

## SECTION 1

### 1. NOVICE

- (A) burden
- (B) agreement
- (C) beggar
- (D) beginner
- (E) expression

### 2. TELL

- (A) censure
- (B) preclude
- (C) dissuade
- (D) divulge
- (E) contrive

### 3. GENEROUS

- (A) beneficial
- (B) precocious
- (C) sociable
- (D) garrulous
- (E) benevolent

### 4. VERBOSE

- (A) wordy
- (B) aloud
- (C) orate
- (D) speech
- (E) complete

### 5. CONTOUR

- (A) journey
- (B) outline
- (C) gathering
- (D) agency
- (E) photograph

### 6. TRINKET

- (A) thought
- (B) bauble
- (C) trick
- (D) transportation
- (E) book

### 7. TRAMP

- (A) infancy
- (B) witchcraft
- (C) vagrant
- (D) tot
- (E) rally

### 8. LICIT

- (A) right-handed
- (B) agile
- (C) disheveled
- (D) lawful
- (E) porous

### 9. DESPAIR:

- (A) violation
- (B) cessation
- (C) hopelessness
- (D) scheme
- (E) passion

### 10. STYMIE:

- (A) reason
- (B) construct
- (C) swindle
- (D) depress
- (E) frustrate

### 11. TRANSPARENT

- (A) glass
- (B) opaque
- (C) filmy
- (D) motivation
- (E) serene

### 12. TURBULENT:

- (A) authentic
- (B) tamed
- (C) tranquil
- (D) violent
- (E) fatal

### 13. ORBIT:

- (A) inertia
- (B) galaxy
- (C) project
- (D) revolution
- (E) program

### 14. INTERVENE:

- (A) interfere
- (B) solve
- (C) intermediary
- (D) invert
- (E) induce

### 15. CODDLE:

- (A) carry
- (B) baby
- (C) riddle
- (D) assume
- (E) waddle

### 16. UNUSUAL:

- (A) sincere
- (B) common
- (C) ordinary
- (D) rare
- (E) pedantic

### 17. LUNGE:

- (A) startle
- (B) thrust
- (C) restore
- (D) pursue
- (E) turn

18. SPURN:

- (A) return
- (B) betray
- (C) cross
- (D) hinder
- (E) reject

19. SURREPTITIOUS:

- (A) indefensible
- (B) sneak
- (C) indefatigable
- (D) comprehensive
- (E) corrective

20. PERVASIVE:

- (A) perplexing
- (B) obscure
- (C) prevalent
- (D) extreme
- (E) compelling

21. FOOLHARDY:

- (A) clandestine
- (B) amicable
- (C) irresponsible
- (D) resolute
- (E) rash

22. NEGATIVE:

- (A) boring
- (B) unpredictable
- (C) humorous
- (D) courageous
- (E) passive

23. SOLICITUDE:

- (A) arbitration
- (B) narcissism
- (C) calumny
- (D) tenacity
- (E) anxiety

24. DEARTH:

- (A) spate
- (B) revision
- (C) shortage
- (D) dispersal
- (E) consensus

25. AVIDNESS:

- (A) indifference

- (B) diffidence
- (C) patience
- (D) elegance
- (E) zealousness

26. FOREBEARANCE:

- (A) mendacity
- (B) austerity
- (C) extol
- (D) endure
- (E) augmentation

27. BANISH

- A. eject
- B. stamp
- C. atone
- D. ease
- E. cull

28. COHERENT

- (A) logical
- (B) understated
- (C) overheard
- (D) audible
- (E) persistent

29. PUNGENT:

- (A) unlikely
- (B) peripheral
- (C) wet
- (D) smelly
- (E) wicked

30. CARESS:

- (A) stroke
- (B) smile
- (C) laugh
- (D) push
- (E) tap

31. Scissors are to paper as

- (A) string is to box
- (B) glue is to clippings
- (C) knife is to butter
- (D) hatchet is to lumberjack
- (E) pencil is to sharpener

32. Tailor is to clothing as

- (A) nanny is to children
- (B) cobbler is to shoes
- (C) miller is to grain
- (D) banker is to business
- (E) officer is to army

33. EMISSARY: REPRESENT:

- (A) draftee: enroll
- (B) novice: train

- (C) president: elect
- (D) guard: protect
- (E) comedian: laugh

34. intelligent is to stupid as enthusiastic is to

- (A) happy
- (B) passionate
- (C) action
- (D) indifferent
- (E) clairvoyant

35. considerable is to extensive as

- (A) enormous is to vacant
- (B) diminutive is to microscopic
- (C) outlandish is to undistinguished
- (D) descriptive is to straightforward
- (E) huge is to small

36. Betray is to support as

- (A) invite is to dismiss
- (B) save is to rescue
- (C) deny is to succeed
- (D) crank is to limit
- (E) condemn is to observe

37. Walk is to gallop as

- (A) jump is to dive
- (B) drift is to glide
- (C) mumble is to yell
- (D) decelerate is to slow
- (E) plummet is to fall

38. Ask is to implore as

- (A) demand is to request
- (B) grease is to lubricate
- (C) retreat is to stumble
- (D) crank is to unwind
- (E) suggest is to declare

39. Migrate is to bird as

- (A) change is to chameleon
- (B) flutter is to butterfly
- (C) prey is to shark
- (D) hibernate is to bear
- (E) train is to dog

40. Gray is to black as discomfort is to

- (A) comfort
- (B) x-ray
- (C) symptom
- (D) pain
- (E) injection

41. Ponderous is to weight as

- (A) taciturn is to talk
- (B) diminutive is to height
- (C) pictographic is to sight
- (D) gargantuan is to size
- (E) dense is to volume

42. Memory is to amnesia as

- (A) patient is to convalescence
- (B) respiration is to nicotine
- (C) movement is to paralysis
- (D) death is to rigor mortis
- (E) surgery is to malpractice

43. Red is to yellow as

- (A) center is to concentration
- (B) slavery is to abolitionist
- (C) outbreak is to virus
- (D) prohibition is to warning
- (E) downtown is to waterfront

44. Wind is to erosion as

- (A) collection is to hobby
- (B) nightmare is to restlessness
- (C) borrowing is to debt
- (D) questionnaire is to census
- (E) water is to thermos

45. Text is to footnote as map is to

- (A) border
- (B) geography
- (C) legend
- (D) directions
- (E) atlas

46. School is to tuition as

- (A) mall is to lease
- (B) library is to funding
- (C) church is to tithe
- (D) restaurant is to investment
- (E) office is to ledger

47. Ceiling is to chandelier as puppeteer is to

- (A) stage
- (B) puppet show
- (C) voice
- (D) audience
- (E) puppet

48. Incarceration is to robbery as applause is to

- (A) murdering



- (B) standing
- (C) ending
- (D) performing
- (E) congratulating

49. Articulateness is to speech as
- (A) diversity is to wildlife
  - (B) perseverance is to marathon
  - (C) negligence is to lawsuit
  - (D) legibility is to handwriting
  - (E) ventriloquism is to voice

50. Apprentice is to mentor as
- (A) student is to professor
  - (B) graduate is to candidate
  - (C) boss is to employer
  - (D) principal is to leader
  - (E) electrician is to carpenter

51. Vaccine is to disease as coolant is to
- (A) overcoming
  - (B) overhauling
  - (C) overheating
  - (D) overlaying
  - (E) overdoing

52. Unusual is to customary as dishonest is to
- (A) cruel
  - (B) sincere
  - (C) crafty
  - (D) absolute
  - (E) playful

53. German shepherd is to dog as strawberry is to
- (A) red
  - (B) vine
  - (C) seeds
  - (D) fruit
  - (E) prune

54. had is to have as saw is to

- (A) tool
- (B) sawed
- (C) see
- (D) wood
- (E) colossus

55. TOPIC: DISCOURSE:

- (A) title: play
- (B) subject: digression
- (C) guideline: policy
- (D) theme: essay

- (E) footnote: text

56. Jettison is to cargo as
- (A) deliver is to parcel
  - (B) flotsam is to debris
  - (C) immigrate is to nation
  - (D) evict is to tenant
  - (E) passenger is to ship

57. Plutocrat is to opulent as
- (A) farmer is to farming
  - (B) messenger is to swift
  - (C) democrat is to democracy
  - (D) soldier is to salutary
  - (E) beggar is to destitute

58. Summarize is to analyze as
- (A) classify is to categorize
  - (B) list is to combine
  - (C) record is to measure
  - (D) describe is to research
  - (E) shorten is to understand

59. Silk is to wool as
- (A) taffeta is to gingham
  - (B) plaid is to paisley
  - (C) orange is to red
  - (D) silkworm is to sheep
  - (E) sun is to snow

60. Voracious is to insatiable as
- (A) hunger is to thirst
  - (B) stubborn is to incorrigible
  - (C) rapacious is to glutton
  - (D) tumultuous is to serene
  - (E) seditious is to entertaining



## Section 2

1. If  $6 + 12 + \underline{\hspace{1cm}} = 5 + 11 + 6$ , then  $\underline{\hspace{1cm}} =$

- (A) 2
- (B) 3
- (C) 4
- (D) 5
- (E) 6

2. A teacher has assigned 315 pages of reading.

If Jessica starts reading on Monday and reads 65 pages each day, on what day will she complete the assignment?

- (A) Wednesday
- (B) Thursday
- (C) Friday
- (D) Saturday
- (E) Sunday

3. Matt took a bike trip. On the first day he rode 15 miles. On the second day he rode 35 miles, and the third day he rested. On the fourth day he rode 57 miles, and on the fifth day he rode 43 miles. What is the average number of miles that he rode per day?

- (A) 25
- (B) 27
- (C) 30
- (D) 32
- (E) 34

4. If a square has a perimeter of 88, what is the length of each side?

- (A) 4
- (B) 11
- (C) 22
- (D) 44
- (E) 110

5. The perimeter of a square with a side length of 4 is how much less than the perimeter of a rectangle with sides of length 6 and width 4?

- (A) 8
- (B) 6

- (C) 4
- (D) 2
- (E) 0

6. Of the following,  $0.24 \times 90$  is closest to

- (A)  $\frac{1}{4}$  of 90
- (B)  $\frac{1}{2}$  of 90
- (C) 2 times 90
- (D)  $\frac{3}{4}$  of 80
- (E)  $\frac{3}{4}$  of 100

7. For all real numbers  $m$ ,

$$*m = 10m - 10.$$

$$*7 =$$

- (A) 70
- (B) 60
- (C) 17
- (D) 7
- (E) 0

8. If  $(M+N) \times 4 = 28$  and both  $M$  and  $N$  are non-zero whole numbers, then  $M$  could NOT be

- A. 1
- B. 3
- C. 5
- D. 7
- E. Not enough information given

9. A man walked continuously across a desert at 2.5 miles per hour for 3 days. How many miles did he walk?

- (A) 180 miles
- (B) 120 miles
- (C) 90 miles
- (D) 12 miles
- (E) 7.5 miles

10. At Calvin U. Smith Elementary School, the ratio of students to teachers is 7 : 1. What fractional part of the entire population at the school is teachers?

- (A)  $\frac{1}{7}$

(B)  $\frac{1}{9}$

(C)  $\frac{1}{8}$

(D)  $\frac{8}{1}$

(E)  $\frac{9}{1}$

11. If we double the value of  $a$  and  $c$  in the fraction  $\frac{ab}{c}$ , the value of the fraction is \_\_\_\_\_.

- (A) doubled
- (B) tripled
- (C) multiplied by 4
- (D) halved
- (E) unchanged

12. Which of the following is a multiple of 4?

- (A) 1
- (B) 2
- (C) 3
- (D) 6
- (E) 8

13. The expression  $(3K^3)^2$  is equivalent to \_\_\_\_\_.

- (A)  $9K^6$
- (B)  $27K^6$
- (C)  $27K^5$
- (D)  $9K^5$
- (E)  $3K^5$

14. When 17 is divided by 4, the remainder is the same as when 82 is divided by \_\_\_\_\_.

- (A) 10
- (B) 9
- (C) 8
- (D) 7

(E) 6

15.  $\frac{2}{3} \times \frac{3}{6} \times \frac{1}{4} =$  \_\_\_\_\_

(A)  $\frac{1}{12}$

(B)  $\frac{1}{6}$

(C)  $\frac{3}{4}$

(D) 1

(E) 2

16. The bottom of the shopping bag shown in Figure 4 is placed flat on a table. Except for the handles this shopping bag is constructed with rectangular pieces of paper. Which of the following diagrams best represents all the points where the shopping bag touches the table?

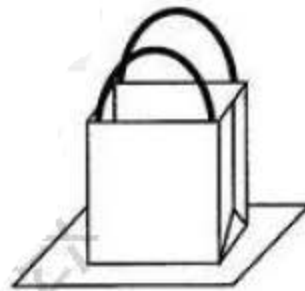
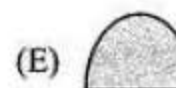
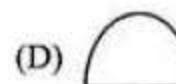
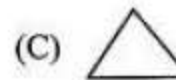
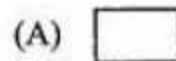


Figure 4

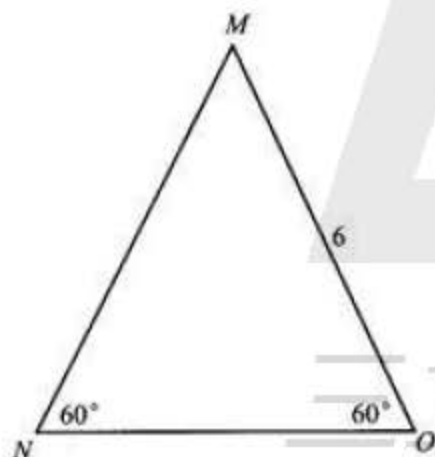


17. Robert wants to leave a 15 percent tip for a dinner that costs \$20.95. Which of the following is closest to the amount of tip he should leave?

(A) \$2.70  
(B) \$3  
(C) \$3.15  
(D) \$3.50  
(E) \$3.75

18. What is the perimeter of triangle  $MNO$ ?

(A) 3  
(B) 9  
(C) 18  
(D) 27  
(E) It cannot be determined from the information given.



19. In a group of 100 children, there are 34 more girls than there are boys. How many boys are in the group?

(A) 33  
(B) 37  
(C) 47  
(D) 67  
(E) 68

20. If the population of Country  $X$  increased by 10 percent each year over a 2-year period, what was the total percent increase in the population over the entire period?

(A) 2%

(B) 10%  
(C) 11%  
(D) 20%  
(E) 21%

21. Bob is  $x$  years old and Jerry is 7 years older. In terms of  $x$ , what was the sum of their ages, in years, 5 years ago?

(A)  $2x + 3$   
(B)  $2x + 2$   
(C)  $2x - 3$   
(D)  $x - 3$   
(E)  $x - 10$

22. If  $N$  is the sum of four consecutive integers, which of the following is always true?

(A)  $N$  is positive  
(B)  $N$  is negative  
(C)  $N$  is even  
(D)  $N$  is odd  
(E)  $N$  is greater than either number

23. How many cubed pieces of fudge that are 3 inches on an edge can be packed into a Christmas tin that is 9 inches deep by 12 inches wide by 8 inches high with the lid still being able to be closed?

(A) 18  
(B) 24  
(C) 32  
(D) 36  
(E) 43

24. For what price item does 40% off equal a \$20 discount?

(A) \$50  
(B) \$100  
(C) \$400  
(D) \$800  
(E) None of the above.

25. Josie bought 16 shares of Zariche stock at the closing price Monday and sold them at the



closing price on Friday. What was Josie's profit on this investment?

- (A) \$60
- (B) \$96
- (C) \$600
- (D) \$960
- (E) None of the above

### Section 3

1. What is 2% of 5,000?

- (A) 10
- (B) 80
- (C) 100
- (D) 105
- (E) 110

2.  $42 \div 7 \times 8 \times 5$  is equal to the product of 12 and

- (A) 16
- (B) 20
- (C) 24
- (D) 28
- (E) 32

3. Which of the following is NOT equal to a whole number?

(A)  $\frac{42}{7}$

(B)  $9 \times \frac{7}{16}$

(C)  $14 \div \frac{1}{14}$

(D)  $\frac{8}{12} \times 9$

(E)  $22.3 + 13.7$

4. What is 4 percent expressed as a decimal?

- (A) 40
- (B) 4
- (C) 0.4
- (D) 0.04
- (E) 0.25

5. Solve for x:  $7x - 3 = 4x + 6$

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

6. The budget for football alone next year will

be \$2,800. Assuming that Figure 1 will still indicate the budget division, what will be the total sports budget next year?

- (A) \$980
- (B) \$1,750
- (C) \$5,000
- (D) \$8,000
- (E) \$10,000

7. If  $3a - 5 = 7$ , then  $a =$

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

8. Solve for  $45 - 3c + 8d$  if  $c=2$  and  $d=3$ .

- A. 53
- B. 57
- C. 59
- D. 61
- E. 63

9. One school bus can transport 48 students. If 218 students need to be transported, how many buses are needed?

- (A) 4
- (B)  $4\frac{13}{24}$
- (C) 5
- (D)  $5\frac{5}{8}$
- (E)  $6\frac{1}{3}$

10. If  $\frac{1}{4}$  of a number is greater than 7, the number must be \_\_\_\_\_.

- (A) less than 2
- (B) equal to 2
- (C) less than 28
- (D) equal to 28
- (E) greater than 28

11. Twenty percent of 64 is equal to 10 percent of what number?

(A) 16  
(B) 20  
(C) 64  
(D) 128  
(E) 256

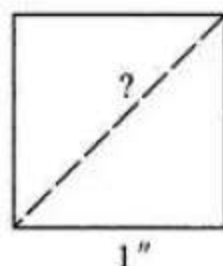
12. From a piece of tin in the shape of a square 6 inches on a side, the largest possible circle is cut out. Of the following, the ratio of the area of the circle to the area of the original square is closest in value to \_\_\_\_\_.

(A)  $\frac{4}{5}$   
(B)  $\frac{2}{3}$   
(C)  $\frac{3}{5}$   
(D)  $\frac{7}{9}$   
(E)  $\frac{3}{4}$

13. If  $2x - 4 = 50$ , what is  $x \div 9$ ?

(A) 6  
(B) 3  
(C) 0  
(D) 9  
(E) 1

14. This square has a side of 1". The diagonal distance from one corner to another is \_\_\_\_\_.



(A) 1 inch  
(B)  $\sqrt{2}$  inches

(C)  $\sqrt{3}$  inches  
(D) 2 inches  
(E) 3 inches

15. Figure 5 contains rectangles and a triangle. How many different rectangles are there in Figure 5?

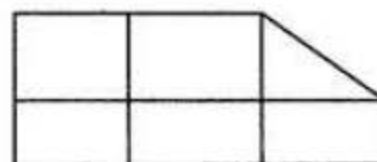


Figure 5

(A) 5  
(B) 7  
(C) 9  
(D) 10  
(E) 12

16. A bakery shop sold three kinds of cake. The prices of these were 25¢, 30¢ and 35¢ per pound. The income from these sales was \$18. If the number of pounds of each kind of cake sold was the same, how many pounds were sold?

(A) 120 pounds  
(B) 90 pounds  
(C) 60 pounds  
(D) 45 pounds  
(E) 36 pounds

17. What is  $\frac{a}{b} - \frac{b}{a}$ ?

(A)  $\frac{a-b}{ab}$   
(B)  $\frac{a^2-b^2}{ab}$   
(C)  $\frac{(a-b)^2}{ab}$   
(D)  $\frac{a^2-b^2}{2ab}$   
(E) 1



18. If  $\frac{ab}{cd}$  is defined as  $ad - cd$ , then  $\frac{ab}{cd} +$

$$\frac{ab}{cd} + 2cb = \underline{\hspace{2cm}}.$$

- (A)  $ad - cd$   
 (B)  $-2cb$   
 (C)  $0$   
 (D)  $2ad$   
 (E)  $-4cb$

19. If Matt's home is four miles from school and Laura's home is eight miles from school, then the distance from Matt's home to Laura's home is

- (A) 4 miles  
 (B) 8 miles  
 (C) 12 miles  
 (D) 16 miles  
 (E) It cannot be determined from the information given.

20. Ms. Kristine receives \$ 50 for every \$ 900 she collects from stock sales. How much does she receive if she collects \$ 18,000 from stock sales?

- (A) \$100  
 (B) \$180  
 (C) \$1,000  
 (D) \$1,200  
 (E) \$1,800

21. It takes Craig 5 minutes to type  $n$  pages. At this rate, how many minutes will it take for him to type 20 pages?

- (A)  $\frac{n}{100}$   
 (B)  $\frac{4}{n}$   
 (C)  $\frac{100}{n}$   
 (D)  $4n$   
 (E)  $100n$

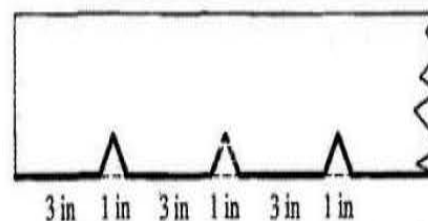
22. In a class,  $\frac{1}{8}$  of the boys and  $\frac{1}{4}$  of the girls play the piano, and 3 times as many girls as boys play the piano. If there are 100 boys and girls in the class, how many boys play the piano?

- (A) 3  
 (B) 5  
 (C) 12  
 (D) 24  
 (E) 25

23. If, in triangle ABC, the measure of angle B is greater than  $90^\circ$ , and  $AB = BC$ , what is a possible measure for angle C in degrees?

- (A) 35  
 (B) 45  
 (C) 55  
 (D) 60  
 (E) It cannot be determined from the information given.

24. One end of an 80-inch-long paper strip is shown in the figure below. The notched edge, shown in bold, was formed by removing an equilateral triangle from the end of each 4-inch length on one edge of the paper strip. What is the total length, in inches, of the bold notched edge on the 80-inch paper strip?



25. The pie-diagram given below shows the

percentage of employees in various sectors in a particular country. If 1.5 million people are employed in the service sector, how many million people are employed in the educational sector? Note: Figure not drawn to scale.

- (A) 1.5
- (B) 2
- (C) 1
- (D) 0.75
- (E) 10

Although it is called Central Park, New York City's great green space has no "center" — no formal walkway down the middle of the park, no central monument or body of water, no single orienting feature. The paths wind, the landscape constantly shifts and changes, the sections spill into one another in a seemingly random manner.

- 5 But this "decentering" was precisely the intent of the park's innovative design. Made to look as natural as possible, Frederick Law Olmsted's 1858 plan for central Park had as its main goal the creation of a democratic playground—a place with many centers to reflect the multiplicity of its uses and users. Olmsted designed the park to allow
- 10 interaction among the various members of society, without giving preference to one group or class. Thus, Olmsted's ideal of a "commonplace civilization" could be realized.



1. In lines 3-5, the author describes specific park features in order to \_\_\_\_\_.

- (A) present both sides of an argument
- (B) suggest the organization of the rest of the passage
- (C) provide evidence that the park has no center
- (D) demonstrate how large the park is
- (E) show how well the author knows the park

2. The main idea of this passage is that \_\_\_\_\_.

- (A) New York City is a democratic city
- (B) Olmsted was a brilliant designer
- (C) More parks should be designed without centers
- (D) Central Park is used by many people for many different purposes
- (E) Central Park is democratic by design

3. The passage suggests that Olmsted's design \_\_\_\_\_

- (A) was like most other parks being designed at the time
- (B) was radically different from other park designs
- (C) was initially very unpopular with New Yorkers
- (D) was inspired by similar parks in Europe
- (E) did not succeed in creating a democratic playground

4. The word **commonplace** as used in line 10 most nearly means \_\_\_\_\_.

- (A) inclusive
- (B) ordinary
- (C) mediocre
- (D) normal
- (E) trite

## Passage 2

It hung in Napoleon's bedroom until moving to the Louvre in 1804. It caused traffic jams in New York for seven weeks as 1.6 million people jostled to see it. In Tokyo viewers were allowed ten seconds each. The object of all this attention was the world's most famous portrait, the Mona Lisa.

- 5 Historically, its subject was nobody special, probably the wife of a Florentine merchant named Giocondo. But her portrait set the standard for High Renaissance paintings in many important ways. The use of perspective, which created the illusion of depth behind Mona Lisa's head, and triangular composition established the importance of geometry in painting. It diverged from the stiff, profile portraits that had been the norm
- 10 by displaying the subject in a relaxed, natural, three-quarter pose.

- One of the first easel paintings intended to be framed and hung on a wall, the Mona Lisa fully realized the potential of the new oil medium. Instead of proceeding from outlined figures, as painters did before, Leonardo modeled features through light and shadow. Starting with dark undertones, he built the illusion of three-dimensional features
- 15 through layers and layers of thin, transparent glazes. This technique rendered the whole, as Leonardo said, "without lines of borders, in the manner of smoke." His colors ranged from light to dark in a continuous gradation of subtle tones, without crisp separating edges. The forms seemed to emerge from, and melt into, shadows.

5. The main purpose of this passage is to
- (A) illustrate the characteristics and the value of a well-known masterpiece
  - (B) introduce the painting technique of an important genre
  - (C) describe the contribution of a distinguished artist
  - (D) discuss the influence of an artistic reform
  - (E) refute the norm of an aesthetic practice
6. The author cites Napoleon's bedroom to illustrate the
- (A) ambition of Napoleon
  - (B) fame of the Mona Lisa
  - (C) mystery of the Mona Lisa
  - (D) long history of the Mona Lisa
  - (E) political use of the Mona Lisa
7. By mentioning the identity of Giocondo, the model of Mona Lisa, the author contrasts Giocondo's
- (A) humble origins and her portrait's monetary value
  - (B) uncomely appearance and her portrait's beauty
  - (C) ordinary status and her portrait's artistic importance
  - (D) immoral habit and her portrait's fame
  - (E) early death and her portrait's eternity
8. According to the passage, the traditional principle on displaying subject is characterized as
- (A) romantic
  - (B) rigid
  - (C) loose
  - (D) free
  - (E) illusive



Passage 3

Marie Curie was one of the most accomplished scientists in history. Together with her husband, Pierre, she discovered radium, an element widely used for treating cancer, and studied uranium and other radioactive substances. Pierre and Marie's amicable collaboration later helped to unlock the secrets of the atom.

Marie was born in 1867 in Warsaw, Poland, where her father was a professor of physics. At a early age, she displayed a brilliant mind and a blithe personality. Her great exuberance for learning prompted her to continue with her studies after high school. She became **disgruntled**, however, when she learned that the university in Warsaw was closed to women. Determined to receive a higher education, she defiantly left Poland and in 1891 entered the Sorbonne, a French university, where she earned her master's degree and doctorate in physics.

Marie was fortunate to have studied at the Sorbonne with some of the greatest scientists of her day, one of whom was Pierre Curie. Marie and Pierre were married in 1895 and spent many productive years working together in the physics laboratory. A short time after they discovered radium, Pierre was killed by a horse-drawn wagon in 1906. Marie was stunned by this horrible misfortune and endured heartbreaking anguish. Despondently she recalled their close relationship and the joy that they had shared in scientific research. The fact that she had two young daughters to raise by herself greatly increased her distress.

Curie's feeling of desolation finally began to fade when she was asked to succeed her husband as a physics professor at the Sorbonne. She was the first woman to be given a professorship at the world-famous university. In 1911 she received the Nobel Prize in chemistry for isolating radium. Although Marie Curie eventually suffered a fatal illness from her long exposure to radium, she never became disillusioned about her work. Regardless of the consequences, she had dedicated herself to science and to revealing the mysteries of the physical world.

9. The passage is mainly about

- (A) accomplishments made by Marie Curie and her husband, Pierre
- (B) summary of life and contribution of Marie Curie
- (C) how Marie studied at the Sorbonne
- (D) famous female scientists from 1800s to 1900s
- (E) Nobel Prize winner and the first woman to be given a professorship

10. What's the meaning of "disgruntled" in passage 2?

- (A) annoyed
- (B) display
- (C) competitive
- (D) determining
- (E) interested

11. According to the passage, the author would most likely to DISAGREE that

- (A) The Curies' friendly collaboration helped to unlock the secrets of the atom.
- (B) Marie had a bright mind and a lighthearted personality.
- (C) Marie left Poland and traveled to France to enter the Sorbonne.
- (D) Marie began to feel desolated when she returned to the Sorbonne to succeed her husband.
- (E) Marie won the Nobel Prize in 1911 for her contribution to chemistry.

#### Passage 4

The Brooklyn Bridge in New York has been featured in movies, photographs, and media for over a hundred years, but the bridge is much more than just a pretty sight. It opened on May 24, 1883 and at 3460 feet, it was the longest suspension bridge in the world, measuring 50% longer than any previously built. The Brooklyn Bridge was a

John Augustus Roebling, a German immigrant, envisioned the bridge that would link Manhattan to Brooklyn over the east river. While in preparation for building, however, John Roebling was injured when a ferry pinned his foot to a pylon, and he died weeks later of tetanus. This first setback to the building of the bridge, was indicative of the problems that would plague its construction as well as the harrowing tenacity that led to its completion.

Washington Roebling took over the project upon his father's death. Washington persevered through many hurdles in the building of the bridge, including fires, accidents, industrial corruption and loss of public support. He continued, however, in his push to complete the bridge. In fact, it is said that he worked harder and longer than any worker he employed in even the most dangerous circumstances. While working in the caissons, under water chambers that supported the bridge, he was stricken by the decompression sickness that led to his paralysis. Nothing could stop him, though, and he continued construction by sending messages to the site through his wife, Emily.

Fourteen years after construction began, the Brooklyn Bridge celebrated its grand opening. The total cost to build the bridge was fifteen million dollars, and 27 people died in its construction, but it stood as a tribute to American invention and industry.



12. The primary purpose of the passage is to
- (A) describe the Brooklyn Bridge, the largest suspension bridge in the world
  - (B) exemplify the damage of tetanus in bridge construction
  - (C) illustrate the relationship between Washington Roebling and his father
  - (D) narrate how Brooklyn Bridge successfully overcame the challenges facing building the Brooklyn Bridge
  - (E) evaluate Washington Roebling's career choice and his development after 1883
13. In this passage, the underlined word "sight" means
- (A) observation
  - (B) landscape
  - (C) place
  - (D) construction
  - (E) opinion
14. The author mentioned the "fires, accidents, industrial corruption, and loss of public support" in order to
- (A) convince the reader that it is impossible to complete this project
  - (B) depict the dangerous circumstances around the bridge
  - (C) indicate that Washington Roebling encountered more obstacles than his father
  - (D) show the social and economic problems facing Washington Roebling at that time
  - (E) emphasize Washington Roebling's personality of perseverance
15. Which of the following statement can best characterize Washington Roebling?
- (A) strong-minded
  - (B) unhealthy
  - (C) cautious
  - (D) infamous
  - (E) ambitious
16. The author's attitude toward Washington Roebling is
- (A) indifferent
  - (B) objective
  - (C) respectful
  - (D) scornful
  - (E) impartial
17. Which of the following statement is NOT mentioned in the passage?
- (A) Brooklyn Bridge is longer than other suspension bridges in the world.
  - (B) Brooklyn Bridge signifies the Americans' ambition and drive.
  - (C) John Augustus Roebling died of tetanus.
  - (D) Washington Roebling insisted to construct the bridge no matter how hard it was.
  - (E) Washington Roebling did adopt his father's plan.
18. It can be inferred from the passage that
- (A) Washington Roebling was wounded by a ferry
  - (B) Washington Roebling suffered from sleeplessness when working
  - (C) all Americans hated the bridge and so did not support its construction
  - (D) workers that Washington Roebling employed did not work as hard as he did
  - (E) the total cost to build this bridge was funded by America federal government



### Passage 5

When in disgrace with fortune and men's eyes,  
I all alone beweepe my outcast state,  
And trouble deaf heaven with my bootless cries,  
And look upon myself and curse my fate,  
5 Wishing me like to one more rich in hope,  
Featured like him, like him with friends possessed,  
Desiring this man's art, and that man's scope,  
With what I most enjoy contented least,  
Yet in these thoughts myself almost despising,  
10 Haply I think on thee, and then my state,  
Like to the lark at break of day arising,  
From sullen earth, sings hymns at heaven's gate,  
For thy sweet love remembered such wealth brings.  
That then I scorn to change my state with kings.  
15 —William Shakespeare

19. What is the theme of this poem?
- (A) The misfortunes that plague everyone
  - (B) The beauty of a new morning
  - (C) How the thought of the speaker's beloved can change one's mood
  - (D) The speaker's envy of other peoples' lives
  - (E) The resentment that heaven has given the speaker a poor lot in life
20. Which of the following choices best describes the change of mood in this passage?
- (A) from joy to sadness
  - (B) from anger to confidence
  - (C) from resignation to heartache
  - (D) from self-pity to elation
  - (E) from calm to despair
21. What is the meaning of the phrase "trouble deaf heaven" in line 3?
- (A) The heavens are in peace.
  - (B) People in love are deaf to the will of God.
  - (C) God's is believed to have deaf ears.
  - (D) Troubled times are not heard in heaven and the turmoil remains.
  - (E) One prays, but God does not hear the prayers.
22. What does the poet mean when he writes "that man's scope"?
- (A) The man has made a benefit in industry.
  - (B) This is an intelligent man.
  - (C) The man has strong power.
  - (D) By chance, the man has made a fortune.
  - (E) A telescope is rewarded to the man.
23. In lines 4 through 7, the speaker explains that he envies all of the following aspects of others EXCEPT
- (A) hopefulness
  - (B) a handsome face
  - (C) skill as an artist
  - (D) is popular among friends
  - (E) contentment
24. Which of the following best summarizes the meaning of the first line of the poem?
- (A) It is a time of despair.
  - (B) It is a time of bad luck in believing in God.
  - (C) It is a time of motivation.
  - (D) It is a time when the speaker is trying to make a speech.
  - (E) It is a time of sorrow because the speaker's wealth is gone.

Passage 6

Volcanoes are mountains, but they are very different from other mountains; they are not formed by folding and crumpling or by uplift and erosion. Instead, volcanoes are built by the accumulation of their own eruptive products —lava, bombs (crusted over lava blobs), ash flows, and tephra (airborne ash and dust). A volcano is most commonly a conical hill or mountain built around a vent that connects with reservoirs of molten rock below the surface of the Earth. The term volcano also refers to the opening or vent through which the molten rock and associated gases are expelled.

Deep within Earth it is so hot that some rocks slowly melt and become a thick flowing substance called magma. Because it is lighter than the solid rock around it, magma rises and collects in magma chambers. Eventually some of the magma pushes through vent and fissures in the Earth's surface and a volcanic eruption occurs. Magma that has erupted is called lava.

Some volcanic eruptions are explosive and others are not. How explosive an eruption is depends on how runny or sticky the magma is. If magma is thin and runny, gases can escape easily from it. When this type of magma erupts, it flows out of the volcano. Because they move slowly enough for people to get out of their way, lava however, causes considerable destruction to buildings in their path. If magma is thick and sticky, gases cannot escape easily. Pressure builds up until the gases escape violently and explode. In this type of eruption, the magma blasts into the air and breaks apart into pieces called **tephra**. Tephra can range in size from tiny particles of ash to house-size boulders. Large-sized tephra typically falls back to the ground on or close to the volcano and progressively smaller fragments are carried away from the vent by wind. Volcanic ash, the smallest tephra fragments, can travel hundreds to thousands of kilometers downwind from a volcano.

25. A primary difference between volcanoes and other mountains is in

- (A) their location
- (B) their ruggedness
- (C) their age
- (D) their products
- (E) their formation

26. The following statements are true of tephra EXCEPT that

- (A) Some have size as large as huge boulders.
- (B) It can travel thousands of kilometers from a volcano.
- (C) Lava is from magma while tephra is from gases.
- (D) Large tephra falls on or close to a volcano.
- (E) It is erupted into the air from a thick flowing substance.

27. This passage would most likely appear in

- (A) a psychiatrist's manual
- (B) a travel brochure
- (C) an adventure novel
- (D) a science textbook
- (E) a book of trivia



28. The author uses words in bold print in order to
- (A) emphasize words that are used in an unusual way
  - (B) indicate phrases that are difficult to pronounce
  - (C) point out exotic vocabulary for this specific passage
  - (D) highlight important terms that are defined in the text
  - (E) indicate words that are unnecessary to understand the passage
29. According to the passage, the reason that lava flows hardly cause death is that
- (A) magma is too thin and runny to kill human beings
  - (B) their speed is low enough for people to make reaction
  - (C) they are small fissures in the Earth's surface
  - (D) they are mainly considerable destruction to buildings in their path
  - (E) they are lighter than the solid rock which can be held by human beings
30. All of the following can be explicitly answered by the passage EXCEPT:
- (A) What factors contribute to hot temperatures deep inside the Earth?
  - (B) Why are some volcanic eruptions explosive while others are not?
  - (C) Why do lava flows rarely kill people?
  - (D) Why does magma rise and collect in chambers?
  - (E) Why does pressure build up in magma that is thick and sticky?

Human longing for social participation leads to a fear of being alone, and the desire for occasional solitude tends to be overcome by this fear. Thus the need for privacy may eventually be completely submerged in the overpowering need to be with. When such an annihilation of privacy is achieved, a person is, indeed, in danger of

5 self-annihilation, of becoming a living automaton at the mercy of anyone who knows how to make him or her tick. In such a society one becomes grateful to “Big Brother” for assuming the task of directing the life one is no longer capable of directing oneself. In this way does the annihilation of privacy lead to the annihilation of the person, and of society; for the healthy society depends upon the ability of individuals to think and

10 reflect upon what a true society is—and without the privacy to think and reflect, people and society are lost.



31. The author's primary purpose in this passage is to present his views about
- (A) the value of social participation to the individual
  - (B) the importance of social responsibility in a democracy
  - (C) the dangers of a lack of individual privacy
  - (D) several characteristics of a healthy society
  - (E) techniques for ensuring privacy
32. According to the author, why is the privacy of individuals so important to society?
- (A) society depends on social participation
  - (B) privacy fosters the development of democratic values.
  - (C) without privacy the individual personality cannot respond to "Big Brother"
  - (D) privacy enables individuals to reflect on the nature of society
  - (E) group effort is impossible without privacy
33. The author suggests that all of the following could be in danger of annihilation EXCEPT
- (A) the individual personality
  - (B) human longing for social participation
  - (C) society as it now exists
  - (D) a person's ability to think independently
  - (E) the individual's need for privacy
34. In the sentence beginning "When such an annihilation" (line 4-6), a human being is compared to a
- (A) time bomb
  - (B) guinea pig
  - (C) martyr
  - (D) statue
  - (E) robot
35. "Big Brother" in line 6 most probably refers to a
- (A) loving relative
  - (B) programmed automaton
  - (C) democratic society
  - (D) reflective individual
  - (E) manipulative force

And now, O men who have condemned me, I would fain prophesy to you; for I am about to die, and in the hour of death men are gifted with prophetic power. And I prophesy to you who are my murderers that immediately after my departure punishment far heavier than you have inflicted on me will surely await you. Me you have killed because you wanted to escape the  
5 accuser, and not to give an account of your lives. But that will not be as you suppose: far otherwise. For I say that there will be more accusers of you than there are now; accusers whom hitherto I have restrained: and as they are younger they will be more inconsiderate with you, and you will be more offended at them. If you think that by killing men you can prevent  
10 someone from censuring your evil lives, you are mistaken; that is not a way of escape which is either possible or honorable; the easiest and the noblest way is not to disable others, but to improve yourselves. This is the prophecy which I utter before my departure to the judges who have condemned me.

36. It can be inferred from the passage that the speaker
- (A) has committed a very serious crime
  - (B) is in command of a massive army
  - (C) has lived his life as a fortune-teller
  - (D) has been sentenced to death
  - (E) believes that it is honorable to die
37. According to the passage, the speaker believes that he has been condemned because
- (A) he was critical of the way that many people were living
  - (B) his enemies were afraid that he would kill them
  - (C) he lived an evil life, and failed to improve himself
  - (D) he was young and inconsiderate
  - (E) he did too much to restrain the critics of his enemies
38. The speaker says that the “accusers” (line 6) who will come after him
- (A) will avenge his death
  - (B) will have the power to make prophecies
  - (C) will be numerous and less polite than he was
  - (D) have been improving themselves
  - (E) have been living evil lives
39. When the speaker says “punishment far heavier than you have inflicted on me will surely await you” (lines 3-4), he most likely means that
- (A) his supporters will set him free
  - (B) the people he is addressing will miss their last chance to be good instead of evil
  - (C) there will be a great war following his death
  - (D) the people he is addressing will become ill
  - (E) the people he is addressing will face far harsher criticism in the future than they did in the past
40. Which sentence best summarizes the speaker’s main point in this passage?
- (A) Evil people will never be able to change.
  - (B) The best way to avoid criticism is to live a good life.
  - (C) Young people are often less considerate than their elders.
  - (D) Threats of punishment will keep people quiet.
  - (E) People who are close to death possess magical powers.

[illegible]