

I. Four alternatives are given for each of the following questions. Only one of them is correct or most appropriate. Choose the correct alternative and write the complete to answer along with its alphabet.

8 x 1 = 8

1. Among the following an irrational number is _____.
 a) $\sqrt{49}$ b) $\frac{4}{3}$ c) 5.478 d) $\sqrt{13}$.
2. The value of 1000^0 is _____.
 a) 1000 b) 100 c) 10 d) 1.
3. The perpendicular distance of the point (5, -2) from the x-axis is.
 a) 3 units b) 2 units c) 5 units d) 0 units.
4. Number of common points for two parallel lines are _____.
 a) One-point b) Two-point c) Three-point d) Nil.
5. The degree of a non-zero constant polynomial is _____.
 a) 1 b) 2 c) 6 d) 0.
6. The statement that do not satisfy Euclid's axiom is.
 a. Things which are equal to the same thing are equal to one another
 b. If equals are added to equals, the wholes are equal
 c. If equals are subtracted from equals, the remainders are equal
 d. The whole is lesser than its part.
7. The linear equation $2x - 5y = 7$ has _____.
 a. Unique solution b. Two solutions
 c. Infinitely many solutions d. No solution
8. If (3, 0) is the solution of the linear equation $2x + 3y = k$, then the value of 'k' is _____.
 a) 6 b) 4 c) 3 d) 2.

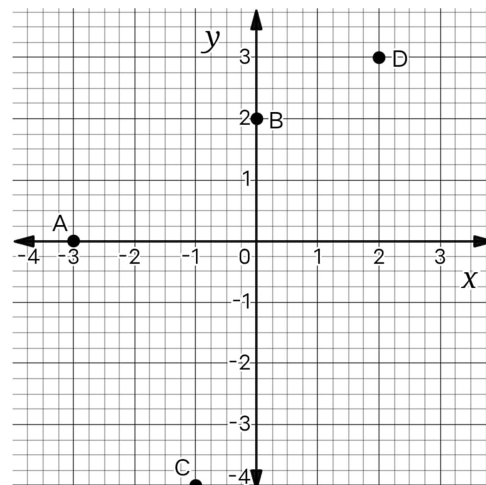
II. ANSWER THE FOLLOWING QUESTIONS.

8 x 1 = 8

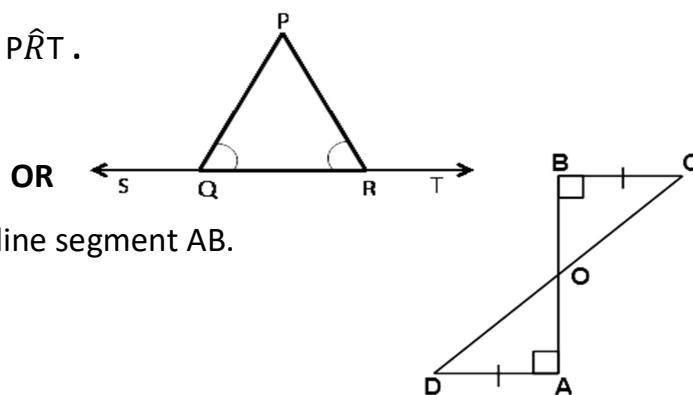
9. Add : $2\sqrt{2} + 5\sqrt{3}$ and $\sqrt{2} - \sqrt{3}$.
10. Who is the father of Geometry?
11. Write the quadrant in which the point (4, -1) lie.
12. Write the degree of the polynomial $x^4 - x^5 + 3$.
13. What are the coordinates of a point which lies on both x - axis and y - axis?
14. Find whether the point (2, -1) lies on the line $3x - y = 7$.
15. Find a solution for the equation $x + y = 5$.
16. If one angle of a linear pair is 75° , find the other.

III. ANSWER THE FOLLOWING QUESTIONS. 8 x 2 = 16

17. Express $1.\overline{27}$ in the form of $\frac{p}{q}$.
18. Locate $\sqrt{3}$ on the number line.
19. Expand $(3a + 4b + 5c)^2$ using suitable identity.
20. Factorize: $y^2 - 5y + 6$.
21. From the given graph, Write the coordinates of the points A, B, C and D.



22. Express $5x + 2y = 2$ in the form $ax + by + c = 0$ and find the value of $a + b + c$.
23. In fig. $\angle PQR = \angle PRQ$, then prove that $\angle QPS = \angle RPT$.



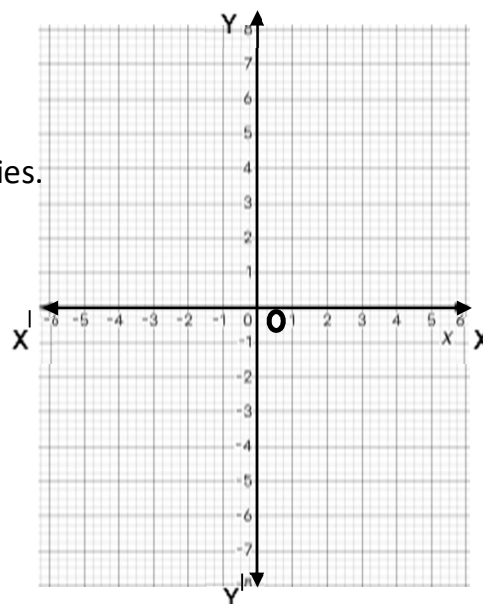
OR
AD and BC are equal perpendiculars to a line segment AB.
Show that CD bisects AB.

24. Define the following terms. i) A line segment, ii) Non-collinear points.

IV. ANSWER THE FOLLOWING QUESTIONS.

9 x 3 = 27

25. Find the value of: (i) $(16)^{\frac{3}{4}}$ (ii) $(125)^{\frac{2}{5}}$ (iii) $(9)^{\frac{3}{2}}$.
26. Represent $\sqrt{9.3}$ on the number line.
27. Evaluate: (i) $(104)^3$, (ii) 105×106 Using suitable identities.
28. Classify the following as linear, quadratic and cubic Polynomials
i) $x^2 + x$ ii) $x - x^3$ iii) $y^2 + y + 4$
iv) $1 + x$ v) $3t$ vi) r^2 viii) $7x^3$
29. Name the following with respect to graph.
a) Horizontal line
b) Vertical line,
c) The point of intersection of two axes.



or

Draw the line passing through (2, 3) and (3, 2). Find the coordinates of the point at which this line intersects x-axis and y-axis.

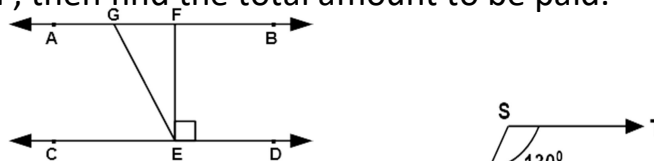
30. Verify which of the following are solutions of the equation $x + 2y = 6$.

- a) (1,2) b) (2,2) c) (0,3)

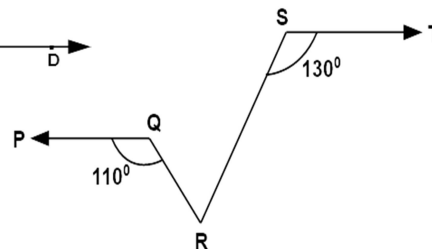
or

A vehicle charges 25 Rs for the first Km and 15 Rs each for every subsequent Km travelled. If the distance travelled is 9Km, then find the total amount to be paid.

31. In Fig. If $AB \parallel CD$, $EF \perp CD$ and $\angle GED = 126^\circ$, find $\angle AGE$, $\angle GEF$ and $\angle FGE$.

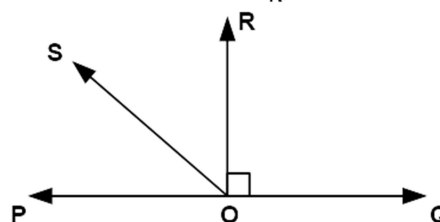


32. In the given figure, if $PQ \parallel ST$, $\angle PQR = 110^\circ$ and $\angle RST = 130^\circ$, then find the measure of $\angle QRS$.



or

In the figure, POQ is a line. Ray 'OR' is perpendicular to line 'PQ'. 'OS' is another ray lying between rays 'OP' and 'OR'. Prove that $\angle ROS = \frac{1}{2}(\angle QOS - \angle POS)$.



33. If a point 'C' lies between two points A and B such that $AC = BC$, then prove that $AC = \frac{1}{2} AB$. Explain by drawing the figure.

or

Write true or false for the following statement. Give reasons for your answers.

- Only one line can pass through a single point.
- There are an infinite number of lines which pass through two distinct points.
- If two circles are congruent, then their radii are equal.

V. ANSWER THE FOLLOWING QUESTIONS.

4x4=16

34. Verify the following : (i) $x^3 + y^3 = (x + y)(x^2 + y^2 - xy)$ (ii) $x^3 - y^3 = (x - y)(x^2 + y^2 + xy)$.

OR

Write the factors for the following: (i) $a^2 - b^2$ (ii) $a^3 + b^3 + c^3 - 3abc$
(iii) $(a - b)^3$ (iv) $(a + b)^2$

35. Plot the following points on the graph.

	P	Q	R	S
x	0	2	-2	3
y	2	4	0	-5

36. It is given that $\angle XYZ = 64^\circ$ and XY is produced to a point 'P'. Draw a figure from the given information. If ray YQ bisects $\angle ZYP$, then find measure of $\angle XYQ$ and reflex $\angle QYP$.

37. Write any four solutions for the linear equation $3x + y - 12 = 0$.

VI. ANSWER THE FOLLOWING QUESTIONS.

1 x 5 = 5

38. Write five postulates of Euclid's Geometry.