

### Questions 1-5

The strength of the electronics industry in Japan is the Japanese ability to organize production and marketing rather than their achievements in original research. The British are generally recognized as a far more inventive collection of individuals, but never seem able to exploit what they invent. There are many examples, from the TSR Z hovercraft, high speed train and Sinclair scooter to the Triumph, BSA and Norton motorcycle which all prove this sad rule. The Japanese were able to exploit their strengths in marketing and development many years ago, and their success was at first either not understood in the West or was dismissed as something which could have been produced only at their low price. They were sold because they were cheap copies of other peoples ideas churned out of a workhouse which was dedicated to hard grind above all else.

1. The main theme of this passage is:
  - A. electronics industry in Japan
  - B. Industrial comparison between Japan and Britain
  - C. the importance of original research in industry
  - D. the role of marketing efficiency in industrial prosperity
2. The TSR Z hovercraft, high speed train, Sinclair Scooter, etc are the symbols of:
  - A. Japanese failure
  - B. Japanese success
  - C. British failure
  - D. British success
3. The sad rule mentioned in this passage refers to:
  - A. the lack of variety in Japanese inventions
  - B. the inability of the Japanese to be inventive like the British
  - C. the poorer marketing ability of the British
  - D. the inability of the British to be industrious like the Japanese
4. According to the passage, prosperity in industry depends upon:
  - A. marketing ability
  - B. productivity
  - C. official patronage
  - D. inventiveness

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5. It is evident from this passage that the strength of a country's industry depends upon:

- A. electronic development
- B. dedicated work force
- C. original research
- D. international cooperation

Four/five lettered pairs (A to D/E) follow a related pair of words given in capitals. Select the lettered pair that best expresses a relationship similar to that expressed in the original pair in capitals.

6. DEplete: ENervate::

- A. strengthen: weak
- B. invigorate: tired
- C. exhaust: enfeeble
- D. tighten: loosen
- E. weariness: restless

7. HINDALIUM: ALUMINIUM::

- A. iron: lead
- B. carbon: manganese
- C. lead: silver
- D. brass: copper

8. CABIN: SHIP::

- A. cockpit: plane
- B. wheel: chair
- C. room: bungalow
- D. kitchen: store room
- E. aeroplane: pilot

9. BULLET: GUN BARREL::

- A. boat: lake
- B. nib: pen
- C. grass: garden
- D. lead: pencil
- E. train: track

10. PF

Ch  
op  
11

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**10. PROGRAM: BROADCAST:**

- A. crime: investigate
- B. opera: compose
- C. lecture: attend
- D. news: confirm
- E. book: publish

Choose the lettered word or phrase that is most nearly opposite in meaning to the word in capital letters.

**11. CONNECT:**

- A. involve
- B. hinted
- C. separate
- D. lazy

**12. LISTLESS:**

- A. lazy
- B. apathetic
- C. active
- D. gobble

**13. BLATANT:**

- A. clamorous
- B. eccentric
- C. furtive
- D. captivate

**14. DELETE:**

- A. erase
- B. dilate
- C. entity
- D. create

**15. AWKWARD:**

- A. skilful
- B. smooth
- C. penalty
- D. fame



**16. GRUESOME:**

- A. disgusting
- B. pleasant
- C. grisly
- D. stern

**17. CALIBRE:**

- A. inability
- B. distinct
- C. yielding
- D. brevity

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.

**18. Perched on the roof like a fantastic mechanical bird, electricity is generated by the windmill to light the classroom building.**

- A. electricity is generated by the windmill to light the classroom building
- B. the classroom building is lit by electricity generated by the windmill
- C. the windmill's electricity is generated to light the classroom building
- D. the windmill generates electricity and lights the classroom building
- E. the windmill generates electricity to light the classroom building

**19. After starting to attend the art class, Adnan sketches were more lifelike.**

- A. After starting to attend the art class
- B. Since starting to attend the art class
- C. After the art class began to be attended
- D. After he started attending the art class
- E. After starting and attending the art class

20. The world seems to grow smaller as they devise faster means of communication.

- A. they devise faster means of communication
- B. they device faster means of communication
- C. means of communication are devised faster
- D. they devise faster communication means
- E. faster means of communication are devised

21. If all of this bickering were to be stopped by you children, we might be able to reach an equitable solution.

- A. all of this bickering were to be stopped by you children
- B. all this bickering were stopped by you children
- C. all of you children had stopped this bickering
- D. all of this bickering stopped you children
- E. you children stopped all of this bickering

22. Increased productivity necessary reflects greater efforts made by the employees.

- A. Increased productivity necessary
- B. Increase in productivity necessary
- C. Increase of productivity necessary
- D. Increased productivity necessarily

Complete the sentences by choosing the most appropriate option, from the given lettered choices (A to D/E) below each.

23. There has been an exciting new technological break \_\_\_\_\_.

- A. through
- B. down
- C. in
- D. for

24. He is very keen \_\_\_\_\_ going abroad, for higher studies.

- A. for
- B. at
- C. over
- D. on

found his feelings \_\_\_\_\_ better, he  
was \_\_\_\_\_ than he had expected.

- A. to
- B. in
- C. against
- D. with

26. I would like to have the newspaper as soon as you \_\_\_\_\_ it.

- A. finished
- B. are finish
- C. will finish
- D. have finished

27. I hope to be back here a month \_\_\_\_\_.

- A. after
- B. hence
- C. thence
- D. before

28. Almost everyone falls \_\_\_\_\_ on the first try.

- A. in passing his driver's test
- B. to pass his driver's test
- C. to have passed his driver's test
- D. passing his driver's test

29. If I \_\_\_\_\_ worked hard, I would have passed.

- A. would have
- B. had
- C. should have
- D. have

30. He will not apologize \_\_\_\_\_ you for what he did, as he  
acted in good faith.

- A. with
- B. for
- C. to
- D. by



31. The remarkable fact that many inventions had their birth as toys suggests that people philosophize more freely when they know that their \_\_\_\_\_ leads to no \_\_\_\_\_ results.

- A. cogitation ... trivial
- B. persistence ... satisfactory
- C. speculation ... weighty
- D. creativity ... measurable
- E. conjecture ... inconsequential

32. The weather in the far north is not \_\_\_\_\_ it is down south.

- A. like humid as
- B. as humid as
- C. humid as
- D. so humid that

33. The equipment works on the \_\_\_\_\_ of Archimedes.

- A. general
- B. view
- C. principle
- D. basis

### Questions 34-35

Self contained diving suits have made it possible for a diver to explore the depths without the local authorities' knowing very much about it. Should he be lucky enough to discover a wreck, a diver can recover the less cumbersome fragments, bronzes, marble, or bits of statuary, without attracting official attention. Today one can indulge in a secret treasure hunt right down to the seabed with the added advantage that it is far harder to keep a watch on sunken treasure than it is to protect excavations on shore. So the modern despoiler is as great a pest to the serious archaeologist at sea as he is on land. In Egypt and Syria, he has deprived us of invaluable data. He nearly always ransacks his objective to take away some portable trophy which he thinks valuable, he keeps his treasure house a secret; and we must blame him for the appearance of various objects impossible to date or catalog.

34. The passage suggests that the author is:

- A. opposed to excavations on shore
- B. sympathetic to the officials
- C. sympathetic to the divers
- D. opposed to investigations in Syria and Egypt
- E. opposed to the despoilers' cataloging their finds

### Questions 36-42

Five runners Feroze, Gohar, Hamid, Imran and Majid are assigned to lanes numbered 1 through 5 on a track. Each runner has the option of wearing a knee brace during the competition. Two of the runners are from Lahore, two are from Karachi and one is from Islamabad. The following conditions must apply:

Imran and Majid are assigned to the first two lanes, but not necessarily in that order.

The runner in the third lane is from Islamabad and wears a knee brace.

Neither runner from Karachi wears a knee brace.

Both Gohar and Feroze are assigned higher-numbered lanes than that of Hamid.

Neither Majid nor Feroze comes from Karachi.

36. Which one of the following could be an accurate list of runners, in order from lane 1 to lane 5?

- A. Imran, Hamid, Feroze, Majid, Gohar
- B. Imran, Majid, Gohar, Hamid, Feroze
- C. Majid, Gohar, Hamid, Imran, Feroze
- D. Majid, Imran, Gohar, Hamid, Feroze
- E. Majid, Imran, Hamid, Feroze, Gohar

37. Which one of the following could be true?

- A. Feroze runs in lane 5.
- B. Gohar runs in lane 1.
- C. Hamid runs in lane 2.
- D. Imran runs in lane 3.
- E. Majid runs in lane 5.

38. If the runner in lane 1 is from Karachi, then which one of the following could be true?

- A. Feroze runs in a lane numbered one higher than Imran's.
- B. Hamid runs in a lane numbered one higher than Feroze's.
- C. Hamid runs in a lane numbered one higher than Majid's.
- D. Hamid runs in a lane numbered one higher than Imran's.
- E. Imran runs in a lane numbered one higher than Majid's.



39. If a runner with a knee brace runs in lane 1, then which one of the following CANNOT be true?

- A. Feroze runs in lane 4.
- B. Gohar runs in lane 5.
- C. A runner with a knee brace runs in lane 2.
- D. A runner with a knee brace runs in lane 3.
- E. A runner with a knee brace runs in lane 4.

40. Which one of the following must be true?

- A. Gohar runs without a knee brace.
- B. Hamid runs without a knee brace.
- C. Majid runs without a knee brace.
- D. Feroze runs with a knee brace.
- E. Imran runs with a knee brace.

41. If runners wearing knee braces do not run in consecutively numbered lanes and runners not wearing knee braces do not run in consecutively numbered lanes, then in exactly how many distinct orders could the runners be assigned to lanes?

- A. 1
- B. 2
- C. 3
- D. 4
- E. 5

42. If a runner with a knee brace runs in lane 2, then which one of the following cannot be true?

- A. The runner in lane 1 is from Karachi
- B. The runner in lane 1 is from Lahore
- C. The runner in lane 4 is from Karachi
- D. The runner in lane 5 is from Karachi
- E. The runner in lane 5 is from Lahore

An editor found that the manuscript of a new novel contained many grammatical errors and misused words. Despite this fact, the editor did not recommend that the manuscript be rejected.

43. Each of the following, if true, would explain the editor's decision EXCEPT:

- A. The manuscript in question had already been accepted by the publisher, a decision that could not be reversed on the editor's advice.
- B. The author of the manuscript was a first-time author whose work was not expected to attract much critical notice.
- C. The prose style used in the manuscript, although unorthodox, was groundbreaking and enjoyable to read.
- D. The errors in the manuscript could easily be corrected in the editing process, and the novel's story was gripping and dramatic.
- E. Correct grammar and word usage are not the most important factors in an editor's decision of whether to recommend a manuscript's rejection.

### Questions 44-48

Seven officers, A, B, C, D, E, F and G, each are assigned to manage exactly one of four activities Accommodation, Operations, Administrations and Accounts. Managing assignments are made subject to the following conditions:

Each activity is managed by one or two of the seven officers.

B manages Administrations.

Nelther E nor F is an Operational manager.

If C manages Accommodation, F and G manage Accounts.

If D manages Operations or Accounts, A and G do not manage either Operations or Accounts.

44. If C and E manage Accommodation, which one of the following must be true?

- A. Operations have two managers.
- B. G manages Administration.
- C. A manages Administration or Accounts.
- D. D manages Administration.
- E. Administration has one manager.

45. If G manages Administrations and A manages Operations, which one of the following must be true?

- A. D manages Accommodation.
- B. F manages Accounts.
- C. E manages Accommodation.
- D. C manages Operations.
- E. F manages Accommodation.

47. If G is the only Accounts manager, which one of the following could be true?

- A. D manages Operations.
- B. If F manages Accommodation, D manages accommodation.
- C. A manages Administrations.
- D. If F manages Administrations, D manages Administrations.
- E. C and D manage the same activity.

48. If A does not manage Accommodation and D manages Operations, which one of the following cannot be true?

- A. C manages Operations.
- B. E manages Accounts.
- C. G manages Administrations.
- D. F manages Accommodation.
- E. E manages Accommodation.



**Company President:** Many shareholders believe that, rather than developing products of our own to compete in new markets; our company should instead acquire existing companies that offer products of that type. This would be unwise. Any company that is willing to be acquired cannot be in a healthy competitive position in its market and any company that is unwilling to be acquired would cost too much for our company to acquire without incurring substantial risk.

49. The company president's argument proceeds by:

- A. advocating one course of action because a potential alternative course of action offers fewer advantages
- B. determining that a course of action is unwise because it cannot be undertaken without incurring unacceptable costs
- C. arguing against a course of action because there exist potential alternative courses of action that have not been definitively ruled out
- D. dismissing the course of action recommended by a group of shareholders because the members of that group do not have the best interests of the company at heart
- E. rejecting a course of action because the two possible situations in which it could be pursued are both unacceptable

### Questions 50-55

Seven friends Ali, Basit, Fahad, Hashim, Imdad, Jameel and Mohsin are sitting in a restaurant. Each orders one of two items, Ice Cream or Juice, but not both. The following conditions must be satisfied:

- If Hashim orders Juice, then Jameel orders Ice Cream.
- If Hashim orders Ice Cream, then Basit orders Juice.
- If Mohsin orders Ice Cream, then Ali orders Juice.
- If Ali orders Juice, then Jameel orders Juice.
- If Imdad orders Juice, then Jameel orders Ice Cream.
- If Fahad orders Ice Cream, then Hashim orders Ice Cream.
- If Mohsin orders Ice Cream, then Imdad orders Juice.
- If Imdad orders Juice, then Basit orders Ice Cream.

50. If Ali and Jameel make different choices for their items, then which one of the following must be true?

- A. Fahad orders Ice Cream.
- B. Ali orders Juice.
- C. Imdad orders Ice Cream.
- D. Hashim orders Juice.
- E. Mohsin orders Ice Cream.

51. If Imdad orders Juice, then which one of the following must be true?

- A. Jameel orders Juice.
- B. Fahad orders Ice Cream.
- C. Mohsin orders Ice Cream.
- D. Ali orders Juice.
- E. Hashim orders Juice.

52. If Ali and Hashim have the same item, each of the following could be true except:

- A. Mohsin and Imdad order different items.
- B. Imdad and Jameel order different items.
- C. Hashim and Imdad order different items.
- D. Jameel and Fahad order different items.
- E. Fahad and Basit order different items.

53. Which of the following pairs of friends together must order at least one Ice Cream?

- A. Fahad and Hashim
- B. Ali and Imdad
- C. Hashim and Mohsin
- D. Fahad and Basit
- E. Ali and Jameel

54. If Basit orders Ice Cream, then which of the following must be true?

- A. Hashim orders Ice Cream.
- B. Imdad orders Juice.
- C. Mohsin orders Ice Cream.
- D. Ali orders Ice Cream.
- E. Jameel orders Juice.

55. What is the maximum number of friends who could order Ice Cream?

- A. Two
- B. Three
- C. Four
- D. Five
- E. Six

**Executive:** Nearly everyone can become a consultant, for there are no formal requirements that must be satisfied to be called a consultant. Anyone who convinces a company to hire him or her to perform an advisory function-no matter what its nature-is by definition a consultant.

56. The executive's conclusion can be properly drawn if which one of the following is assumed?

- A. Nearly everyone can convince a company to hire him or her to perform an advisory function.
- B. Some consultants satisfy a set of formal requirements not directly related to any advisory function they perform for a business.
- C. Those who convince companies to hire them to perform advisory functions satisfy their employers' requirements for the performance of those functions.
- D. Every consultant has convinced some company that he or she satisfies a set of informal requirements.
- E. Some consultants could convince any company to hire them to perform certain advisory functions.



## Questions 57-61

The A, B, C, D, E and F families have each rented a time share in a six unit building. The building has three floors, labeled first to third from bottom to top. Each floor has an identical layout consisting of two units: a garden view apartment on the west side of the building and an ocean view apartment on the east side of the building. The following conditions must apply:

The B rent the unit immediately beneath the A's ocean-view unit.  
If the F rent an ocean view apartment, the B occupies the same floor as the E.

If the A and the D occupy the same floor, the F rent the unit immediately and directly beneath the C's unit.

If the D rent a garden view unit, the F occupies a unit on the first floor.

If the D occupies a first floor unit, the C's occupy a third floor unit.

57. Which of the following could be true?

- A. The C's occupy a second floor unit, whereas the D occupy a first-floor unit.
- B. The A's occupied a unit immediately and directly below the F and share a floor with the D.
- C. The A's rent a garden view unit on the same floor as the E.
- D. The F rent an ocean view unit on the same floor as the E.
- E. The D and F both occupy the third floor.

58. If the E and the D both rent garden view units, then which of the following could be true?

- A. The F rent the first floor ocean view unit.
- B. The C's rent the first floor garden view unit.
- C. The A's and the D occupy the same floor.
- D. The A and the F occupy the same floor.
- E. The E and the F occupy the same floor.

59. If the F rent a third-floor unit, then which of the following must be true?

- A. The B rent a second-floor unit.
- B. The C rent a second-floor unit.
- C. The C rent a first-floor unit.
- D. The D rent a third-floor unit.
- E. The E rent a first-floor unit.

60. If the D rent the first-floor ocean-view unit, then each of the following must be true EXCEPT:

- A. The A and the C occupy the same floor.
- B. The B and the F occupy the same floor.
- C. The E rent a garden-view unit.
- D. The F rent a garden-view unit.
- E. The A rent a third-floor unit.

61. If neither the A nor the C rent a third-floor unit, then which one of the following could be true?

- A. The B rent a second-floor unit.
- B. The D rent a second-floor unit.
- C. The F rent a second-floor unit.
- D. The C rent an ocean-view unit.
- E. The F rent an ocean-view unit.

#### Questions 62-63

Upon exiting an exhibit, some visitors to art museums find it difficult to describe what it was that they liked and didn't like about the paintings. Yet because these visitors feel strongly about which art they believed to be good and which art they believed to be bad, appreciating a work of art obviously does not require the ability to articulate what, specifically, was perceived to be good or bad.

62. The argument above assumes which one of the following?

- A. The fact that some people find it difficult to articulate what they like about a work of art does not mean that no one can.
- B. If an individual feels strongly about a work of art, then he or she is capable of appreciating that work of art.
- C. The vocabulary of visual art is not a part of common knowledge, but rather is known only to those who study the arts.
- D. When a person can articulate what he or she likes about a particular painting, he or she is able to appreciate that work of art.
- E. Paintings can be discussed only in general terms of good and bad.

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63. According to the passage above, all of the following could be true EXCEPT:

- A. Some museum visitors can explain with great precision what they liked and didn't like about a certain painting.
- B. If a person studies art, then that person will be able to articulate her opinion about paintings.
- C. If a person can't say why she likes a piece of art, it doesn't necessarily mean that she doesn't appreciate that piece.
- D. Some visitors can explain what they liked about a piece, but are unable to explain what they didn't like.
- E. The inability to express the reason for a particular preference indicates that the preference must not be strong.

Efforts to encourage conservation by individuals are unlikely to address the world's most pressing energy problems, for although individuals have some knowledge of the amount of energy they use directly, there are hidden energy costs to everything an individual does. Every product purchased and every service received has an attendant energy cost and the cumulative total of these costs far exceeds the amount of energy used directly by individuals.

64. Which one of the following is an assumption on which the argument relies?

- A. The most pressing energy problems involve consumption of energy that cannot be attributed to individual behavior.
- B. The prices of goods and services do not incorporate the hidden energy costs involved in their production and delivery.
- C. Conservation efforts are most effective when individuals have control over the amount of energy they consume.
- D. The world's most pressing energy problems cannot be solved by reliance on the actions of individuals.
- E. Individuals can effectively conserve energy in only those cases when they have some knowledge of the energy costs attendant upon their actions.

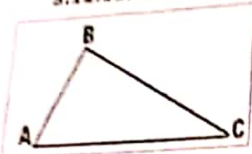


Last year, Munir enjoyed a high income from exactly two places: his sporting goods store and his stock market investments. Although Munir earns far more from his store than from his investments, the money he earns from the stock market is an important part of his income. Because of a series of drops in the stock market, Munir will not earn as much from his investments this year. It follows then that Munir will make less money this year than he did last year.

65. Which one of the following is an assumption necessary to the author's argument?

- A. Increased profits at Munir's sporting goods store will not offset any loss in stock market income
- B. Sporting goods store earns lower profits when the stock market drops
- C. Drops in the stock market do not always affect all of a particular investor's stocks
- D. Munir's stock market investments will be subject to increased volatility
- E. If his income is lower, Munir will not be able to meet his expenses.

66. In the above figure, the angles A, B, C of triangles are in ratio 5:12:13. What is the measure of angle A?



- A. 15
- B. 27
- C. 30
- D. 34
- E. 40

67. In a legislative body of 200 people, the number of Democrats is 50 less than 4 times the number of Republicans. If one fifth of the legislators are neither Republican nor Democrat, how many of the legislators are Republicans?

- A. 42
- B. 50
- C. 71
- D. 95
- E. 124

68. If  $m - n = 5$  and  $2m + 3n = 15$ , then  $m + n = ?$

- A. 1
- B. 6
- C. 7
- D. 10

69. There are 100 people on a line. Asim is the 37th person and Faisal is the 67th person. If a person on line is chosen at random, what is the probability that the person is standing between Asim and Faisal?

- A.  $\frac{1}{100}$
- B.  $\frac{29}{100}$
- C.  $\frac{3}{10}$
- D.  $\frac{1}{2}$

70. If  $64^{12} = 2^{a-3}$ , what is the value of a?

- A. 9
- B. 15
- C. 69
- D. 72
- E. 75

71. The population of a town was 12,000 in 1980 and 16,000 in 1990. What was the percent increase in the population of the town during this period?

- A.  $33\frac{1}{3}\%$
- B. 50%
- C. 75%
- D. 80%



72. Simplify  $\frac{1 + \frac{1}{x}}{\frac{y}{x}}$ .

- A.  $\frac{x+1}{y}$
- B.  $\frac{x+1}{x}$
- C.  $\frac{x+1}{xy}$
- D.  $\frac{x^2+1}{xy}$

73. Which of the following numbers is the closest to the square root of 0.0017?

- A. 0.05
- B. 0.13
- C. 0.4
- D. 0.04

74. A 5 feet long cylindrical pipe has an inner diameter of 6 feet and an outer diameter of 8 feet. If the total surface area (inside and out, including the ends) is  $k\pi$ , what is the value of  $k$ ?

- A. 07
- B. 40
- C. 48
- D. 70
- E. 84

75. A certain copy machine produces 13 copies every 10 seconds. If the machine operates without interruption, how many copies will it produce in an hour?

- A. 78
- B. 468
- C. 1800
- D. 2808
- E. 4680

76. If  $\left(\frac{1}{a} + a\right)^2 = 100$ , what is the value of  $\frac{1}{a^2} + a^2$ ?

- A. 10
- B. 64
- C. 98
- D. 100
- E. 102

77. If  $r^2 - 2rs + s^2 = 4$ , then  $(r - s)^2 = ?$

- A. -4
- B. 4
- C. 8
- D. 16
- E. 64

78. The mode of the numbers 16, 15, 17, 12, 15, 15, 18, 19 and 18 is:

- A. 15
- B. 16
- C. 17
- D. 18
- E. 19

79. A jar has 5 marbles, 1 of each of the colors red, white, blue, green, and yellow. If 4 marbles are removed from the jar, what is

81. A merchant was selling an item at a certain price, then marked it down 20% for a spring sale. During the summer he marked the item down another 20% from its spring price. If the item sold at the summer price, what percent of the original price did it sell for?

- A. 60%
- B. 64%
- C. 67%
- D. 80%

82. Umer typed 9,450 words in  $3\frac{1}{2}$  hours. What was his rate in words per minute?

- A. 25
- B. 35
- C. 45
- D. 55
- E. 65

83. If  $2x - 5 = 98$ , what is the value of  $2x + 5$ ?

- A. 103
- B. 105
- C. 108
- D. 110

84. A solid metal cube of edge 3 feet is placed in a rectangular tank whose length, width, and height are 3, 4, and 5 feet, respectively. What is the volume, in cubic feet, of water that the tank can now hold?

- A. 20
- B. 27
- C. 33
- D. 48
- E. 60

85. The median of the numbers 8, 5, 7, 5, 9, 9, 1, 8, 10, 5 and 10 is:

- A. 05
- B. 07
- C. 08
- D. 09
- E. 10



86. The price goes up from Rs.80 to Rs.100. What is the percent increase?

- A. 25%
- B. 35%
- C. 45%
- D. 55%

87. If  $2^{x+3} = 32$ , what is the value of  $3^{x+2}$ ?

- A. 5
- B. 9
- C. 27
- D. 81

88. Simplify  $\sqrt{36y^2 + 64x^2}$ .

- A.  $6y + 8x$
- B.  $10xy$
- C.  $6y^2 + 8x^2$
- D.  $10x^2y^2$
- E.  $2\sqrt{9y^2 + 16x^2}$

89. If  $m^2 = 17$ , then what is the value of  $(m+1)(m-1)$ ?

- A.  $\sqrt{17} - 1$
- B.  $\sqrt{17} + 1$
- C. 16
- D. 18
- E. 288

90. Ali is now three times as old as Jamal, but 5 years ago, he was 5 times as old as he was. How old is Ali now?

- A. 12
- B. 24
- C. 30
- D. 36

91. Rehman has Rs. 2, 80, 000 at the end of a year as savings. Calculate his payable zakat at the rate of 2.5%?

- A. Rs. 6, 000
- B. Rs. 7, 000
- C. Rs. 8, 000
- D. Rs. 9, 000

92. The sum of the lengths of all the edges of a cube is 6 centimeters. What is the volume in cubic centimeters of the cube?

- A.  $\frac{1}{8}$
- B.  $\frac{1}{4}$
- C.  $\frac{1}{2}$
- D.  $\frac{1}{6}$

93. 17.5 is the average (arithmetic mean) of 24 numbers. What is the sum?

- A. 220
- B. 320
- C. 420
- D. 520

94. If  $x + 5 = 8$ , then  $2x - 1 = ?$

- A. 25
- B. 12
- C. 5
- D. 4

95. If  $x - y = 9$ , then  $\left(x - \frac{y}{3}\right) - \left(y - \frac{x}{3}\right) = ?$

- A. -4
- B. -3
- C. 0
- D. 12

96.  $\operatorname{Cosec}^2 \theta = ?$

- A.  $1 - \cot^2 \theta$
- B.  $1 - 2 \cot^2 \theta$
- C.  $\cot^2 \theta$
- D.  $1 + \cot^2 \theta$

98. The probability that at least 3 ... month?

- A. 0
- B.  $\frac{3}{27}$
- C.  $\frac{3}{12}$
- D.  $\frac{1}{2}$
- E. 1

99. The ratio of boys to girls is 3 to 4. If there are 135 boys, how many girls are there?

- A. 150
- B. 180
- C. 210
- D. 240
- E. 270

100. If  $7x + 10 = 44$ , what is the value of  $7x - 10$ ?

- A.  $-6\frac{6}{7}$
- B.  $4\frac{6}{7}$
- C.  $14\frac{6}{7}$
- D. 24
- E. 34