

No. of boys	10	14	18	12	6
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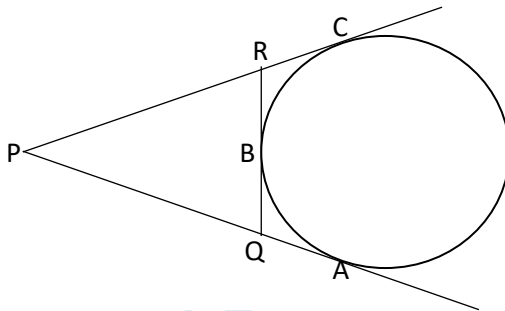
Find:

- (a) Median
(b) Mode

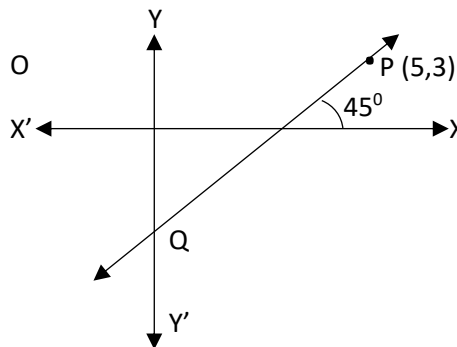
- (iii) A girl fills a cylindrical bucket 32 cm in height and 18 cm in radius with sand. She empties the bucket on the ground and makes a conical heap of the sand. If the height of the conical heap is 24 cm, find its radius. [3]
- (iv) Use graph paper for this question. [3]
- (a) The point $P(2, -4)$ is reflected about the line $x = 0$ to get the image Q. Find the coordinates of Q.
(b) Point Q is reflected about the line $y = 0$ to get the image R. Find the coordinates of R.
(c) Find the area of the figure PQR.

Question 5

- (i) Prove that: [2]
- $$\frac{\sin A \tan A}{1 - \cos A} = 1 + \sec A$$
- (ii) In the given figure, a circle touches the side QR of ΔPQR at B and PQ and PR produced at A and C respectively. If $PA = 15$ cm, find the perimeter of ΔPQR . [2]



- (iii) The line through a point $P(5,3)$ intersects y -axis at Q, making an angle of 45° with the x -axis. [3]
- (a) Write the slope of the line PQ.
(b) Write the equation of the line PQ.
(c) Find the co-ordinates of Q.



- (iv) A mathematics aptitude test of 50 students was recorded as follows: [3]

Marks	50 - 60	60 - 70	70 - 80	80 - 90	90 - 100
Number of students	4	8	14	19	5

Draw a histogram of the above data and locate the mode. [Take 2 cm = 10 cm along one axis and 2 cm = 2 marks along other axis]