

The following questions ask you to find relationships between words.
For each question, select the answer choice that best completes the meaning of the sentence.

31. Country is to railroads as body is to

- (A) arteries
- (B) muscles
- (C) exhalations
- (D) lesions
- (E) reflexes

32. Fee is to service as

- (A) officer is to patrol
- (B) history is to archive
- (C) bristle is to brush
- (D) nerve is to warning
- (E) thanks is to favor

33. Speech is to chat as banquet is to

- (A) kitchen
- (B) hotel
- (C) snack
- (D) table
- (E) emcee

34. Boardwalk is to beach as

- (A) railing is to exhibit
- (B) gymnasium is to school
- (C) cubicle is to office
- (D) escalator is to store
- (E) bar is to restaurant

35. Garment is to alteration as book is to

- (A) publication
- (B) genre
- (C) revision
- (D) catalog
- (E) distribution

36. Common is to rare as

- (A) iron is to diamond
- (B) doorway is to exit
- (C) pacifist is to activist
- (D) landlord is to occupant
- (E) base is to summit

37. Leg is to journey as

- (A) spider is to web
- (B) egg is to incubator
- (C) arm is to sleeve
- (D) hourglass is to sand
- (E) note is to scale

38. Equator is to world as

- (A) millennium is to year
- (B) waist is to man
- (C) horizon is to sunrise
- (D) dome is to arena
- (E) satellite is to moon

39. Food is to hunger as security is to

- (A) guard
- (B) fear
- (C) liquid
- (D) alarm
- (E) poison

40. Alchemy is to science as

- (A) seminary is to religion
- (B) diaphragm is to body
- (C) fuselage is to aviation
- (D) wafer is to food
- (E) plagiarism is to writing

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. Charm is to evil as

- (A) fort is to attack
- (B) bungalow is to rest
- (C) tip is to dinner
- (D) insignia is to uniform
- (E) seesaw is to play

43. Cell is to organism as worker is to

- (A) boss
- (B) office
- (C) employee
- (D) income
- (E) staff

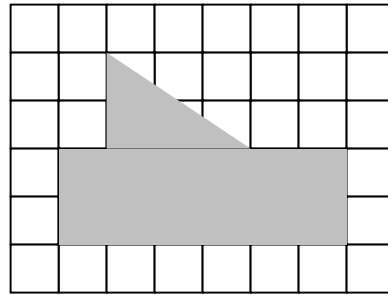
44. Binding is to book as

- (A) welding is to tank
- (B) desecrating is to grave
- (C) oscillating is to pendulum
- (D) splitting is to atom
- (E) jousting is to knight

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6. The shaded figure contains how many units of area?

- (A) 14
- (B) 15
- (C) 16
- (D) 17
- (E) 18



For **Questions 7-8**, refer to the table.

7. How many more \$2 coins needed to be sold to equal the total revenue from the sale of the \$10 coins?

- (A) 50
- (B) 55
- (C) 60
- (D) 65
- (E) 70

Results From a Rare Coin Sale

Coin Price	\$2	\$5	\$10
Number Sold	80	30	29

8. The revenue generated by the \$5 coin is what percent of the total revenue generated at the Rare Coin Sale?

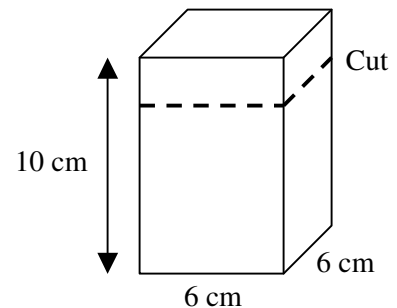
- (A) 10%
- (B) 20%
- (C) 25%
- (D) 35%
- (E) 50%

9. There are 96 children in the ninth grade. The principal wants to organize the children into an even number of teams with an odd number of children on each team. Which of the following could be the total number of teams?

- (A) 6
- (B) 8
- (C) 12
- (D) 24
- (E) 32

10. Mahina removed a 3-centimeter strip around the top of a rectangular box with an initial height of 10 centimeters. What will be the volume of the shortened box, in cubic centimeters?

- (A) 19
- (B) 168
- (C) 192
- (D) 224
- (E) 252



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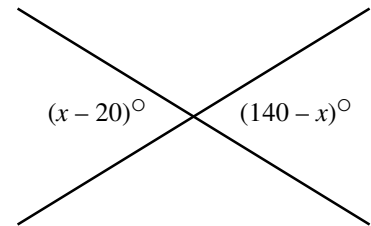
11. According to the information in the box, how many movies did the three people see altogether?

- (A) $5f - 2$
- (B) $6f + 2$
- (C) $6f - 2$
- (D) $7f + 2$
- (E) $7f - 2$

Frank saw f movies
Gloria saw 5 times as many movies as Frank
Harry saw 2 fewer movies than Frank

12. Which of the following is equal to x ?

- (A) 60
- (B) 70
- (C) 80
- (D) 90
- (E) 100



13. It takes 1.5 minutes for a traffic light to complete its cycle. The light is red for 50 seconds, yellow for 5 seconds and green for 35 seconds during each cycle. What is the probability that the light will not be green at any given time?

- (A) $\frac{11}{18}$
- (B) $\frac{4}{9}$
- (C) $\frac{17}{18}$
- (D) $\frac{7}{9}$
- (E) $\frac{7}{18}$

14. A football coach divides his players into 7 groups for conditioning drills. The first group of 8 players is 10% of the entire team. If the other 6 groups each have the same number of players, how many players are in each of the 6 other groups?

- (A) 6
- (B) 7
- (C) 9
- (D) 10
- (E) 12

15. A recipe calls for 4 scoops of raisins for every 1 scoop of nuts. However, a cook used 4 scoops of nuts and 1 scoop of raisins. How many more scoops of raisins must the cook add to have the correct proportion?

- (A) 12
- (B) 15
- (C) 16
- (D) 18
- (E) 20

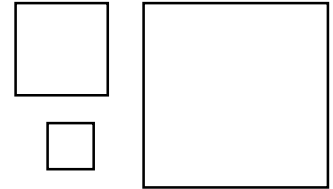
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16. If $1 < A < B$, which of the following is the LEAST?

- (A) $\frac{1}{A}$ (B) $\frac{1}{B}$ (C) $\frac{1}{A-B}$
- (D) $\frac{1}{B-A}$ (E) $\frac{1}{A+B}$
-

17. One side of “Big Square” is twice the length of one side of “Medium Square” and one side of “Medium Square” is twice the length of one side of “Small Square”. If one side of “Medium Square” has a length of 4, what is the average (mean) area for all three squares?

- (A) 25
(B) 26
(C) 27
(D) 28
(E) 29



18. At the close on Monday, a stock was trading at $17\frac{1}{2}$ dollars a share, but went up in value $\frac{3}{4}$ dollar by the close on Tuesday. How much was 20 shares of the stock worth at Tuesday’s close?

- (A) \$345
(B) \$350
(C) \$355
(D) \$360
(E) \$365
-

19. The teacher-to-student ratio at a small school was 1 : 10. After 4 new teachers were added, the teacher-to-student ratio dropped to 1 : 6. How many more teachers than students were at the school *before* the additions were made?

- (A) 36
(B) 54
(C) 72
(D) 90
(E) 108
-

20. An aquarium with a capacity of 20 gallons is being filled with water at a rate of $\frac{1}{2}$ gallon in 10 seconds.

How long will it take to fill $\frac{4}{5}$ of the aquarium?

- (A) 5 minutes and 20 seconds
(B) 5 minutes and 40 seconds
(C) 6 minutes
(D) 6 minutes and 20 seconds
(E) 6 minutes and 40 seconds

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For the next eight or ten months, Oliver was the victim of a systematic course of treachery and deception. He was brought up by hand. The hungry and destitute situation of the infant orphan was duly reported by the workhouse authorities to the parish authorities. The parish authorities inquired with dignity of the workhouse authorities, whether there was no female then established in “the house” who was in a situation to impart to

5 Oliver Twist, the consolation and nourishment of which he stood in need. The workhouse authorities replied with humility, that there was not. Upon this, the parish authorities magnanimously and humanely resolved, that Oliver should be “farmed”, or, in other words, that he should be dispatched to a branch-workhouse some three miles off, where twenty or thirty other juvenile offenders against the poor-laws, rolled about the floor all day, without the inconvenience of too much food or too much clothing, under the parental superintendence of an

10 elderly female, who received the culprits at and for the consideration of sevenpence-halfpenny per small head per week. Sevenpence-halfpenny’s worth per week is a good round diet for a child; a great deal may be got for sevenpence-halfpenny, quite enough to overload its stomach, and make it uncomfortable. The elderly female was a woman of wisdom and experience; she knew what was good for children; and she had a very accurate perception of what was good for herself. So, she appropriated the greater part of the weekly stipend to her own

15 use, and consigned the rising parochial generation to even a shorter allowance than was originally provided for them. Thereby finding in the lowest depth a deeper still; and proving herself a very great experimental philosopher.

-Charles Dickens

26. This selection is primarily about

- (A) the living conditions of a specific branch-workhouse.
- (B) the early childhood and education of Oliver Twist.
- (C) the history of young orphans in the 19th century.
- (D) the circumstances of a young child’s relocation.
- (E) the philosophy of a workhouse superintendent.

29. The style of the passage is most like that found in a

- (A) personal letter
- (B) diary of an orphan
- (C) history textbook
- (D) philosopher’s manual
- (E) novel about an orphan

27. It can be inferred from the passage that “sevenpence-halfpenny” was

- (A) enough money to take care of a child for a week.
- (B) the weekly pay of the branch-workhouse overseer.
- (C) the cost of ownership of Oliver Twist.
- (D) just enough money to pay for food for one day.
- (E) used specifically to buy clothing for infant orphans.

30. In line 16, “finding in the lowest depth a deeper still” refers to the

- (A) great difficulty of adjusting to a branch-workhouse.
- (B) highly immoral nature of a woman’s actions.
- (C) amount of experience of an overseer of orphans.
- (D) experimental aspect of a woman’s philosophy.
- (E) extent to which orphaned children must suffer.

28. According to the passage, the overseer of the branch-workhouse

- (A) was too young to handle the raising of children.
- (B) had a poor relationship with parish authorities.
- (C) secretly stole money that was meant for child care.
- (D) was trying to quit her job as a caregiver of children.
- (E) had a particular dislike for young Oliver Twist.

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