

## VERBAL REASONING

Complete the sentences by choosing the best option, from the given lettered choices (A to D) below each.

1. You shouldn't have a bath straight after \_\_\_\_\_ a meal.

- A. ate
- B. eat
- C. eaten
- D. eating

2. The strange incident was also covered \_\_\_\_\_ national TV.

- A. at
- B. by
- C. on
- D. onto

Each of the following questions consists of a sentence with all or part of the sentence underlined. Following the requirements of standard written English, select (A) if the original is best; otherwise choose the best phrase from the options.

3. If we ask, he might help us.

- A. If we ask, he might help us
- B. If we are asking, he might help us
- C. If we asked, he might help us
- D. If we had asked, he might help us

Four lettered pairs (A to D) follow a related pair of words given in the question. Select the lettered pair that best expresses a relationship similar to that expressed in the original pair in capital letters.

4. CHEW: EAT::

- A. inhale: exhale
- B. sip: drink
- C. sleep: dream
- D. swallow: digest

5. SMILE: FROWN::

- A. blush: shy
- B. grin: smile

- C. laugh: cry
- D. tear: eye

Choose the lettered word or phrase that is **MOST NEARLY OPPOSITE** in meaning to the word in capital letters.

6. Please don't **RAVE**. Speak \_\_\_\_\_.

- A. calmly
- B. clearly
- C. fluently
- D. loudly

7. Shakeel's attitude was so **INSIPID**. She didn't show any \_\_\_\_\_.

- A. courage
- B. hope
- C. liveliness
- D. nervousness

Choose the lettered word or phrase that is **MOST NEARLY SIMILAR** in meaning to the word in capital letters.

8. A **SNAG** is a/an \_\_\_\_\_.

- A. boring program
- B. casual talk
- C. foolish prank
- D. unexpected difficulty

9. If you **BROACH** a topic you \_\_\_\_\_ it.

- A. announce
- B. discuss
- C. like
- D. reject

**Question 10 is based on the following paragraph.**

Late in the sixteenth century, the oppressed people of the Netherland unfurled the standard of rebellion against catholic Spain. After bloody and protracted fighting, they finally succeeded with the aid of Protestant England, in winning their independence. This vigorous little lowland nation quickly emerged as a major commercial and naval power that ungratefully challenged the supremacy of her

former benefactor England.

Holland also became a leading colonial power through the activities of the enterprising Dutch East India Company. The company's vast riches came mostly from the East Indies, where it maintained an enormous and profitable empire for three centuries. In 1609 it employed an English explorer, Henry Hudson, who ventured into what is now New York Bay and up the river that now bears his name, hoping that he had at last chanced upon the coveted shortcut through the continent. But, as the event proved, he merely filed a Dutch claim to the magnificently watered and wooded area.

New Netherland was permanently planted in 1623-1624 by the Dutch West India Company. Never more than a secondary interest of the founders, the colony was exploited for its quick-profit fur trade. The company's most brilliant stroke was to buy Manhattan Island from the Indians (who did not actually "own" it) for trinkets: 22, 000 acres of what is now perhaps the most valuable real estate in the world for virtually worthless pennies per acre.

A threat to the New Netherland came from the Swedes, who trespassed on Dutch preserves by planting the colony of New Sweden on the Delaware River from 1638 to 1665. Resenting the Swedish intrusion, the Dutch dispatched a small military expedition in 1655, led by the energetic and hot-headed director-general Peter Stuyvesant, who was dubbed "Father Wooden Led" by the Indians. The Swedish fort fell easily and the colony came to an abrupt end, leaving behind only a sprinkling of Swedish place names, log cabins (the first in America), and an admixture of Swedish blood in the area. New Netherland absorbed New Sweden, but it was soon the turn of the Dutch to be swallowed up by the English. In 1664, after Charles II had granted the area to his brother, the Duke of York, a strong English squadron appeared off the decrepit defenses of New Amsterdam. A fuming Peter Stuyvesant, short of all munitions except courage, was forced to surrender without firing a shot. New Amsterdam was thereupon renamed New York, in the honor of the duke. England won a splendid harbor, strategically located in the middle of the mainland colonies, and a stately Hudson River penetrating the interior. The English banner now waved triumphantly, with the removal of this foreign wedge, over a solid stretch of territory from Maine to the Carolinas.

10. Once independent the Dutch became the \_\_\_\_\_ of the English

- A. benefactors
- B. competitors
- C. explorers
- D. saviors

## ANALYTICAL REASONING

### Questions 11-13

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.

11. 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
12. 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 T
  - D. T is harder than S
13. 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. R and T

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.

14. Which of the following, if true, best helps to explain the steady rise in life expectancy that is cited above?
- A. Since 1960 the decline in illnesses that kill more Japanese people than does heart disease has been greater than the increase in heart disease
  - B. The average Westerner is still five times more likely to develop heart disease than is the average Japanese person
  - C. The Japanese diet has traditionally included many non-fatty foods that are thought to reduce the risk of developing heart disease
  - D. The life expectancy of the average Westerner has risen at a slower rate since 1960 than it did before 1960

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.

15. Which of the following conclusions can best be supported by the theory above of the Moon's origin, if that theory is correct?
- A. Most of the fluid cast off from the Earth was dispersed into outer space
  - B. The Moon has proportionally less iron at its core than the Earth does
  - C. The Moon is the only sizable heavenly body in orbit around the Earth
  - D. The surface of the Moon solidified after the surface of the Earth did

Grammarians have for years condemned as ungrammatical the English phrase "between you and I," insisting that the correct phrasing is "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".

16. Which of the following, if true, most seriously weakens the argument above?

- A. In his plays, Shakespeare intentionally had some of his character's use phrases he considered ungrammatical
- B. Many modern speakers of English sometimes say "between you and I" and sometimes say "between you and me"
- C. The more modern an English word or phrase, the less likely that modern grammarians will consider it acceptable for formal usage
- D. The phrase "between you and I" appears infrequently in Shakespeare's writings

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.

17. Which of the following, if true, is the best reason for dismissing the senator's claim that Jones is highly qualified?
- A. 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
  - B. The Lawyers' Committee does not advise the Senate on all judicial appointments
  - C. Several members of the Lawyers' Committee are not themselves qualified for judicial appointments
  - 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

Bats emit sounds and generally use the echoes of these sounds highly efficiently to detect; locate and catch their prey. However, it is claimed that the characteristic efficiency of this process is reduced by moths able to hear the sounds emitted by insect-eating bats.

18. Which of the following statements, if true, best supports the claim above?
- A. Moth species that can hear the sounds emitted by insect-eating bats are less likely to be caught by such bats than are moth species that cannot hear these sounds
  - B. Those moth species that cannot hear the sounds emitted by insect-eating bats are among the species of insects that are most likely to be caught by such bats

- C. Those moths that cannot hear the sounds emitted by insect-eating bats live longer on the average than those that can hear such sounds when both kinds of moth are in an environment continuously free of such bats
- D. When a moth changes its speed or direction of flight, there is a change in the sound pattern generated by the moth's wing movements

### Questions 19-20

A map representing countries R, S, W, X, Y, and Z is to be drawn. Adjacent countries cannot be the same color on the map. The only countries adjacent to each other are as follows:

R, S, X, and Y are each adjacent to W.  
X is adjacent to Y.  
R and S are each adjacent to Z.

- 19. Which of the following is a pair of countries that must be different in color from each other?
  - A. R and X
  - B. S and X
  - C. S and Z
  - D. X and Z
- 20. Which of the following is a pair of countries that can be the same color as each other?
  - A. R and S
  - B. S and W
  - C. W and X
  - D. W and Y

## QUANTITATIVE REASONING

21. The sum of the terms of the geometric progression 1, 3, 9, 27, ... ,729 is \_\_\_\_\_.

- A. 899
- B. 980
- C. 1073
- D. 1093

22. Square root of 0.001369 is \_\_\_\_\_.

- A. 0.031
- B. 0.033
- C. 0.037
- D. 0.37

23. A project can be completed by 150 workers in 40 days. But project manager brought 30 more workers after 16 days. The remaining work will be completed in \_\_\_\_\_ days.

- A. 10
  - B. 15
  - C. 20
  - D. 25
- A. 151

24.  $(a - b) c = ac - bc$  is called \_\_\_\_\_ property.

- A. associative
- B. commutative
- C. distributive
- D. identity

25. If A and B are two subsets of a universal set, then  $(A \cup B)^c =$  \_\_\_\_\_.

- A.  $A \cap B$
- B.  $A^c \cup B^c$
- C.  $A \cup B$
- D.  $A^c \cap B^c$

26.  $\left(\frac{2}{5}\right)^{-3} \times \left(\frac{2}{5}\right)^3 + \left(\frac{3}{5}\right)^5 \times \left(\frac{3}{5}\right)^{-5} =$  \_\_\_\_\_ .



- A.  $(6/5)^8$
- B. 0
- C. 1
- D. 2

27. If  $f(x) = x^4 - 3x^2 - x - 192$ , then value of  $f(-4) =$  \_\_\_\_\_.

- A. 10
- B. 12
- C. 20
- D. 24

28. Solution of the equation  $\sqrt{3x-2} - \sqrt{x} = 2$ , is \_\_\_\_\_.

- A. 1
- B. 3
- C. 7
- D. 9

29. 0.00345 in scientific notation can be written as \_\_\_\_\_.

- A.  $0.345 \times 10^{-2}$
- B.  $3.45 \times 10^{-3}$
- C.  $0.345 \times 10^2$
- D.  $3.45 \times 10^3$

30.  $\log_a n \times \log_n a \times \log_m b \times \log_b p \times \log_p m =$  \_\_\_\_\_.

- A. 0
- B. 1
- C.  $\log_b n$
- D.  $\log_m n$

#### ANSWER KEY

1	D	7	C	13	D	19	C	25	D
2	C	8	D	14	A	20	A	26	D
3	C	9	B	15	B	21	D	27	C
4	B	10	B	16	A	22	C	28	D
5	C	11	A	17	D	23	C	29	B

6	A	12	D	18	A	24	C	30	B
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SAMPLE PAPER-HAT-MEDICAL(MS)