Sample Question Paper

1. **If $p : 0 \div (-3) = 0$ and $q : (-5) \div 0 =$ undefined, then**
    - (A) p is true and q is false
    - (B) p is false and q is true
    - (C) Both p and q are true
    - (D) Both p and q are false
    - (E) None of these

2. **The value of $|8| + |6| - |8| - |-4|$ is equal to _____ .**
    - (A) 0
    - (B) 1
    - (C) 2
    - (D) 3
    - (E) None of these

3. **In a magic square each row, column and diagonal have the same sum, then the values of A and B are _____ .**

3	– 14	– 11
A	0	– 8
– 11	14	B

    - (A) – 8, – 3
    - (B) 8, 3
    - (C) 8, – 3
    - (D) – 8, 3
    - (E) None of these

4. What fraction of the figure is shaded ?
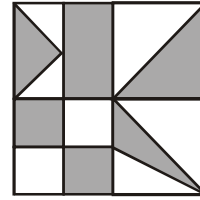
(A) $\dfrac{7}{16}$ (B) $\dfrac{1}{2}$

(C) $\dfrac{9}{16}$ (D) $\dfrac{17}{32}$

(E) None of these

5. The product of the 9 fractions $\left(1-\dfrac{1}{2}\right)\left(1-\dfrac{1}{3}\right)\left(1-\dfrac{1}{4}\right)......\left(1-\dfrac{1}{10}\right)=$ _____ .

(A) $\dfrac{10}{11}$ (B) $\dfrac{1}{9}$

(C) $\dfrac{1}{10}$ (D) $\dfrac{1}{2}$

(E) None of these

6. Express $9\dfrac{7}{20}$ **as a decimal.**

(A) 9.05   (B) 9.53

(C) 9.26   (D) 9.35

(E) None of these

7. Degree of zero is _____ .

(A) 0   (B) 1

(C) 2   (D) Not defined

(E) None of these

8. If $4\ell^2 + (k+10)\,\ell m + 25m^2$ **is a perfect square, then the value of k is _____ .**

(A) – 9   (B) 10

(C) 0   (D) 5

(E) None of these

9. If $x+\dfrac{1}{x} = 12$, **then the value of** $x-\dfrac{1}{x}$ **is _____ .**

(A) $\sqrt{140}$ (B) $\sqrt{120}$

(C) 10   (D) 11

(E) None of these

10. **What value of *x* makes the given equation true ?**

$$2\left(x - \frac{3}{2}\right) = 11$$

(A)   21   (B)   28
(C)   7   (D)   14
(E)   None of these

11. **A number is such that it is as much greater than 84 as it is less than 108. What is the number ?**

(A)   90   (B)   92
(C)   94   (D)   96
(E)   None of these

12. **The present age of a man is thrice that of his daughter. Six years ago, the age of the father was four times that of his daughter. The ratio of their ages 6 years later will be _____ .**

(A)   2 : 5   (B)   5 : 2
(C)   3 : 4   (D)   4 : 3
(E)   None of these

13. **The number which is not equal to $\frac{4}{5}$ is _____ .**

(A) $\dfrac{40}{50}$ (B) $\dfrac{-12}{-15}$

(C) $\dfrac{-4}{-5}$ (D) $\dfrac{-4}{5}$

(E)   None of these

14. **Out of the following rational numbers, which is the smallest ?**

(A) $\dfrac{2}{7}$ (B) $\dfrac{-5}{7}$

(C) $\dfrac{4}{-7}$ (D) $\dfrac{3}{7}$

(E)   None of these

15. Arrange $\dfrac{2}{5}, \dfrac{-3}{-4}, \dfrac{1}{2}, \dfrac{-7}{-6}, 0$ in descending order:

    (A) $\dfrac{-7}{-6} > \dfrac{-3}{-4} > \dfrac{1}{2} > \dfrac{2}{5} > 0$ (B) $\dfrac{-3}{-4} > \dfrac{-7}{-6} > \dfrac{1}{2} > \dfrac{2}{5} > 0$

    (C) $\dfrac{-7}{-6} > \dfrac{-3}{-4} > 0 > \dfrac{1}{2} > \dfrac{2}{5}$ (D) $\dfrac{-7}{-6} > \dfrac{-3}{4} > \dfrac{2}{5} > 0 > \dfrac{1}{2}$

    (E) None of these

16. Which of the following is not equal to $\left(\dfrac{-3}{4}\right)^4$?

    (A) $\dfrac{(-3)^4}{4^4}$ (B) $\dfrac{3^4}{(-4)^4}$

    (C) $-\dfrac{3^4}{4^4}$ (D) $\left(\dfrac{-3}{4}\right) \times \left(\dfrac{-3}{4}\right) \times \left(\dfrac{-3}{4}\right) \times \left(\dfrac{-3}{4}\right)$

    (E) None of these

17. Out of the following, the number which is not equal to $\dfrac{-8}{27}$ is _____ .

    (A) $\left(\dfrac{2}{3}\right)^{-3}$ (B) $-\left(\dfrac{2}{3}\right)^{3}$

    (C) $\left(-\dfrac{2}{3}\right)^{3}$ (D) $\left(\dfrac{-2}{3}\right) \times \left(\dfrac{-2}{3}\right) \times \left(\dfrac{-2}{3}\right)$

    (E) None of these

18. $\left(-\dfrac{1}{3}\right)^3 \div \left(-\dfrac{1}{3}\right)^8$ is equal to _____ .

    (A) $\left(-\dfrac{1}{3}\right)^{5}$ (B) $\left(-\dfrac{1}{3}\right)^{11}$

    (C) $(-3)^5$ (D) $\left(\dfrac{1}{3}\right)^{5}$
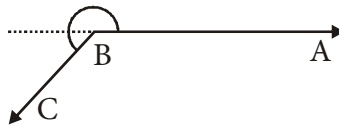
    (E) None of these

19. **Through what angle does the minute hand of a clock turn in 5 minutes ?**
    (A) 30°
    (B) 18°
    (C) 36°
    (D) All of the above
    (E) None of these

20. **The angle which exceeds its complement by 20° is _____ .**
    (A) 45°   (B) 55°
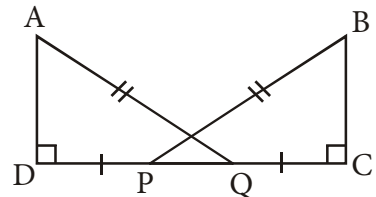   (C) 70°   (D) 110°
    (E) None of these

21. **Angle ABC in the figure is a/an _____ .**

    (A) acute angle
    (B) obtuse angle
    (C) reflex angle
    (D) straight angle
    (E) None of these

22. **In the figure, AD ⊥ CD and BC ⊥ CD. If AQ = BP and DP = CQ. By which criterion of congruence, ΔADQ ≅ ΔBCP ?**
    (A) AAS
    (B) SAS
    (C) SSS
   (D) RHS
    (E) None of these

23. **Which of the following statement(s) is/are true ?**
    (A) If two sides and one angle of a triangle are equal to the corresponding two sides and the angle of another triangle, then the two triangles are congruent
    (B) If the hypotenuse of one right triangle is equal to the hypotenuse of another triangle, then the triangles are congruent
    (C) Two triangles having same area are congruent
    (D) All of these

24. Name the criterion of congruence, if any, that will prove that the given pair of triangles are congruent.
    (A) SAS
    (B) SSS
    (C) RHS
    (D) ASA
    (E) None of these
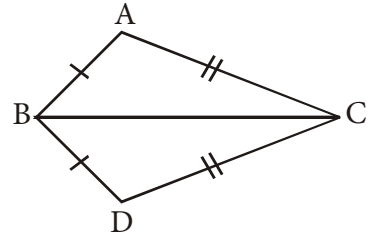
25. A number A exceeds B by 25%. By what percentage is A more than B ?
    (A) 20%   (B) 25%
    (C) 30%   (D) 15%
    (E) None of these

26. A person by selling an article for ₹ 450, loses 20%. In order to make a profit of 20%, what is the price at which he must sell the article ?
    (A) ₹ 500   (B) ₹ 475
    (C) ₹ 575   (D) ₹ 675
    (E) None of these

27. P can do a piece of work in 9 days. Q is 50% more efficient than P. The number of days it takes Q to do the same piece of work is _____ .

    (A) $13\dfrac{1}{2}$ (B) $4\dfrac{1}{2}$

    (C) 6   (D) 3
    (E) None of these

28. The height of a parallelogram of area 350 cm^2 and base 25 cm is ____ .
    (A) 12 cm   (B) 13 cm
    (C) 14 cm   (D) 15 cm
    (E) None of these

29. The area of a rectangular field is 150 sq. units. If its perimeter is 50 units, then its dimentions are _____ .
   (A) 27, 5
    (B) 3, 50
    (C) 5, 30
    (D) 10, 15
    (E) None of these

30. The parallel sides of a trapezium are in the ratio of 3 : 5 and the perpendicular distance between them is 12 cm. If the area of the trapezium is 384 cm², then the smaller of the parallel sides is _____ .

(A) 16 cm   (B) 24 cm
(C) 32 cm   (D) 40 cm
(E) None of these

31. In a dice a, b, c and d are written on the adjacent faces, in a clockwise order and e and f at the top and bottom. When c is at the top, what will be at the bottom ?

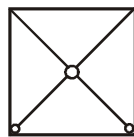(A) a
(B) b
(C) c
(D) Insufficient data
(E) None of these
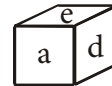
32. The water image of _P_ is _____ .

(A) **P**   (B) **b**
(C) **d**   (D) **q**
(E) None of these

33. Which figure below has at least one line of symmetry ?
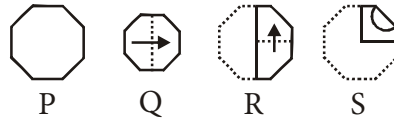
(A)   (B)   (C)   (D)

(E) None of these

34. Which of the following figures represents the correct axes of symmetry for the given figure ?

(A)   (B)   (C)   (D) All of the above

(E) None of these

35. Which of the following letter have neither a point symmetry nor a rotational symmetry of order 2 ?
    (A) N   (B) C
    (C) H   (D) S
    (E) None of these

36. The mean of first five prime numbers is _____ .
    (A) 4.5   (B) 5
    (C) 5.6   (D) 7.5
    (E) None of these

37. If each entry of a data is increased by 7, then their arithmetic mean _____ .
    (A) remains the same   (B) increases by 7
    (C) decreases by 7   (D) All of the above
    (E) None of these

38. The mean age of 5 numbers is 27. If one Of the numbers is excluded the mean gets reduced by 2. The excluded number is _____ .
    (A) 25   (B) 27
    (C) 35   (D) 40
    (E) None of these

39. The mean of 11 observations is 60. If the mean of first five observations is 58 and that of the last five is 56, then the sixth observation is _____ .
    (A) 85   (B) 90
    (C) 100   (D) 110
    (E) None of these

40. The mode of a set of observations is the value which _____ .
    (A) occurs most often   (B) is central
    (C) is between maximum & minimum   (D) is maximum
    (E) None of these

41. Which of the following options will complete the series ?

    3, 2, 11, 4, 35, 8, 107, 16, ?

    (A) 321   (B) 323
    (C) 32   (D) 120
    (E) None of these

42. In the given question a piece of sheet is folded and cut and then unfolded. Select this figure from option which exactly resembles the unfolded paper.

P   Q   R   S

(A)   (B)   (C)   (D)

(E)   None of these

43. In the given figure, PQ || RS, PS || QR and ∠RPT is $\frac{1}{4}$ as much as ∠PTS. What is the value of ∠RPQ ?
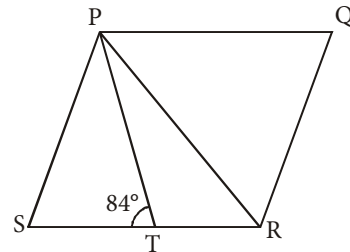
(A)   84°
(B)   63°
(C)   42°
(D)   52°
(E)   None of these

44. Which number will replace the question mark, if the matrix follows a certain rule row-wise or column-wise ?

4	7	5
33	78	46
8	?	9

(A)   12   (B)   13
(C)   11   (D)   10
(E)   None of these

45. The value of 28 in 528094 is the same as _____ .

(A)   7000 + 1094   (B)   8094 – 90
(C)   7094 + 906   (D)   28094 – 94
(E)   None of these

46. If 12276 ÷ 1.55 = 7920, the value of 122.76 ÷ 15.5 is _____ .

(A)   7.092   (B)   7.92
(C)   79.02   (D)   79.2
(E)   None of these

47.   A cricket team won 40% of the total number of matches it played during a year. If it lost 50% of the matches played and 20 matches were drawn, the total number of matches played by the team during the year was _____ .
  (A)   200 (B)   100
  (C)   50 (D)   40
  (E)   None of these

48.   If one-seventh of a number exceeds its eleventh part by 100, then the number is _____ .
  (A)   770 (B)   1100
  (C)   1825 (D)   1925
  (E)   None of these

49.   Choose any three non-zero different numbers each less than 10. Make all possible two–digit numbers from these three numbers, find out the sum of these. Divide this sum by the sum of the original numbers. What is your result?
  (A)   11 (B)   22
  (C)   33 (D)   44
  (E)   None of these

50.   There are deer and peacocks in a zoo. By counting heads they are 80. The number of their legs is 200. How many peacocks are there ?
  (A)   20 (B)   30
  (C)   50 (D)   60
  (E)   None of these

Note: The actual question paper will transclated in Hindi at the time of exam.