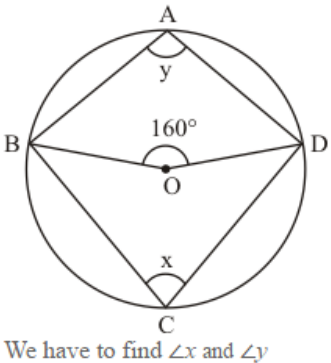
Circles Ex 16.5 Q3

**Answer :**

It is given that $O$ is center of circle and $\angle BOD = 160°$




We have to find $\angle x$ and $\angle y$

From given figure

Clearly arc $DB$ makes angle 160° at the center therefore $\angle x$ will be half of $\angle BOD$

So

$$x = \frac{1}{2}(160^0)$$
$$= 80^0$$

Since $ABCD$ is cyclic quadrilateral

So

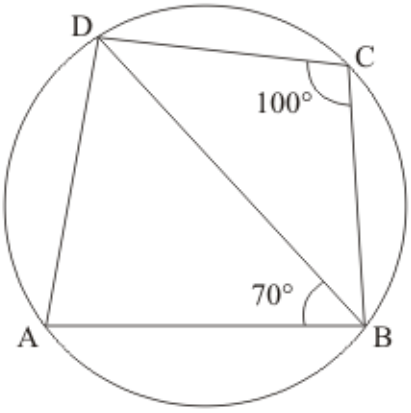
$$x + y = 180°\text{(Each opposite pair angle is 180°)}$$
$$y = 180^0 - x$$
$$= 180^0 - 80^0$$
$$= 100^0$$

Hence $\boxed{\angle y = 100^0}$ and $\boxed{\angle x = 80^0}$

Circles Ex 16.5 Q4

**Answer :**

It is given that ∠BCD = 100° and ∠ABD = 70°




We have to find the ∠ADB

We have

∠A + ∠C = 180° (Opposite pair of angle of cyclic quadrilateral)

So

$$\angle A = 180^0 - 100^0$$
$$= 80^0$$

Now in $\Delta ADB$ is $\angle A = 80^0$ and $\angle ABD = 70^0$

Therefore

$$\angle A + \angle ADB + \angle ABD = 180^0$$
$$80^0 + \angle ADB + 70^0 = 180^0$$
$$\angle ADB = 180^0 - 150^0$$
$$= 30^0$$

Hence $\boxed{\angle ADB = 30^0}$

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