

Except for the following questions, all the remaining questions have been asked in [Set - I](#).

**Q. 1.** If  $\frac{x^4 - 8x}{x^3 - x^2 - 2x} \cdot Y = \frac{x^2 + 2x + 1}{x^2 - 4x - 5}$  and  $Z = \frac{2x^2 + 4x + 8}{x - 5}$ , find  $(X \times Y) \div Z$ .

**Q. 4.** If  $(x - 1)(x + 4)$  is the HCF of the polynomials  $p(x) = (x^2 + 2x - 3)(2x^2 + 5x + a)$  and  $q(x) = (x^2 + x - 12)(3x^2 - x + b)$ . Find the values of  $a$  and  $b$ .

**Q. 8.** A household article is available for Rs. 1,500 cash payment or Rs. 360 cash down payment followed by three equal monthly instalments. If the rate of interest charged under the instalment scheme is 16% per annum, find the amount of each instalment.

**Q. 10.** Find the sum of all natural numbers between 100 and 200 which are divisible by 4.

**Q. 11.** Draw the graphs of the equations:  
 $4x - 5y + 16 = 0$  and  $2x + y - 6 = 0$   
Determine the vertices of the triangle formed by the lines and the x-axis.

**Q. 14.** The Arithmetic Mean of the following frequency distribution is 53. Find the value of  $P$ .

Classes	0 - 20	20 - 40	40 - 60	60 - 80	80 - 100
Frequency	12	15	32	$p$	13

**Q. 16.** A bag contains 5 white balls, 7 red balls, 4 black balls and 2 blue balls. One ball is drawn at random from the bag. What is the probability that the ball drawn is

- white or blue
- red or black
- not white
- Neither white nor black.

**Q. 22.** Prove that in a right triangle, the square of the hypotenuse is equal to the sum of the squares of the other two sides.

Using the above, in Figure 4, find  $PR$  and  $PQ$ , when  $QR = 26\text{cm}$ ,  $PO = 6\text{cm}$  and  $OR = 8\text{cm}$ .

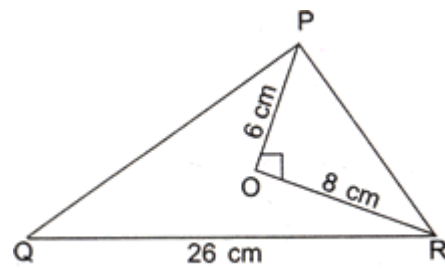


Fig. 4