..lacked (B) convincing..held
   (C) honest..found (D) true..acquired
   (E) logical..claimed
3. In certain forms of discourse such as the parable, the central point of a message can be effectively communicated even though this point is not ____.
   (A) preferred (B) explicit
   (C) inferable (D) discerned
   (E) illustrated
4. Always circumspect, she was reluctant to make judgments, but once arriving at a conclusion, she was ____ in its defense.
   (A) nonplused (B) obsequious
   (C) intransigent (D) deferential
   (E) negligent
5. The techniques now available to livestock breeders will continue to be ____, but will probably be ____ by new ones under development.
   (A) fruitful..reversed (B) refined..upgraded
   (C) inconvenient..reassessed
   (D) used..supplemented
   (E) harmless..improved
6. Any population increase beyond a certain level necessitates greater ____ vegetable foods; thus, the ability of a society to choose meat over cereals always arises, in part, from ____ the number of people.
   (A) reliance on..replenishing
   (B) production of..estimating
   (C) spending on..concealing
   (D) recourse to..limiting
   (E) attention to..varying
7. Ethnologists are convinced that many animals survive through learning—but learning that is ____ their genetic programming, learning as thoroughly ____ as the most instinctive of behavioral responses.
   (A) superseded by..primitive
   (B) compatible with..transient
   (C) complementary to..familiar
   (D) derived from..inventive
   (E) dictated by..stereotyped
8. OSTRICH: BIRD::
   (A) caterpillar: moth (B) lizard: frog
   (C) bud: leaf (D) tiger: cat
   (E) gust: storm
9. WARDROBE: CLOTHES::
   (A) stove: crockery (B) bookcase: books
   (C) drawer: shelves (D) pantry: medicine
   (E) necklace: earrings
10. PRACTICING: EXPETISE::
    (A) thinking: logic (B) writing: clarity
    (C) growing: health (D) exercising: strength
    (E) eating: nutrition
11. ARTERY: PLAQUE::
    (A) river: levee (B) track: switch
    (C) channel: silt (D) information: flow
    (E) tunnel: wall
12. ANECDOTE: STORY::
    (A) film: theater (B) chapter: novel
    (C) lyric: song (D) joke: parody
    (E) skit: play
13. SUPPLANT: REPLACE::
    (A) snatch: take (B) beg: invite
    (C) convict: accuse (D) savor: gulp
    (E) miss: lose
14. ALLERGY: REACTION::
    (A) rash: body (B) lancet: instrument
    (C) antihistamine: symptom
    (D) cocoon: skeleton (E) pollen: flower
15. APHORISTIC: TERSE::
    (A) eloquent: ornate (B) esoteric: important
    (C) hyperbolic: exaggerated
    (D) metaphorical: fantastic
    (E) equivocal: straightforward
16. ZEALOUS: ENTHUSIASTIC::
    (A) pedantic: educated (B) flamboyant: stylish
    (C) cautious: prudent (D) pious: virtuous
    (E) idolatrous: devoted

Scholars often fail to see that music played an important role in the preservation of African culture in the United States. They correctly note that slavery stripped some cultural elements from Black people—their political and economic systems—but they underestimate the significance of music in sustaining other African cultural values. African music, unlike the music of some other cultures, was based on a total vision of life in which music was not an isolated social domain. In African culture music was pervasive, serving not only religion, but all phases of life, including birth, death, work, and play. The methods that a community devises to perpetuate itself come into being to preserve aspects of the cultural legacy that that community perceives as essential. Music, like art in general, was so inextricably a part of African culture that it became a crucial means of

preserving the culture during and after the dislocations of slavery.

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

18. In line 9, the phrase "isolated social domain" refers to
(A) African music in relation to contemporary culture as a whole
(B) music as it may be perceived in non-African cultures
(C) a feature of African music that aided in transmitting African cultural values
(D) an aspect of the African cultural legacy
(E) the influence of music on contemporary culture

19. Which of the following statements concerning the function of African music can be inferred from the passage?
(A) It preserved cultural values because it was thoroughly integrated into the lives of the people.
(B) It was more important in tho development of African religious life than in other areas of culture.
(C) It was developed in response to the loss of political and economic systems.
(D) Its pervasiveness in African culture hindered its effectiveness in minimizing the impact of slavery.
(E) Its isolation from the economic domains of life enabled it to survive the destructive impact of slavery.

20. According to the author, scholars would err in drawing which of the following conclusions?
Ⅰ. Slavery stripped the slaves of their political and economic systems.
Ⅱ. African music was similar to all other traditions of music in that it originated in a total vision of life.
Ⅲ. Music was a crucial part of the African cultural legacy.
(A) I only (B) II only
(C) I and II only (D) II and III only
(E) I, II, and III

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

However, a number of features that are characteristic of wind-pollinated plants reduce pollen waste. For example, many wind-pollinated species fail to release pollen when wind speeds are low or when humid conditions prevail. Recent studies suggest another way in which species compensate for the inefficiency of wind pollination. These studies suggest that species frequently take advantage of the physics of pollen motion by generating specific aerodynamic environments within the immediate vicinity of their female reproductive organs. It is the morphology of these organs that dictates the pattern of airflow disturbances through which pollen must travel. The speed and direction of the airflow disturbances can combine with the physical properties of a species pollen to produce a species-specific pattern of pollen collision on the surfaces of female reproductive organs. Provided that these surfaces are strategically located, the consequences of this combination can significantly increase the pollen-capture efficiency of a female reproductive organ.

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

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

22. The author suggests that explanations of wind pollination that emphasize the production of vast quantities of pollen to compensate for the randomness of the pollination process are
(A) debatable and misleading (B) ingenious and convincing
(C) accurate but incomplete (D) intriguing but controversial
(E) plausible but unverifiable

23. According to the passage, the "aerodynamic environments" mentioned in line 23, when they are produced, are primarily determined by the
(A) presence of insects near the plant
(B) physical properties of the plant's pollen
(C) shape of the plant's female reproductive organs
(D) amount of pollen generated by the plant
(E) number of seeds produced by the plant

24. According to the passage, true statements about the release

of pollen by wind-pollinated plants include which of the following?

Ⅰ. The release can be affected by certain environmental factors.

Ⅱ. The amount of pollen released increases on a rainy day.

Ⅲ. Pollen is sometimes not released by plants when there is little wind.

(A) II only (B) III only

(C) I and II only (D) I and III only

(E) I, II, and III

25. The passage suggests that the recent studies cited in lines 19-21 have not done which of the following?

(A) Made any distinctions between different species of wind-pollinated plants.

(B) Considered the physical properties of the pollen that is produced by wind-pollinated plants.

(C) Indicated the general range within which plantgenerated airflow disturbances are apt to occur.

(D) Included investigations of the physics of pollen motion and its relationship to the efficient capture of pollen by the female reproductive organs of wind-pollinated plants.

(E) Demonstrated that the morphological attributes of the female reproductive organs of windpollinated plants are usually evolutionary adaptations to wind pollination.

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

(A) Such an arrangement occurred only in windpollinated plants.

(B) Such an arrangement occurred in vascular plants as a whole.

(C) Such an arrangement could be shown to be beneficial to pollen release.

(D) The number of bracts could e shown to have increased over time.

(E) The airflow patterns over the cone's surfaces could be shown to e produced y such arrangements.

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

(A) Wind speeds need not be very low for windpollinated plants to fail to release pollen.

(B) The female reproductive organs of plants often have a sticky surface that allows them to trap airborne pollen systematically.

(C) Grasses, as well as conifers, generate specific aerodynamic environments within the immediate vicinity of their reproductive organs.

(D) Rain showers often wash airborne pollen out of the air before it ever reaches an appropriate plant.

(E) The density and size of an airborne pollen grain are of equal importance in determining whether that grain will be captured by a plant.

28. IMPROMPTU: (A) carefully rehearsed
(B) widely recognized (C) narrowly focused
(D) purposely vague (E) unwittingly funny

29. BALLOON: (A) regain completely
(B) decrease slowly (C) respond rapidly
(D) survey thoroughly (E) request humbly

30. AVID: (A) independent (B) inquisitive
(C) forgetful (D) swift (E) indifferent

31. MOROSE: (A) fast-talking (B) quick-witted
(C) lighthearted (D) casual (E) charming

32. ANOMALY:
(A) predicted occurrence (B) temporary solution
(C) easy problem (D) continuous process
(E) constant interference

33. NEOLOGISM: (A) syllogism (B) idealism
(C) archaism (D) paternalism (E) ostracism

34. RAREFY: (A) condense (B) conceive
(C) consign (D) conduct (E) confound

35. CAUSTIC: (A) nonflammable (B) anesthetic
(C) antiseptic (D) convoluted (E) innocuous

36. SOLVENT: (A) catalyst (B) detergent
(C) reactant (D) lubricant (E) precipitate

37. ESTIMABLE: (A) recalcitrant (B) mendacious
(C) infamous (D) obstinate (E) stingy

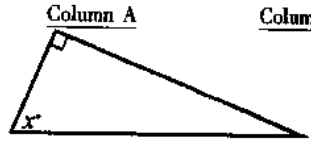
38. PRODIGALITY: (A) disinterest (B) guilt
(C) passivity (D) penury (E) perfidy

SECTION 6

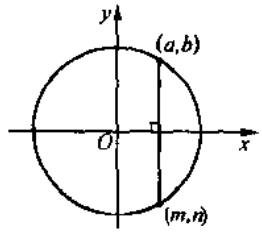
Time—30 minutes

30 Questions

	Column A	Column B
1.	$(-1)^6$	$(-1)^7$
	$x > 2$ and $z > 2$	
2.	$\frac{2}{x}$	$\frac{z}{2}$
3.	$25(26)+26(75)$	2,500
	$\sqrt{x^2+1}=5$	
4.	x	5

	Column A	Column B
		
5.	x	60
6.	The average (arithmetic mean) of 5 numbers, each less than 7 and greater than 6	The average (arithmetic mean) of 7 numbers, each less than 6 and greater than 5
	s and t are positive numbers. $s > \frac{t}{3}$	
7.	s	t

Column A　　Column B

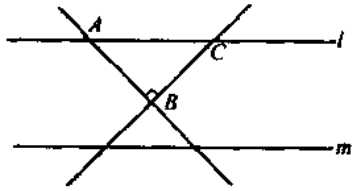


Point O is the center of the circle in the rectangular coordinate system.

8. $a + b$　　$m + n$

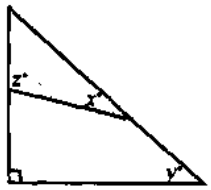
n and r are positive integers such that $4^n = 2^{r+1}$

9. r　　$2n - 1$



Lines l and m are parallel.

10. AB　　BC



11. $x + z$　　$90 + y$

Last year retail sales in Country M totaled x dollars, and the retail sales of the 5 largest retailers in Country M accounted for 75 percent of this total.

12. The average (arithmetic mean) retail sales for the 5 largest retailers in Country M last year　　$\frac{3x}{20}$ dollars

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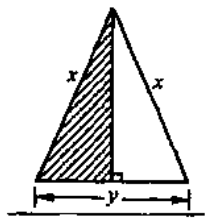


Column A　　Column B

13. The area of the shaded region　　$\frac{xy}{4}$

A K-number is a positive integer with the special property that 3 times its units' digit is equal to 2 times its tens' digit.

14. The number of K-numbers between 10 and 99　　3

In an election each voter voted for one of two candidates, X and Y. The number of votes that Candidate X received was $\frac{1}{3}$ more than the number of votes that Candidate Y received.

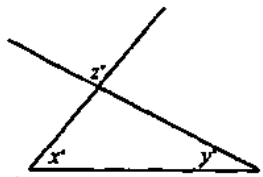
15. The fraction of the total vote that Candidate X received　　$\frac{4}{7}$

16. If integer x were divided by 7, the quotient would be 12 with a remainder of 1. Therefore, x equals

(A) 91　(B) 90　(C) 88　(D) 85　(E) 83

17. If $y \neq 0$ and $2x + y = 12$, then which of the following is NOT a possible value of x?

(A) 12　(B) 10　(C) 8　(D) 6　(E) 4



18. In the figure above, what is $x + y$ in terms of z?

(A) $180 - z$　(B) $180 + z$

(C) $z - 180$　(D) $z + 180$

(E) z

19. If $4x + 3y = 8$ and $\frac{x}{2} = \frac{1}{4}$, what is the value of y?

(A) $\frac{4}{3}$　(B) 2　(C) $\frac{7}{3}$　(D) 3　(E) $\frac{10}{3}$

20. Two people were hired to mow a lawn for a total of \$45. They completed the job with one person working for 1 hour and 20 minutes and the other working 40 minutes. If they split the \$45 in proportion to the amount of time each spent working on the job, how much did the person who worked longer receive?

(A) \$33.75　(B) \$30.00

(C) \$27.50　(D) \$25.00

(E) \$22.50

Questions 21-25 refer to the following table.

NUMBER OF MOTOR VEHICLES IN FIVE COUNTRIES

1983 AND 1985

Number of Motor Vehicles				
	1983		1985	
Country	Per Square Mile	Per 1,000 Population	Per Square Kilometer*	Per 1,000 Population
A	109	182	49	206

	Number of Motor Vehicles			
B	60	243	23	252
C	54	123	29	167
D	109	190	49	220
E	23	447	9	453

* 1 square mile = 2.6 square kilometers

21. If in 1983 the total area of Country B was 95,000 square miles, how many million motor vehicles did it have?
(A) 1.6 (B) 2.2 (C) 4.1 (D) 5.7 (E) 6.3

22. In 1985 Country D had approximately how many motor vehicles per square mile?
(A) 190 (B) 125 (C) 110 (D) 50 (E) 35

23. In 1983 the number of motor vehicles per square mile for Country E was approximately what percent of the number of motor vehicles per square mile for Country A?
(A) 18% (B) 21% (C) 27% (D) 33%
(E) 47%

24. If the population of Country D in 1983 was 80 million, then the number of motor vehicles in that country was how many million?
(A) 15.2 (B) 16.5 (C) 17.0 (D) 17.6
(E) 18.1

25. In 1985 the number of square kilometers per 100 motor vehicles in Country C was approximately
(A) 0.29 (B) 0.34 (C) 1.34 (D) 2.90
(E) 3.45

26. If 5 percent of a rectangular lot is covered by a rectangular shed that is 25 feet long and 24 feet wide, what is the area of the lot in square feet?
(A) 3,000 (B) 5,700
(C) 12,000 (D) 22,500
(E) 30,000

27. For $x \neq 2$ and $x \neq 3$, $\frac{-2}{x-2} + \frac{x}{x-3} =$
(A) 1 (B) $\frac{1}{x-3}$
(C) $\frac{x-2}{2x-5}$ (D) $\frac{-2x}{(x-2)(x-3)}$
(E) $\frac{x^2-4x+6}{(x-2)(x-3)}$

28. A circular region has circumference c inches and area k square inches. If $c = 3k$, what is the radius of the circle in inches?
(A) $\frac{\sqrt{2}}{3}$ (B) $\sqrt{\frac{2}{3}}$
(C) $\frac{2}{3}$ (D) $\frac{4\pi}{9}$
(E) $\frac{2\pi}{3}$

29. In a certain country, a person is born every 3 seconds and a person dies every 10 seconds. Therefore, the birth and death rates account for a population growth rate of one person every
(A) $3\frac{1}{3}$sec (B) $4\frac{2}{7}$sec
(C) 7sec (D) $11\frac{2}{3}$sec
(E) 13sec

30. If r and s are positive integers, each greater than 1, and if $11(s-1) = 13(r-1)$, what is the least possible value of $r+s$?
(A) 2 (B) 11 (C) 22 (D) 24 (E) 26

SECTION 7
Time—30 minutes
25 Questions

Questions 1-6

All electronic messages in a large corporation are transmitted by means of a message network that connects eight computers—Q, R, S, T, W, X, Y, and Z. All of the connections are two-way, so that messages can be sent back and forth between any two connected computers. Any given message enters and leaves a given comupter at most once. The computers are connected only in the following way:

Q is connected to R and to T.
S is connected to R and to T.
W is connected to S and to Y.
X is connected to S, to Y, and to Z

1. The path followed by messages sent from Y to Z must include which of the following computers?
(A) Q (B) R (C) S (D) W (E) X

2. Messages sent from Q to W can go along any of the following paths EXCEPT
(A) Q to R to S to W (B) Q to T to S to W
(C) Q to R to S to T to W (D) Q to R to S to X to Y to W
(E) Q to T to S to X to Y to W

3. Which of the following specifies in its entirety a sequence, from first to last, of computers through which a message from Z to T can pass?
(A) Z,Q,T (B) Z,X,Q,T
(C) Z,X,Y,T (D) Z,X,S,R,T
(E) Z,X,Y,W,S,T

4. What is the minimum number of computers, excluding the originating and destination computers, through which a message from T to X must pass?
(A) One (B) Two (C) Three (D) Four (E) Five

5. Disconnecting which of the following computers from every computer to which it is connected would leave exactly one of the other computers unconnected to the rest of the message network?
(A) Q (B) R (C) W (D) X (E) Z

6. A message from one of the computers to another is to be transmitted through all of the other
the message to only one other computer. Which of the following pairs could be the originating computer and the computer finally receiving the message?
(A) Q and W (B) Q and Z

(C) R and Z (D) W and T
(E) W and Z

7. Pauline and Lorraine are paid the same amount of wages per hour for working at the same company, but Pauline has a more difficult job than Lorraine. Pauline argues that because her job is more difficult, the company should pay her more than it pays Lorraine.
Which of the following statements best supports Pauline's argument?
(A) Lorraine is not opposed to being paid less than Pauline.
(B) The company's pay scale is intended to compensate more difficult work with higher wages.
(C) Pauline expects to be promoted to a higherpaying position.
(D) Lorraine was paid more than either woman expected Lorraine to be paid.
(E) Pauline has fewer years of experience in her current job than Lorraine has in hers.

8. Scientists warn of a global warming, a "greenhouse effect" resulting from increased atmospheric pollutants, including carbon dioxide from the burning of wood, coal, and oil. A coal-industry spokesperson says that the effect need not cause concern in the near future if, as some scientists believe, the Earth faces another ice age within the next thousand years, since each calamity could cancel out the other.
Which of the following, if true, casts the most serious doubt on the conclusion of the spokesperson?
(A) There is a generally cyclical pattern in the recurrence of ice ages on Earth.
(B) The disastrous results of the greenhouse effect have begun to occur and will probably intensify within the next fifty years.
(C) Trees absorb some of the carbon dioxide in the lower atmosphere and produce oxygen, which is not a pollutant.
(D) Much of the carbon dioxide currently being produced comes not from coal but from the burning of trees cleared from large areas of tropical rain forest.
(E) The greenhouse effect is a scientific conjecture based on incomplete data about gases in the upper atmosphere and on a theory about how those gases could affect the heat from the Sun.

9. Although part of the ivory available on world markets was taken from wild elephants that were killed illegally, some ivory is derived from sources that nearly all nations define as legal, such as elephants that have died natural deaths. The world's few remaining wild elephant herds, therefore, are not endangered when those buying ivory at wholesale make a serious effort to limit their purchases to such legal ivory.
The argument above depends on the assumption that
(A) wholesale buyers attempting to limit their purchases to legal ivory can reliable distinguish legal from illegal ivory
(B) the demand for products made from legal ivory will continue to grow in the near future
(C) there are currently fewer wholesale sources of legal ivory in the world than there are of illegal ivory
(D) wholesale buyers of ivory products are generally unaware of the reasons for the dwindling world supply of ivory
(E) a continued supply of legal ivory is ensured because elephants reproduce in captivity

Questions 10-14

Ten persons will watch a Ping-Pong match. The ten persons will be seated in two rows of five seats that face each other along the two long sides of the rectangular Ping-Pong table. The seats are numbered consecutively from 1 to 10 with seats 1 through 5 on one side of the table and seats 6 through 10 on the other side, with seat 6 opposite seat 5. Five of the ten observers are men—Frank, George, Henry, Juan, and Len—and five of the observers are women—Mary, Rita, Susan, Trudy, and Yvonne. The seating is governed by the following rules:
On each long side of the table, no more than two consecutive seats can be occupied by men.
Trudy cannot sit beside Henry.
Frank cannot sit beside George.
Mary must sit beside Rita.
Henry must sit beside Juan.

10. Which of the following can be the arrangement of people in seats 1 through 5?

	Seat 1	Seat 2	Seat 3	Seat 4	Seat 5
(A)	Frank	Henry	Juan	Mary	Rita
(B)	Frank	George	Mary	Trudy	Len
(C)	Len	Mary	Rita	Juan	Henry
(D)	Mary	George	Rita	Yvonne	Len
(E)	Susan	Frank	Trudy	Henry	Juan

11. If Juan is in seat 7, Henry is in seat 8, and Frank is in seat 10, which of the following can be in seat 9?
(A) Len (B) Mary
(C) Rita (D) Trudy
(E) Yvonne

12. If George, Yvonne, and Juan are in seats 1 through 3, respectively, which of the following must be in seat 5?
(A) Frank (B) Len
(C) Rita (D) Susan
(E) Trudy

13. If Trudy, Susan, Frank, Len, and Yvonne are in seats 1 through 5, respectively, then George must be either in seat
(A) 6 or in seat 8 (B) 6 or in seat 10
(C) 7 or in seat 10 (D) 8 or in seat 9
(E) 8 or in seat 10

14. If as many women as possible are seated on the side that has seats numbered 1 through 5, which of the following statements must be true?
(A) Seat 3 is occupied by a man.
(B) Seat 8 is occupied by a woman.
(C) Seats 1 and 2 are each occupied by a woman.
(D) Seats 4 and 5 are each occupied by a woman.
(E) Seats 5 and 6 are each occupied by a woman.

Questions 15-18

The mixing vat in a factory receives liquid ingredients through 6 separate valves—labeled R, S, T, U, Y, and Z—each of which has exactly two settings: open and closed. The mixing-vat operator must ensure that each valve is set open or closed according to the following conditions:
If T is open, both S and Z must be closed.
R and Z cannot both be closed at the same time.
If Y is closed, Z must also be closed.
S and U cannot both be open at the same time.

15. If Z is open, which of the following must be true?
(A) R is open. (B) S is open.
(C) T is open. (D) U is open.
(E) Y is open.

16. If R is closed and U is open, which of the following must be true?

(A) S is open. (B) T is open.
(C) T is closed. (D) Y is closed.
(E) Z is closed.

17. If the maximum number of valves that can be closed at the same time are closed, which of the following must be true?
(A) R is open. (B) S is open.
(C) T is open. (D) Z is open.
(E) All valves are closed.

18. Which of the following, if given to the mixing-vat operator as an instruction, would NOT determine the setting of any other valve?
(A) S must be open. (B) T must be open.
(C) U must e open. (D) S must e closed.
(E) Y must be closed.

Questions 19-22

A set designer will select colors for six sets that will be used for six consecutive scenes of a ballet, with each scene having a single set. The artistic director has selected eight paint colors—gold, mauve, olive, pink, silver, tan, white, and yellow—and has asked the designer to use those colors according to the following specifications:

No color can be chosen for more than one set. Sets in scenes 1 and 4 will be painted partly one color and partly another color, sets in the other four scenes will each be painted a single color If gold is chosen for the set in any scene, wilver must also e chosen for the set in that scene. Pink and olive are never used in the same scene as each other. Tan is chosen for the set in the scene imediately following the scene for which white is chosen, and neither of these colors is used in the same scene as any other color.

19. If yellow is chosen for scene 2 and silver is one of the colors chosen for scene 4, which of the following must be one of the colors chosen for scene 1?
(A) Gold (B) Mauve
(C) Olive (D) Pink
(E) White

20. If olive is chosen for scene 5, which of the following must be true?
(A) Gold is chosen for scene 1.
(B) Mauve is chosen for scene 4.
(C) Pnk is chosen for scene 2.
(D) Tan is chosen for scene 3.
(E) Yellow is chosen for scene 4.

21. If white is chosen for scene 5, which of the following can be true?
(A) Gold is chosen for scene 2.
(B) Mauve is chosen for scene 6.
(C) Pink is chosen for scene 6.
(D) Mauve is chosen for scene 2, and yellow is chosen for scene 3.
(E) Olive is chosen for scene 2, and yellow is chosen for scene 3.

22. For scene 2, the designer can select a color from a maximum of how many acceptable colors?
(A) One (B) Two (C) Three (D) Four (E) Five

23. The result of flipping an evenly weighted, or "fair," coin, a process commonly thought to be random, is, in fact, well determined by the impulse given the coin and by the height above the floor from which the coin starts. Yet it is difficult to predict the result of a fair coin flip.

Which of the following, if true, contributes most to an explanation of why the outcome of a coin flip is difficult to predict even though it is well determined?
(A) Coin flipping has been used as a prime example of a random process for decades.
(B) The result of flipping an unevenly weighted coin can be predicted with great accuracy.
(C) If the impulses of coin flippings remain perfectly constant, the results are determined only by the height from which the coin falls.
(D) An accurate prediction of the result of a coin flip requires extraordinarily precise estimation of height and impulse.
(E) That the results of coin flipping are well determined runs counter to the randomness that physicists have been finding in more and more processes once thought to be determined.

24. Police found that ninety percent of the burglaries and attempted burglaries over a five-year period in the city of Crowther occurred in housed that did not have burglar alarm systems. The police concluded that, in Crowther, the presence of a burglar alarm system is usually effective as a deterrent to burglary. The conclusion reached by the police presupposes which of the following?
(A) The burglars entered houses only when they thought the occupants were away or asleep.
(B) The burglars entered houses that had burglar alarm systems ouly when they anticipated finding particularly valuable goods.
(C) When they entered a house that had no burglar alarm system, the burglars could take more time to search for valuables.
(D) Before they entered a house, the burglars could usually tell whether or not it had a burglar alarm syatem.
(E) The difference in the burglary rate between houses that had burglar alarm systems and those that did not had remained constant during the five-year period.

25. Partha has withdrawn its troops from Baltia after five years of occupation. Earlier this year the country of Cardena began shipping mules to Baltia's resistance fighters to facilitate transport of weapons across Baltia's mountains to the battle areas.

Cardena's diplomats now claim that without Cardena's aid to Baltia's resistance fighters, Partha would not have withdrawn.

Which of the following, if true, casts the most serious doubt on the accuracy of the assertion of Cardena's diplomats?
(A) No precise figures are available concerning the number of mules shipped to Baltia.
(B) During the past year, Cardena shipped weapons and food, as well as mules, to resistance fighters in Baltia.
(C) Last year a new government took power in Partha and decided that national interests were not served by the occupation of Baltia.
(D) Two years ago Partha had no plans to reduce its forces in Balua.
(E) Resistance fighters in Baltia fought for five years against Partha's occupying troops.

1990年10月GRE考试题

SECTION 1

Time—30 minutes

38 Questions

1. Nonviolent demonstrations often create such tensions that a community that has constantly refused to ____ its injustices is forced to correct them: the injustices can no longer be ____.
   (A) acknowledge..ignored (B) decrease..verified
   (C) tolerate..accepted (D) address..eliminated
   (E) explain..discussed

2. Since 1813 reaction to Jane Austen's novels has oscillated between ____ and condescension; but in general later writers have esteemed her works more highly than did most of her literary ____.
   (A) dismissal..admirers (B) adoration..contemporaries
   (C) disapproval..readers (D) indifference..followers
   (E) approbation..precursors

3. There are, as yet, no vegetation types or ecosystems whose study has been ____ to the extent that they no longer ____ ecologists.
   (A) perfected..hinder (B) exhausted..interest
   (C) prolonged..require (D) prevented..challenge
   (E) delayed..benefit

4. Under ethical guidelines recently adopted by the National Institutes of Health, human genes are to be manipulated only to correct diseases for which ____ treatments are unsatisfactory.
   (A) similar (B) most
   (C) dangerous (D) uncommon
   (E) alternative

5. It was her view that the country's problems had been ____ by foreign technocrats, so that to invite them to come back would be counterproductive.
   (A) foreseen (B) attacked
   (C) ascertained (D) exacerbated
   (E) analyzed

6. Winsor McCay, the cartoonist, could draw with incredible ____: his comic strip about Little Nemo was characterized by marvelous draftsmanship and sequencing
   (A) sincerity (B) efficiency
   (C) virtuosity (D) rapidity
   (E) energy

7. The actual ____ of Wilson's position was always ____ by his refusal to compromise after having initially agreed to negotiate a settlement.
   (A) outcome..foreshadowed (B) logic..enhanced
   (C) rigidity..betrayed (D) uncertainty..alleviated
   (E) cowardice..highlighted

8. SEDATIVE: DROWSINESS::
   (A) epidemic: contagiousnes
   (B) vaccine: virus
   (C) laxative: drug
   (D) anesthetic: numbness
   (E) therapy: psychosis

9. LAWYER: COURTROOM::
   (A) participant: team (B) commuter: train
   (C) gladiator: arena (D) senator: caucus
   (E) patient: ward

10. CURIOSITY: KNOW::
    (A) temptation: conquer (B) starvation: eat
    (C) wanderlust: travel (D) humor: laugh
    (E) survival: live

11. FRUGAL: MISERLY::
    (A) confident: arrogant (B) courageous: pugnacious
    (C) famous: aggressive (D) rash: foolhardy
    (E) quiet: timid

12. ANTIDOTE: POISON::
    (A) cure: recovery (B) narcotic: sleep
    (C) stimulant: relapse (D) tonic: lethargy
    (E) resuscitation: breathing

13. STYGIAN: DARK::
    (A) abysmal: low (B) cogent: contentious
    (C) fortuitous: accidental (D) reckless: threatening
    (E) cataclysmic: doomed

14. WORSHIP: SACRIFICE::
    (A) generation: pyre (B) burial: mortuary
    (C) weapon: centurion (D) massacre: invasion
    (E) prediction: augury

15. EVANESCENT: DISAPPEAR::
    (A) transparent: penetrate (B) onerous: struggle
    (C) feckless: succeed (D) illusory: exist
    (E) pliant: yield

16. UPBRAID: REPROACH::
    (A) dote: like (B) lag: stray
    (C) vex: please (D) earn: desire
    (E) recast: explain

It has been known for many decades that the appearance of sunspots is roughly periodic, with an average cycle of eleven years. Moreover, the incidence of solar flares and the flux of solar cosmic rays, ultraviolet radiation, and x-radiation all vary directly with the sunspot cycle. But after more than a century of investigation, the relation of these and other phenomena, known collectively as the solar-activity cycle, to terrestrial weather and climate remains unclear. For example, the sunspot cycle and the allied magnetic-polarity cycle have been linked to periodicities discerned in records of such variables as rainfall, temperature, and winds. Invariably, however, the relation is weak, and commonly of dubious statistical significance.

Effects of solar variability over longer terms have also been sought. The absence of recorded sunspot activity in the notes kept by European observers in the late seventeenth and early eighteenth centuries has led some scholars to postulate a brief cessation of sunspot activity at that time (a period called the Maunder minimum). The Maunder minimum has been linked to a span of unusual cold in Europe extending from the sixteenth to the early nineteenth centuries. The reality of the Maunder minimum has yet to be established, however, especially since the records that Chinese naked-eye observers of solar activity made at that time appear to contradict it. Scientists have also sought evidence of long-term solar periodicities by examining indirect climatological data, such as fossil records of the thickness of ancient tree rings. These studies, however, failed to link unequivocally terrestrial climate and the solar-activity cycle, or even to confirm the cycle's past existence.

If consistent and reliable geological or archaeological evidence tracing the solar-activity cycle in the distant past could be