

## Practice Test Paper - 2

Name:

Max Marks : 25

Chapter - Coordinate Geometry, Introduction to Trigonometry

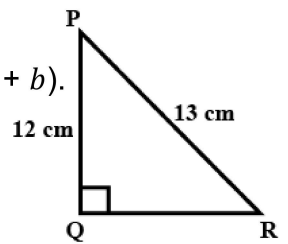
Class - 10

### 1- Marks

1. The distance of point  $P(4, -3)$  from the origin is.
2. Write the section formula and find the distance of  $A(2a, 6a)$  and  $B(2a + \sqrt{3}a, 5a)$ .
3. If  $\sin \theta = \frac{1}{2}$  and  $\cos \phi = \frac{1}{2}$ , then the value of  $\theta + \phi$  is .
4. What is the maximum value of  $\frac{1}{\sec \theta}$  ?
5. If  $P(2, p)$  is the mid-point of the line segment joining the points  $A(6, -5)$  and  $B(-2, 11)$ , find the value of.

### 2- Marks

6. Show that the points  $(a, a)$ ,  $(-a, -a)$  and  $(-\sqrt{3}a, \sqrt{3}a)$  are the vertices of an equilateral triangle.
7. In the given figure find  $\tan P - \cot R$
8. If the point  $P(x, y)$  is equidistant from the points  $A(a + b, b - a)$  and  $B(a - b, a + b)$ .  
Prove that  $bx = ay$ .



### 3- Marks(any 2)

9. Find the value of  $k$ , if the points  $P(5, 4)$ ,  $Q(7, k)$  and  $R(9, -2)$  are collinear.
10. Prove the following  $\frac{\tan A}{1 - \cot A} + \frac{\cot A}{1 - \tan A} = 1 + \tan A + \cot A$
11. If  $\cos A = \frac{7}{25}$ , find all ratios.

### 4- Marks (any 2)

12. Prove the following  $(\operatorname{cosec} A - \sin A)(\sec A - \cos A) = \frac{1}{\tan A + \cot A}$
13. Prove that  $\sqrt{\frac{\sec A - 1}{\sec A + 1}} + \sqrt{\frac{\sec A + 1}{\sec A - 1}} = 2 \operatorname{cosec} A$
14. Solve the following (**Compulsory for all**)
  - (a) Find the ratio in which the point  $(-3, k)$  divides the line-segment joining the points  $(-5, -4)$  and  $(-2, 3)$ . Also find the value of  $k$ .
  - (b) If  $P(9a - 2, -b)$  divides the line segment joining  $A(3a + 1, -3)$  and  $B(8a, 5)$  in the ratio  $3 : 1$ . Find the values of  $a$  &  $b$ .

**Practice Test Paper 3 : Pair of Linear Equations in Two Variables and Triangles**