

CLASS 10 · HOTS · OLYMPIAD PREPARATION · DPP SHEET

## Chapter 10: HOTS: Circles (Class 10)

Daily practice problems: 8 questions with an answer key

Try every question on your own first. The answer key is on the last page.

1. Two tangents PA and PB are drawn from an outside point P. If  $\angle APB = 70^\circ$ , find  $\angle POA$  where O is the centre.
2. A point P is 17 cm from the centre of a circle of radius 8 cm. Find the length of the tangent from P.
3. A quadrilateral ABCD is drawn around a circle with  $AB = 9$  cm,  $BC = 8$  cm and  $CD = 5$  cm. Find  $AD$ .
4. Two concentric circles have radii 13 cm and 5 cm. Find the length of the chord of the larger circle which touches the smaller circle.
5. A point Q is 10 cm from the centre of a circle and the tangent from Q is 8 cm long. Find the radius.
6. Two tangents drawn from an outside point P to a circle of radius 3 cm are perpendicular to each other. Find the distance of P from the centre.
7. Tangents PA and PB are drawn from P and  $\angle APB = 60^\circ$ . If  $PA = 5$  cm, find  $AB$ .
8. The radius of a circle is 4 cm and a tangent from a point P is 3 cm long. Find the distance of P from the centre.

## Answer Key

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1.  $55^\circ$ .
2. 15 cm.
3. 6 cm.
4. 24 cm.
5. 6 cm.
6.  $3\sqrt{2}$  cm.
7. 5 cm (triangle PAB has  $PA = PB$  and an apex angle of  $60^\circ$ , so it is equilateral).
8. 5 cm.

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