

I. Multiple choice questions:

15x1=15

1. How many rational numbers can exist between any 2 rational numbers

- _____.
a) 1 b) 2 c) Countless d) None of these

2. The area of rectangle of length 3b and breadth 9c is _____.

- a) 14bc b) 27bc c) 27ab d) 28bc²

3. Additive inverse of $\frac{2}{3}$ is _____.

- a) $\frac{3}{2}$ b) $\frac{-3}{2}$ c) $\frac{-2}{3}$ d) $\frac{-2}{-3}$

4. How many terms are there in a binomial?

- a) 1 b) 3 c) 2 d) 5

5. The solution of $\frac{x}{30} = -4$.

- a) 120 b) -120 c) 140 d) None of these

6. The sum of Measures of all the interior angles of a quadrilateral

- a) 120° b) 50° c) 360° d) 540°

7. Multiplicative inverse of $\frac{-3}{9}$ is _____.

- a) $\frac{9}{3}$ b) $\frac{10}{3}$ c) $\frac{-3}{9}$ d) $\frac{-9}{3}$

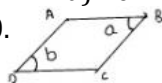
8. Name the quadrilateral in which diagonals bisect each other ____.

- a) Square b) Parallelogram
c) Rectangle d) All the above

9. The minimum interior angle possible for a regular polygon is _____.

- a) 70° b) 60° c) 50° d) 120°

10. ABCD is a parallelogram, name the angles a and b.



- a) Linear pair b) Adjacent angles
c) Alternate angles d) Opposite angles

11. 4.29×10^3 can be written as _____.

- a) 429 b) 4290 c) 42900 d) 429000

12. The sum of multiplicative inverse and additive inverse of 2 is _____.

- a) $\frac{2}{3}$ b) $\frac{-3}{2}$ c) $\frac{5}{2}$ d) $\frac{-5}{2}$

13. Which of these is not a factor of $-16xy^2$ _____.

- a) $-8x^2$ b) $-4y^2$ c) $2x$ d) $16xy$

14. $7x + 3 = 7x - 8$ has _____ solution.

- a) 11 b) -5 c) 10 d) No

15. An equation has _____.

- a) Only one side b) Only two sides
c) Only three sides d) None of these

SECTION - B

II. Answer any seven from the following:

7x2=14

16. Verify that $-(-x) = x$ for $x = \frac{11}{17}$.

17. Add $4p^2 + 5p + 10$ and $7p^2 - 8p + 4$.

18. a) Express 8.45×10^{-4} in usual form.

b) Express 49260000 in standard form.

19. Write 5 rational numbers which are greater than 2.

20. Multiply: $\left(\frac{-9}{15}x^2y\right)\left(\frac{30}{18}xy\right)$

21. Solve $7y - 18 = 2y + 22$.

22. Write any two properties of square.

23. Simply $(p^2 - 9) \div (p + 3)$.

24. Name the two important members of a polyhedron family.

SECTION - C

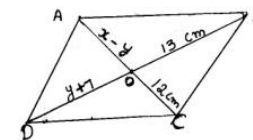
III. Answer any nine from the following:

9x3=27

25. Draw the number line and represent $\frac{-5}{11}$, $\frac{-3}{11}$ and $\frac{2}{11}$ on it.

26. Factorise $x^2 + 10x + 21$.

27.



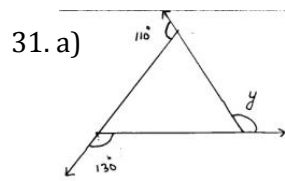
ABCD is a parallelogram, find x and y in cm.

28. Add $a(b - c)$, $b(c - a)$ and $c(a - b)$.

29. Verify Euler's formula whose edges = 10m, faces = 6 and vertices = 6.

30. Factorise: a) $x^2 - 81$

b) $6x - 42$



31. a) Find y from the above figure.

b) Name the regular polygon which is having 5 sides.

32. a) Multiply $\frac{21}{36}$ by the reciprocal of $\frac{42}{18}$.

b) Solve: $\frac{x}{12} = 11$.

33. Four - fifth of a number is 20 less than the original number. Find the number.

34. If $\frac{a+1}{a-1} = \frac{6}{5}$ then $a = ?$

SECTION - D

IV. Answer any five from the following: 5x4=20

35. Find ten rational numbers between $\frac{1}{3}$ and $\frac{3}{5}$.

36. a) Simplify and find the value for the given expression $3(p^2 + 2p + 2)$ if $p = 2$.

b) How many sides does a hexagon have?

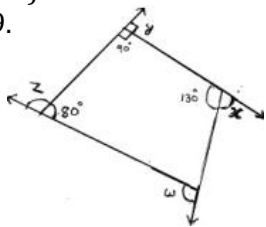
37. a) Simplify $(x + 2y)(4x - 3y)$

b) Find the angle sum of a convex polygon which is having 7 sides.

38. a) Factorise $2xy + 3x + 2y + 3$.

b) Find the common factors for $16xy$ and $32x^2y$.

39.



Find $x + y + z + w$.

40. The ages of Ravi and Kishore are in the Ratio of 8 : 7. Six years later, their ages will be in the ratio 10 : 9. Find their ages.

SECTION - E

V. Answer any one of the following: 1x4=4

41. Construct a quadrilateral ABCD where $AB = 5\text{cm}$, $BC = 6\text{cm}$, $CD = 5.5\text{cm}$, $DA = 4.5\text{cm}$ and $AC = 7\text{cm}$.

42. Construct a Rhombus PQRS whose diagonals are $PR = 6.5\text{cm}$ and $QS = 5.8\text{cm}$.