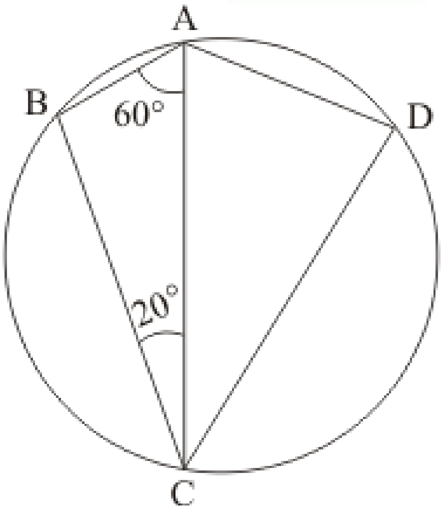
Circles Ex 16.5 Q12

Answer :

It is given that, $\angle BAC = 60^0$ and $\angle BCA = 20^0$



We have to find the $\angle ADC$

In given ΔABC we have

$\angle B + \angle BCA + \angle BAC = 180^0$ (Total angle of ΔBCD)

So

$$\angle B = 180^0 - \left(60^0 + 20^0\right)$$
$$= 100^0$$

In cyclic quadrilateral $ABCD$ we have

$\angle B + \angle D = 180^0$ (Sum of opposite angle $= 180^0$)

Then

$$\angle D = 180^0 - 100^0$$

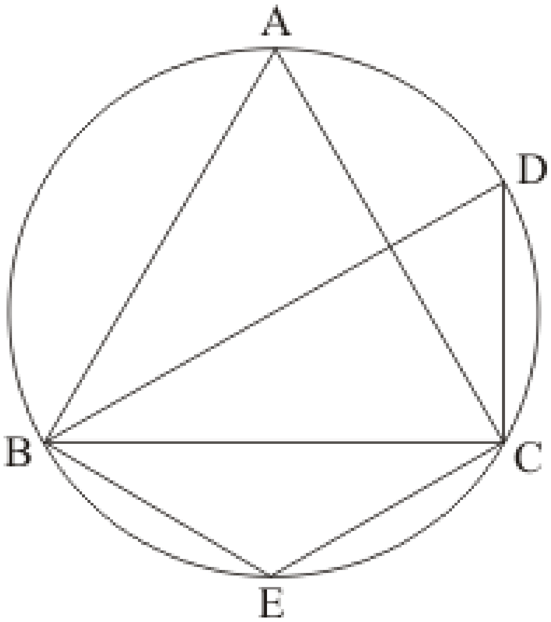
$$\angle D = 80^0$$

Hence $\boxed{\angle ADC = 80^0}$

Circles Ex 16.5 Q13

Answer :

It is given that, ABC is an equilateral triangle



We have to find $\angle BDC$ and $\angle BEC$

Since ΔABC is equilateral triangle

So $\angle A = \angle B = \angle C = 60^0$

And $ABEC$ is cyclic quadrilateral

So $\angle A + \angle E = 180^0$ $(\angle A = 60^0)$

Then

$$\angle E = 180^0 - 60^0$$
$$= 120^0$$

Similarly $BECD$ is also cyclic quadrilateral

So

$$\angle E + \angle D = 180^0$$
$$\angle D = 180^0 - 120^0$$
$$= 60^0$$

Hence $\boxed{\angle BDC = 60^0}$ and $\boxed{\angle BEC = 120^0}$

*********** END **********