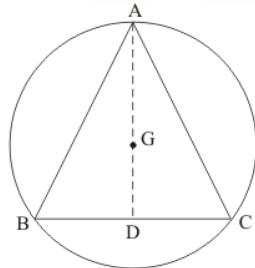




### Circles Ex 16.2 Q10

**Answer :**

Let  $ABC$  be an equilateral triangle of side 9 cm and let  $AD$  be one of its medians. Let  $G$  be the centroid of  $\triangle ABC$ . Then  $AG : GD = 2 : 1$



We know that in an equilateral triangle centroid coincides with the circumcentre. Therefore,  $G$  is the centre of the circumcircle with circumradius  $GA$ .

As per theorem,  $G$  is the centre and  $GD \perp BC$ . Therefore,

$$\begin{aligned} BD &= CD \\ &= 4.5\text{cm} \end{aligned}$$

In  $\triangle ADB$  we have

$$\begin{aligned} AD^2 &= AB^2 - DB^2 \\ &= 9^2 - (4.5)^2 \\ &= \sqrt{81 - \frac{81}{4}} \\ &= \frac{9\sqrt{3}}{2} \text{ cm} \end{aligned}$$

Therefore radius  $AG = \frac{2}{3} AD = 3\sqrt{3} \text{ cm}$

### Circles Ex 16.2 Q11

**Answer :**

Let  $PQ$  be an arc of the circle.

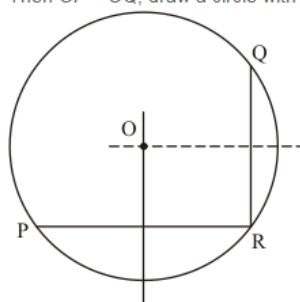
In order to complete the circle. First of all we have to find out its centre and radius.

Now take a point  $R$  on the arc  $PQ$  and join  $PR$  and  $QR$ .

Draw the perpendicular bisectors of  $PR$  and  $QR$  respectively.

Let these perpendicular bisectors intersect at point  $O$ .

Then  $OP = OQ$ , draw a circle with centre  $O$  and radius  $OP = OQ$  to get the required circle.



\*\*\*\*\* END \*\*\*\*\*

