MENTAL ABILITY

1. In three coloured boxes - Red, Green and Blue, 240 balls are placed. There are twice as many balls in the green and red boxes combined as there are in the blue box and twice as many in the blue box as there are in the red box. How many balls are there in the green box?

(1) 80 (2) 90

(3) 120 (4) None of these

2. Rasik walked 20 m towards north. Then he turned right and walks 30 m. Then he turns right and walks 35 m. Then he turns left and walks 15 m. Finally he turns left and walks 15 m. In which direction and how many metres is he from the starting position?

(1) 15 m West

(2) 30 m East

(3) 30 m West

(4) 45 m East

3. In a certain code HOUSE is written as FTVPI, how is CHAIR written in that code?

(1) DIBJS (2) SBJID

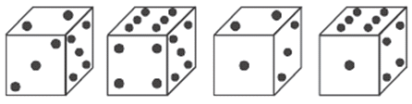
(3) SHBGD (4) SJBID

4. In the following question, various terms of an alphanumerical series are given with one or more terms missing as shown by (?). Choose the missing terms out of the given alternatives. 2Z5, 7Y7, 14X9, 23W11, 34V13, ?

(1) 47U15 (2) 47V14

(3) 45U15 (4) 27U24

5. Which number will be on the face opposite to the face which has 2 on it?



(1) 1 (2) 5

(3) 4 (4) 6

6. The letters S and T stand for numbers. If S + 50 = T + 100, which expression is true.

(1) S = T (2) S > T

(3) S – T = 100 (4) S < T

7. A teacher when groups the students in group of three or five two students are left out. And when a group of 7 is made five students are left out. If in the class there were less than 60 students, find how many students were there in the class?

(1) 26 (2) 47

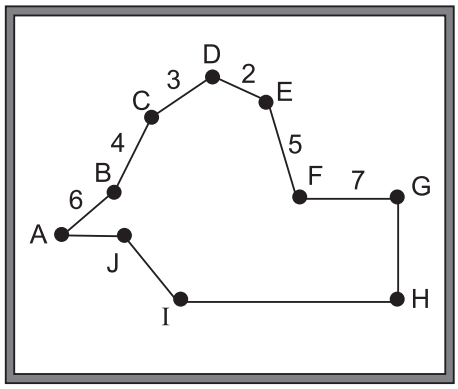
(3) 51 (4) None of these

8. If the number 7143*823 is divisible by 33, the digit at * is

(1) 2 (2) 5

(3) 0 (4) 1

9. If GH = BC, AJ = 2DE, JI = 1/2 AB, IH = CD + DE + GH

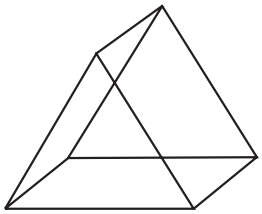


The perimeter of the given figure is.

(1) 47 units (2) 50 units

(3) 43 units (4) 41 units

10. How many faces does the given figure have?



(1) 4 (2) 5

(3) 6 (4) None of these

MATHEMATICS

11. The additive inverse of 8 is

(1) 1/8 (2) 7

(3) –8 (4) None of these

12. On field day, Nitin jumped 4(1/2) feet and Anil jumped 3(1/6) feet. How much farther did Nitin jump than Anil?

(1) 2 feet (2) 1(5/6) feet

(3) 5/12 feet (4) 1|(5/12) feet

13. Solve 11.690 + 15.705 – 3.067

(1) 24.128 (2) 24.228

(3) 24.328 (4) None of these

14. In a Mathematics test, the following marks were obtained by 40 students.

5, 7, 8, 9, 3, 2, 1, 6, 5, 8, 8, 5, 4, 7, 2, 6, 5, 4, 9, 1, 7, 3, 8, 9, 5, 4, 6, 7, 8, 3, 5, 4, 7, 8, 3, 2, 7, 9, 5, 9.

The number of students who obtained less than 4 marks is _____.

(1) 10 (2) 8

(3) 7 (4) None of these

15. How many times the area of a square changes if each of its side is halved?

(1) 1/2 (2) 1/4

(3) 1/6 (4) 1/8

16. The perimeter of a regular hexagon whose side is x units is _____.

(1) $3x$ (2) $4x$

(3) $6x$ (4) $8x$

17. How many lines of symmetry does a rectangle have?

(1) Four

(2) Three

(3) Two

(4) None of them

18. Which of the following letters does not have a line of symmetry?

(1) X (2) D

(3) O (4) F

19. Write the smallest number of 8 digits using the digits 5, 0, 3, 9, 7.

(1) 30005079

(2) 30000579

(3) 30000759

(4) None of these

20. A cube has

(1) 8 vertices, 12 edges and 6 flat surfaces.

(2) 4 vertices, 6 edges, 6 flat surfaces.

(3) 4 vertices, 12 edges and 4 flat surfaces.

(4) 8 vertices, 6 edges, 4 flat surfaces.

21. The sum of two numbers is 55 and H.C.F and L.C.M of these numbers are 5 and 120 respectively, then find the two numbers.

(1) 25 and 30

(2) 15 and 40

(3) 5 and 50

(4) 20 and 35

22. Which of the following numbers is closest to 2 ?

(1) 2.101 (2) $\frac{21}{10}$

(3) $\frac{211}{100}$ (4) 2.011

23. A circle has how many lines of symmetry?

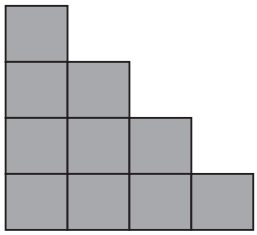
(1) Two

(2) Three

(3) Infinite

(4) None of these

24. The given figure is made up of 10 squares of the same size.



The area of the figure is 90 cm^2. Find the perimeter of the figure.

(1) 42 cm (2) 48 cm

(3) 44 cm (4) 46 cm.

25. Find the value of –26 –20 + 33 – (–33) + 24 + 21 –(–25) – 26 – 14.

(1) 60 (2) 56

(3) 50 (4) None of these

26. Which of the following figures have only one line of symmetry?

(1) An equilateral triangle.

(2) An isosceles triangle.

(3) A square.

(4) A parallelogram.

27. In a class room there are $3x$ rows of benches. If each row has $4xy$ benches and each bench can accommodate x students, determine the number of students in the room if it is full upto its capacity.

(1) $6x^2\ 3y$ (2) $12x^2\ 3y$

(3) $12x^3\ 3y$ (4) $12x^3\ y$

28. The length of a lizard is 20 cm and the length of a crocodile is 4 m what is the ratio of the length of the crocodile to the length of the lizard?

(1) 22 (2) 2

(3) 20 (4) None of these

29. Subtract 2 km 15m from 5 km.

(1) 2.985 (2) 2.895

(3) 3.895 (4) 3.985

30. Jaidev takes 2 (1/5) minutes to walk across the school ground. Rahul takes 7/4 minutes to do the same. Who takes less time by what fraction?

(1) Rahul by 8/20

(2) Jaidev by 8/20

(3) Rahul by 9/20

(4) Jaidev by 9/20

INTERACTIVE SECTION

31. HCF of 1134, 1344, 1638 is

(1) 21 (2) 42

(3) 63 (4) None of these

32. Rajesh travelled 18 km 268 m by bus, 7 km 8m by car and 900 m on foot in order to reach his school. How far is his school from his residence ?

(1) 25 km 976 m (2) 26 km 176 m

(3) 26 km 76m (4) 25 km 176 m

33. The sum of two integers is 7912. If one of the integers is –753, the other integer is

(1) 21 (2) 42

(3) 63 (4) None of these

34. Solve the series 16 : 24 :: 20:30 :: 24 : ?

(1) 30

(2) 36

(3) 42

(4) None of these

35. The sum of two number is 14437. If one of the addends is 4809 greater than the other addend, then what is the value of the larger addend?

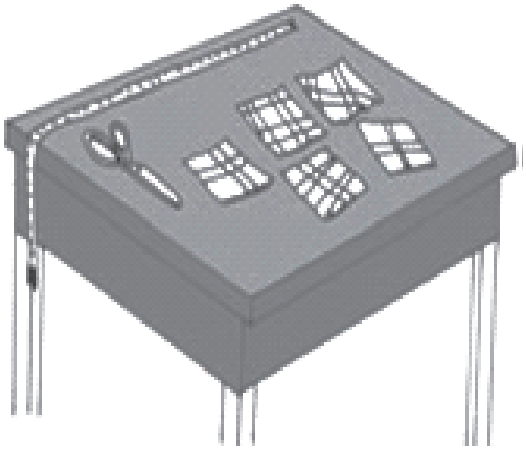
(1) 9623

(2) 19246

(3) 4814

(4) None of these

36. There were five pieces of cloth of lengths 15 m, 21 m, 36 m, 42 m, 48 m. But all of them could be measured in whole units of a measuring rod. What could be the largest length of the rod?



(1) 5 m

(2) 7 m

(3) 3 m

(4) 4 m

37. Two boatmen start simultaneously from the opposite shores of a river and they cross each other after 45 minutes of their starting from their starting from the respective shores. They rowed till they reached the opposite shore and returned immediately after reaching the shores. When will they cross each other again?

(1) 100 minutes

(2) 90 minutes

(3) 45 minutes

(4) 60 minutes

38. A milkman mixes 20 liters of water with 80 liters of milk. After selling one-fourth of this mixture he adds water to replenish the quantity that he has sold. What is the current proportion of water to milk?

(1) 3 : 2

(2) 2 : 3

(3) 3 : 4

(4) 4 : 5

39. Cement mortar was being prepared by mixing cement to sand in the ratio of 1:6 by volume. In a cement mortar of 42 units of volume, how much more cement needs to be added to enrich the mortar to the ratio 2:9?

(1) 3 units

(2) 2 units

(3) 4 units

(4) 5 units

40. The ratio of the length to breadth of a lawn is 3:5. It costs ₹ 3200 to fence it at the rate of ₹ 2 a metre. What would be the cost of developing the lawn at the rate of ₹ 10 per square metre.

(1) ₹ 15,00,000

(2) ₹ 20,00,000

(3) ₹ 16,00,000

(4) ₹ 18,00,000

END OF THE EXAM