

1. The rational number which is not lying between $\frac{5}{16}$ and $\frac{1}{2}$ is _____.

- A. $\frac{3}{8}$
- B. $\frac{7}{16}$
- C. $\frac{1}{4}$
- D. $\frac{13}{32}$

2. If $a = 5$, then the value of $-\left(\frac{a+1}{a}\right)$ is _____.

- A. $-\frac{6}{5}$
- B. $-\frac{5}{6}$
- C. $\frac{6}{5}$
- D. $\frac{5}{6}$

3. The cost of $7\frac{2}{3}$ metres of rope is Rs. $12\frac{3}{4}$. Find its cost per metre.

- A. Rs. $\frac{53}{92}$
- B. Rs. $\frac{153}{92}$
- C. Rs. $\frac{1173}{12}$
- D. Rs. $\frac{173}{35}$

4. The length of a rectangle is 6 m less than three times its breadth. The length and breadth of the rectangle if its perimeter is 148 m, is _____.

- A. 54 m, 20 m
- B. 50 m, 30 m
- C. 40 m, 25 m
- D. 30 m, 20 m

5. The perimeter of a rectangle is numerically equal to the area of rectangle. If width of rectangle is $2\frac{3}{4}$ cm, then its length is _____.

- A. $\frac{11}{3}$ cm
B. $\frac{22}{3}$ cm
C. 11 cm
D. 10 cm

6. The age of a man is same as his wife's age with the digits reversed. Then sum of their ages is 99 years and the man is 9 years older than his wife. How old is the man ?

- A. 50 years
B. 49 years
C. 54 years
D. 44 years

7. The number of sides of a regular polygon whose each exterior angle has a measure of 45° is _____.

- A. 4
B. 6
C. 8
D. 10

8. ABCD is rhombus. If $\angle ACB = 40^\circ$, then $\angle ADB$ is _____.

- A. 40°
B. 45°
C. 50°
D. 60°

9. If a pair of opposite sides of a quadrilateral are equal and parallel, it is _____.

- A. Kite
B. Trapezium
C. Parallelogram
D. None of these

10. The value of $\sqrt{(-1)} \times \sqrt{(-1)}$ is _____.

- A. - 1
B. +1
C. Both (A) and (B)
D. 2

11. Between which two consecutive whole numbers does $\sqrt{95}$ lie ?

- A. 7 and 8
B. 8 and 9
C. 9 and 10
D. 10 and 11

12. If $\sqrt{\left(1 + \frac{27}{169}\right)} = \left(1 + \frac{x}{13}\right)$, then x equals _____.

- A. 1
- B. 3
- C. 5
- D. 7

13. The value of $\sqrt[3]{\frac{13824}{1728}} + \sqrt[3]{\frac{8000}{3375}}$ is _____.

- A. 3
- B. $\frac{10}{3}$
- C. $\frac{2}{3}$
- D. $\frac{11}{3}$

14. Two cubes have volume in the ratio 1:27. The ratio of the area of the face of one to that of the other is _____.

- A. 1:3
- B. 1:6
- C. 1:9
- D. 1:18

15. Which of the following numbers is not a perfect cube?

- A. 46656
- B. 13825
- C. 3375
- D. 74088

16. Dia bought a car for a certain sum of money. She spent 10% of the cost on repairs and sold the car for a profit of Rs.11,000. How much did she spend on repairs, if she made a profit of 20%?

- A. Rs.4000
- B. Rs.4400
- C. Rs.5500
- D. Rs.5000

17. Sugar is bought at Rs.16.20 per kg and sold at Rs.17.28 per kg. The gain percent is _____.

- A. $6\frac{2}{3}\%$
- B. $3\frac{1}{3}\%$
- C. 10 %

D. $10\frac{2}{3}\%$

18. $x\%$ of 130 = 10.4, then the value of x is _____.

- A. 80
- B. 8
- C. 0.8
- D. 0.08

19. The selling price of goods which cost Rs.10. and were sold at a gain of 10% is _____.

- A. Rs.12
- B. Rs.18
- C. Rs.11
- D. Rs.11.10

20. The value of $\frac{7.83 \times 7.83 - 1.17 \times 1.17}{6.66}$ is _____.

- A. 9
- B. 6.66
- C. 1.176
- D. 8

21. The product of $(x^2 + 3x + 5)$ and $(x^2 - 1)$ is _____.

- A. $x^4 + 3x^3 - 4x^2 - 3x - 5$
- B. $x^4 + 3x^3 + 4x^2 - 3x - 5$
- C. $x^4 + 3x^3 + 4x^2 + 3x - 5$
- D. $x^4 + x^3 + x + 5$

22. On dividing $8x^2y^3$ by $-2xy$, we get quotient _____.

- A. $-4xy^2$
- B. $4xy^2$
- C. $4x^2y^3$
- D. $4xy$

23. The length of diagonal of a square whose area is 16900 m^2 , is _____.

- A. 130 m
- B. $130\sqrt{2}$ m
- C. 169 m
- D. 144 m

24. A child walked 5 m to cross a rectangular field diagonally. If breadth of field is 3 m, its length is _____.

- A. 4 m
- B. 3 m

- C. 10 m
- D. 6 m

25. The radius of the cylinder whose lateral surface area is 704 cm^2 and height 8 cm, is _____.

- A. 6 cm
- B. 4 cm
- C. 8 cm
- D. 14 cm

26. The ratio of areas of two squares, one having double its diagonal than the other, is _____.

- A. 3 : 2
- B. 4 : 1
- C. 3 : 1
- D. 4 : 3

27. $16^{\frac{5}{2}} \div 16^{\frac{1}{2}} = \text{_____}$.

- A. 250
- B. 256
- C. 255
- D. 200

28. The value of expression $(8^\circ - 3^\circ) \times (8^\circ + 3^\circ)$ is equal to _____.

- A. 0
- B. 1
- C. 2
- D. 3

29. The solution of $3^{3x-5} = \frac{1}{9^x}$ is _____.

- A. $\frac{5}{2}$
- B. 5
- C. 1
- D. $\frac{7}{3}$

30. If 5 men take an hour to dig a ditch, how long should it take 12 men to dig a ditch of the same type?

- A. 25 mins
- B. 30 mins
- C. 28 mins
- D. 20 mins

31. A cistern has two inlets A and B which can fill it in 12 minutes and 15 minutes respectively. An outlet C can empty the full cistern

in 10 minutes. If all the three pipes together in the empty tank, time taken to fill the tank completely is _____.

- A. 20 minutes
- B. 10 minutes
- C. 15 minutes
- D. 5 minutes

32. A train travelling at 45 km/hour crosses a signal post in 22 seconds. It passes a platform in 42 seconds. The length of the train and the platform is _____.

- A. 200 m, 210 m
- B. 275 m, 250 m
- C. 250 m, 260 m
- D. 200 m, 200 m

33. Evaluation of $(8.6)^2 - (1.4)^2$ is _____.

- A. 70
- B. 72
- C. 60
- D. 40

34. One factor of $x^4 - (x - z)^4$ is _____.

- A. $2x + z$
- B. $x + 2z$
- C. $2x - z$
- D. $x - 2z$

35. One of the factors of $x^2 + \frac{1}{x^2} + 2 - 2x - \frac{2}{x}$ is _____.

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

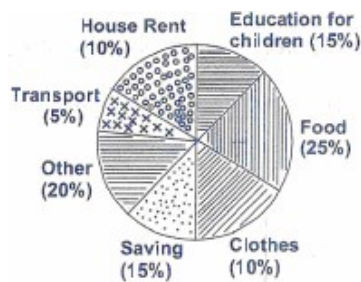
36. The probability of occurrence of an event is _____.

- A. $\frac{\text{Number of trials in which an event occurred}}{\text{Total number of trials} - \text{Number of trials in which event occurred}}$
- B. $\frac{\text{Number of trials in which event occurred}}{\text{Total number of trials}}$
- C. $\frac{\text{Number of trials in which event occurred}}{\text{Total number of trials}}$

Total number of trials - Number of trials in which event occurred

D. Number of trials in which event occurred

37. Adjoining pie chart gives the expenditure (in percentage) on various items and savings of a family during a month.



The item on which expenditure is equal to the total savings of the family, is _____.

- A. Food
- B. Other
- C. Clothes
- D. Education for children

38. To draw the graph of a line, the least number of points required is _____.

- A. One
- B. Two
- C. Three
- D. Four

39. The least value of x so that 97215×6 is divisible by 11 is _____.

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

40. If $31z5 + 51z3$ is divisible by 3, where z is a digit less than 5, then the values of z are _____.

- A. 0, 1
- B. 0, 3
- C. 1, 3
- D. 1, 4

41. If the 3-digit number $24x$ is divisible by 9, then the value of x is _____.

- A. 1
- B. 2
- C. 3
- D. 12

42. The ratio of boys to girls in Mona's class is 3 : 4. Which of the following ratios is equivalent to 3 : 4?

- A. 1: 2
- B. 6: 9
- C. 16: 18
- D. 18: 24

43. Mohit correctly answered 90% of the questions in a maths test contained exactly 40 questions. How many of the questions did he answer incorrectly?

- A. 4
- B. 10
- C. 44
- D. 90

44. A ladder 15 metres long reaches a window which is 9 metres above the ground on one side of a street. Keeping its foot at the same point, the ladder is turned to other side of the street to reach a window 12 metres high. The width of the street, is _____.

- A. 19 metres
- B. 20 metres
- C. 21 metres
- D. 22 metres

45. If you rearrange the letters 'BARBIT', you would have the name of a _____.

- A. Ocean
- B. Country
- C. Animal
- D. City

46. If ' , ' means ' - ' , ' - ' means ' x ' , ' x ' means ' + ' and ' + ' means ' $\div$ ' , then
 $20 \text{ ' } 60 \text{ , } 40 - 20 + 10 =$

- A. 40
- B. 0
- C. 80
- D. 60

47. A man starts walking towards south. After walking 10 m, he turns left at right angle. Then walking after 15 m he again turns left at right angle. In what direction is he finally walking?

- A. North
- B. South
- C. East
- D. West

48. Two positions of a block are given below. When 1 is at the top, which number will be at the bottom?



- A. 3
- B. 6
- C. 2

D. 1

49. A machine takes 12 minutes to fill 200 bottles of soda. At this rate, how many minutes will it take the machine to fill 500 bottles of soda?

- A.** 25 minutes
- B.** 28 minutes
- C.** 30 minutes
- D.** 40 minutes

50. Nalini and three of her friends worked together to make a quilt. The given table lists the fractional part of the quilt that each of the girls made. Which list shows the girls in order from the one who sewed the most to the one who sewed the least?

Girl	Parts Sewn
Nalini	$\frac{3}{8}$
Kamini	$\frac{1}{5}$
Shalini	$\frac{2}{5}$
Reena	$\frac{1}{40}$

- A.** Reena, Nalini, Shalini, Kamini
- B.** Shalini, Nalini, Kamini, Reena
- C.** Reena, Kamini, Nalini, Shalini
- D.** Kamini, Shalini, Nalini, Reena