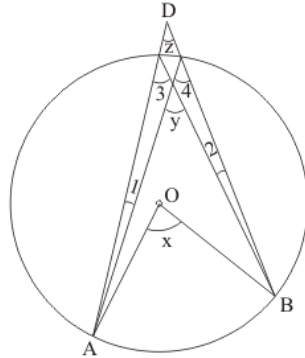




Circles Ex 16.4 Q7

Answer :

It is given that, O is the center of circle and A, B and C are points on circumference on triangle



We have to prove that $\angle x = \angle y + \angle z$

So, $\angle 4$ and $\angle 3$ are on same segment

So, $\angle 4 = \angle 3$

$\angle x = 2\angle 3$ (Angle x° is on center)

$\angle x = \angle 4 + \angle 3$ (1)

$\angle y = \angle 3 + \angle 1$ (Exterior angle = sum of two interior angle) (2)

$\angle z = \angle 4 - \angle 1$ (Exterior angle = sum of two interior angle) (3)

Hence

Adding (2) and (3)

$$\angle y + \angle z = \angle 3 + \angle 4 \text{(4)}$$

From equation (1) and (4) we have

$$\boxed{\angle x = \angle y + \angle z}$$

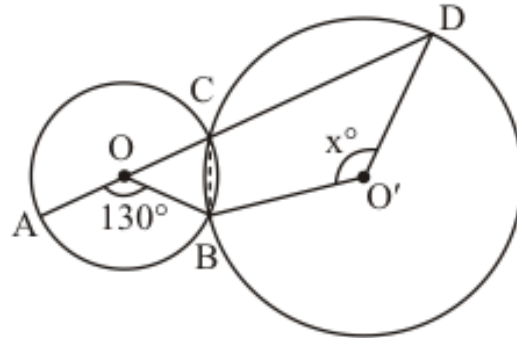
Circles Ex 16.4 Q8

Answer :

It is given that

Two circles having center O and O' and $\angle AOB = 130^\circ$

And AC is diameter of circle having center O



We have

$$\angle ACB = \frac{1}{2} \angle AOB = 65^\circ$$

So

$$\begin{aligned} \angle DCB &= 180^\circ - \angle ACB \\ &= 180^\circ - 65^\circ \\ &= 115^\circ \end{aligned}$$

Now reflex $\angle BO'D = 2\angle BCD$

So

$$\begin{aligned} 360^\circ - x^\circ &= 2 \times 115 \\ &= 230^\circ \end{aligned}$$

$$x = 360 - 230 = 130$$

Hence $\boxed{x = 130^\circ}$

***** END *****