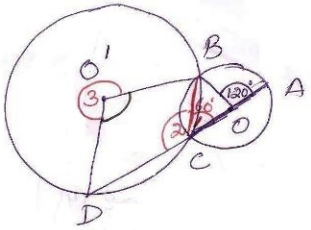
(5)



to find $\angle BO'D$ const join BC

Sol $\angle AOB = 2\angle 1$ (angle subtended by an arc at centre of ⊙ is twice the angle sub. by it on remain. part of ⊙)

$\frac{120}{2} = \angle 1$

$\Rightarrow \angle 1 = 60°$

$\angle 1 + \angle 2 = 180°$ (linear pair axiom)

$60 + \angle 2 = 180°$

$\Rightarrow \angle 2 = 180 - 60$

$= 120°$

$\angle 3 = 2\angle 2$

$= 2 \times 120$

$= 240°$

$\angle 3 + \angle BO'D = 360°$ (Sum of angles around a point)

$240 + \angle BO'D = 360$

$\Rightarrow \angle BO'D = 360 - 240$

$= 120°$