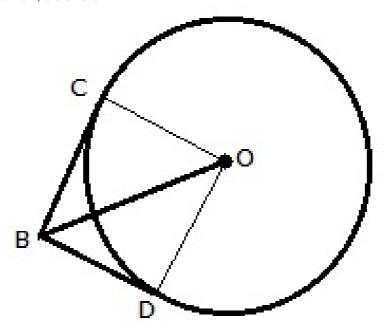


Exercise 12

Question 7:

Given: Two tangent segments BC and BD are drawn to a circle with centre O such that \angle CBD = 120°.

Join OB, OC and OD.

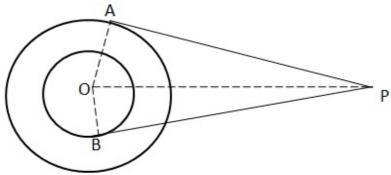


In triangle OBC, \angle OBC = \angle OBD = 60° \angle OCB = 90° (BC is tangent to the circle) Therefore, \angle BOC = 30° BC/OB = sin 30° = 1/2 \Rightarrow OB = 2BC

Question 8:

Given O is the centre of two concentric circles of radii 4 cm and 6 cm respectively. PA and PB are tangents to the outer and inner circle respectively. PA = 10cm. Join OA, OB and OP.

Then, OB = 4 cm, OA = 6 cm and PA = 10 cm



In triangle OAP,

$$OP^2 = OA^2 + PA^2$$

= $(6)^2 + (10)^2 = 136 \text{ cm}^2$
In $\triangle OBP$,
 $BP = \sqrt{OP^2 - OB^2} = \sqrt{136 - 16} \text{ cm}$
= $\sqrt{120} \text{ cm} = 10.9 \text{ cm}$

Hence, BP = 10.9 cm

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