

1. In the given figure, PQ is tangent to the circle centred at O . If $\angle AOB = 95^\circ$, then measure of $\angle ABQ$ will be

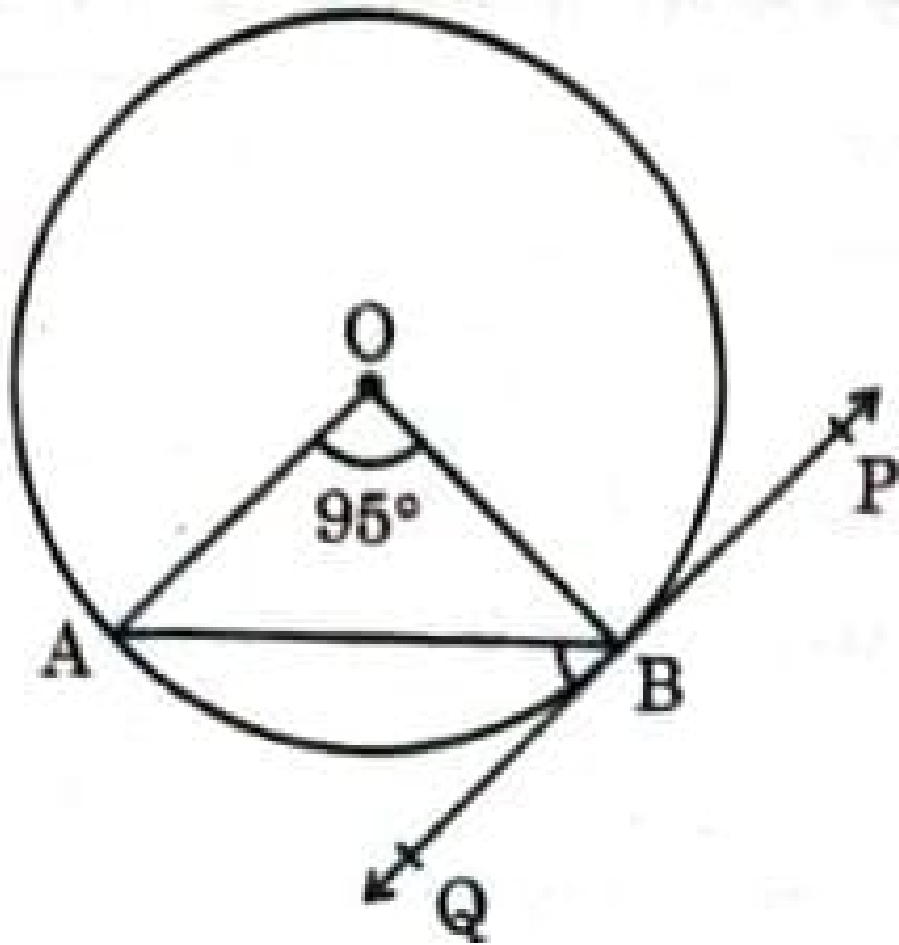


Figure 1: Circle-1

- (a) 47.5°
(b) 42.5°
(c) 85°
(d) 95°
2. (a) Two tangents TP and TQ are drawn to a circle with centre O from an external point T . Prove that $\angle PTQ = 2\angle OPQ$.

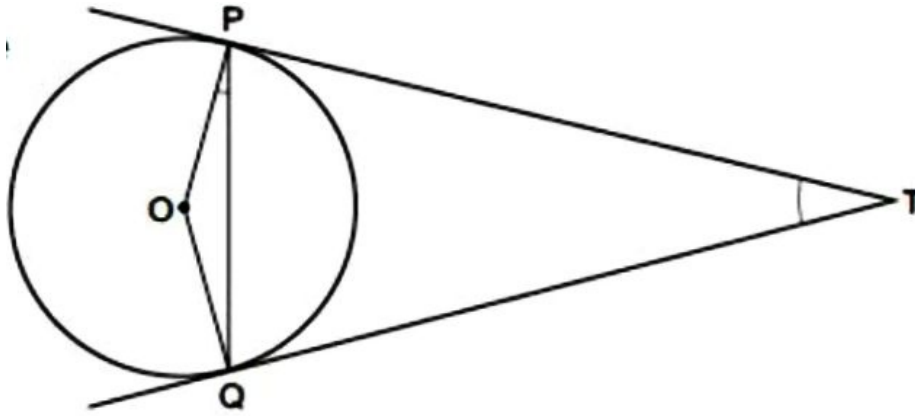


Figure 2: Circle-2

- (b) In the given figure, a circle is inscribed in a quadrilateral $ABCD$ in which $\angle B = 90^\circ$. If $AD = 17\text{cm}$, $AB = 20\text{cm}$ and $DS = 3\text{cm}$, then find the radius of the circle.

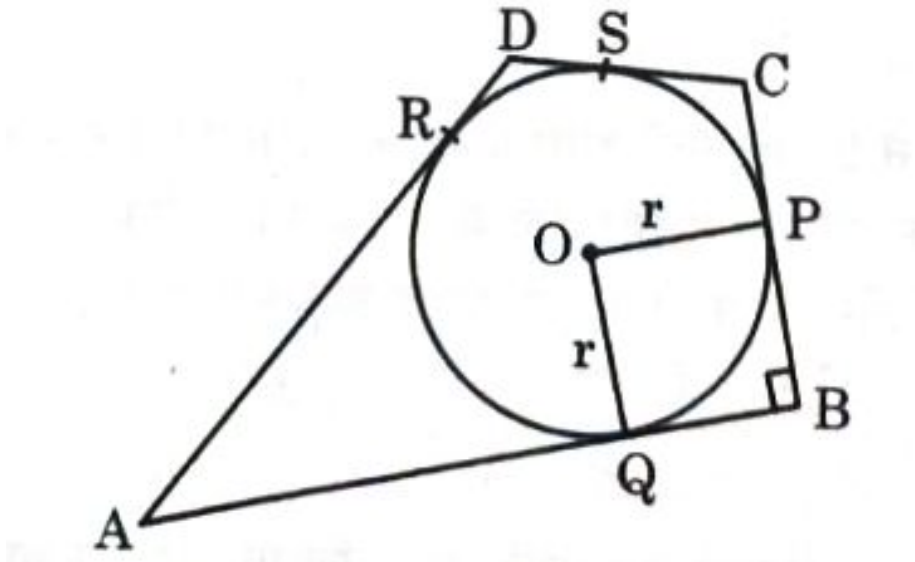
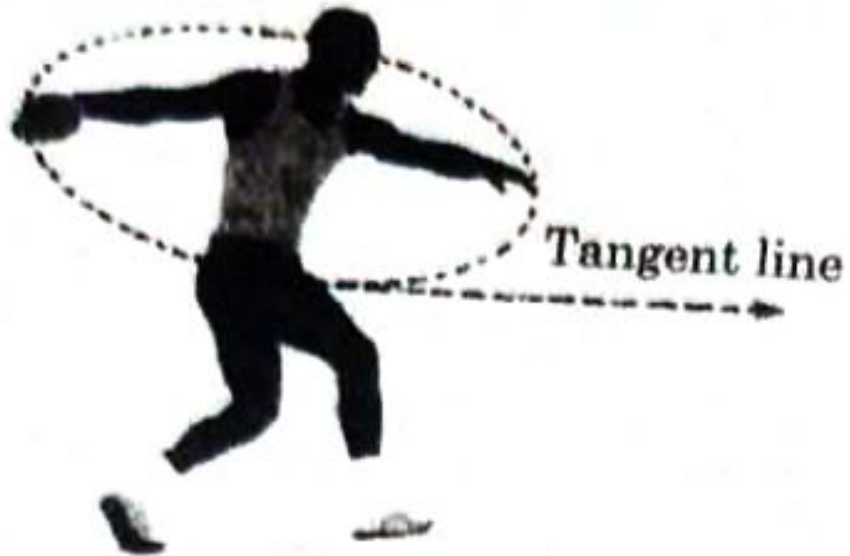


Figure 3: Circle-3

3. The discus throw is an event in which an athlete attempts to throw a discus. The athlete spins anti-clockwise around one and a half times through a circle, then releases the throw. When released, the discus travels along tangent to the circular spin orbit.



In the given figure, AB is one such tangent to a circle of radius 75 cm. Point O is centre of the circle and $\angle ABO = 30^\circ$. PQ is parallel to OA .

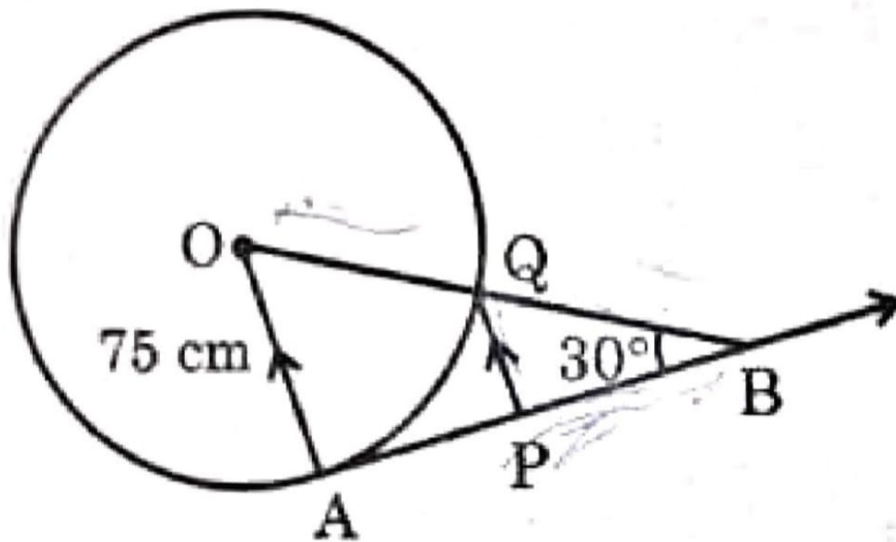


Figure 4: Circle-4

Based on above information :

- (a) find the length of AB .
 - (b) find the length of OB .
 - (c) find the length of AP .
 - (d) find the length of PQ .
4. In the given figure, the quadrilateral $PQRS$ circumscribes a circle. Here $PA + CS$ is equal to :

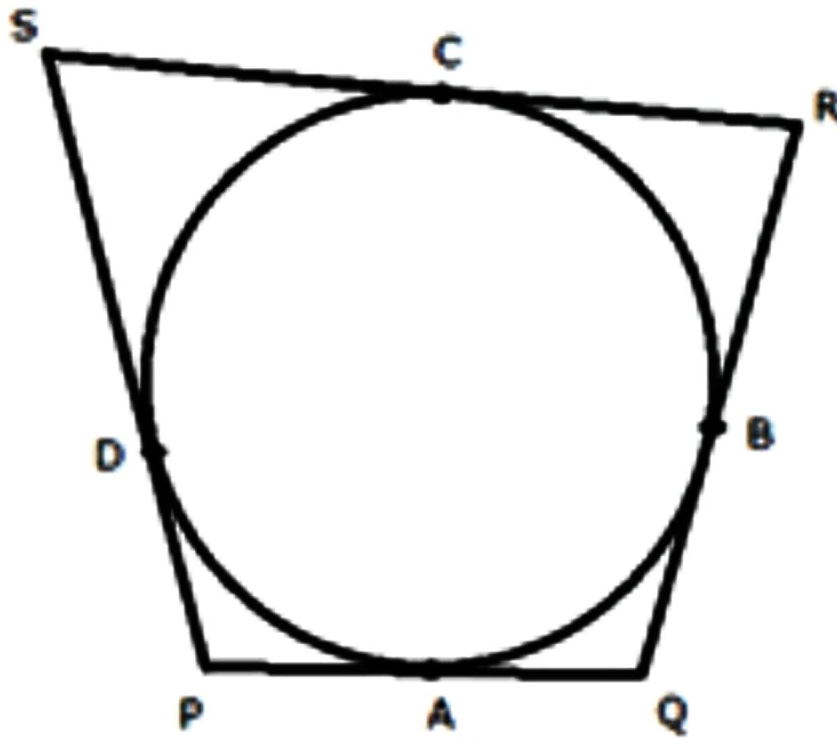


Figure 5: Circle-5

- (a) QR
 - (b) PR
 - (c) PS
 - (d) PQ
5. In the given figure, O is the centre of the circle. AB and AC are tangents drawn to the circle from point A . If $\angle BAC = 65^\circ$, then find the measure of $\angle BOC$.

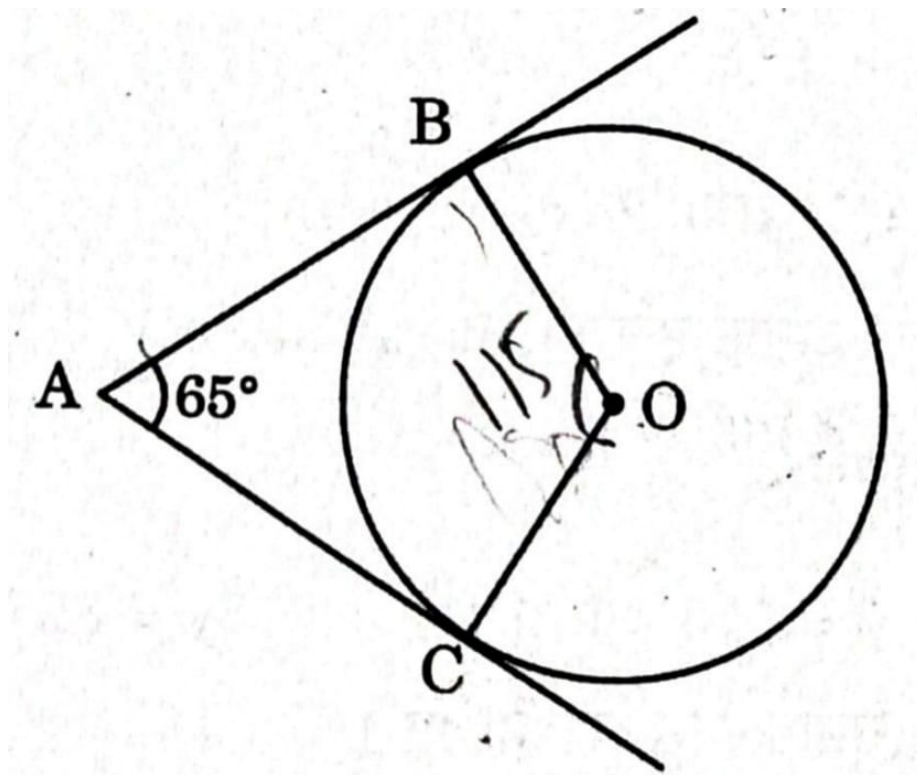


Figure 6: Circle-6

6. In the given figure, O is the centre of the circle and QPR is the tangent to it at P . Prove that $\angle QAP + \angle APR = 90^\circ$.

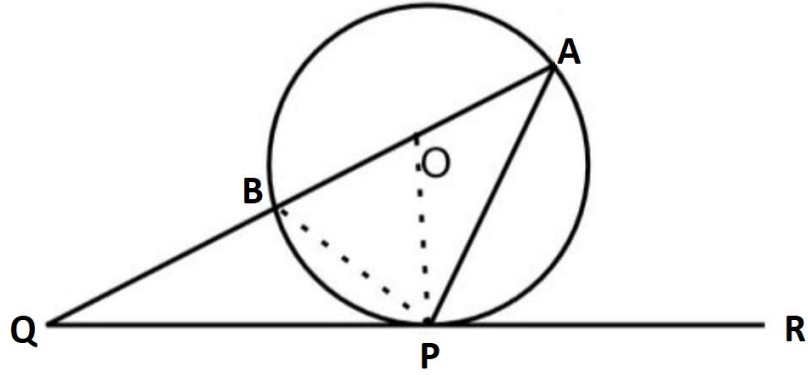


Figure 7: Circle-7

7. In the given figure, TA is a tangent to the circle with centre O such that $OT = 4\text{cm}$, $\angle OTA = 30^\circ$, then length of TA is :

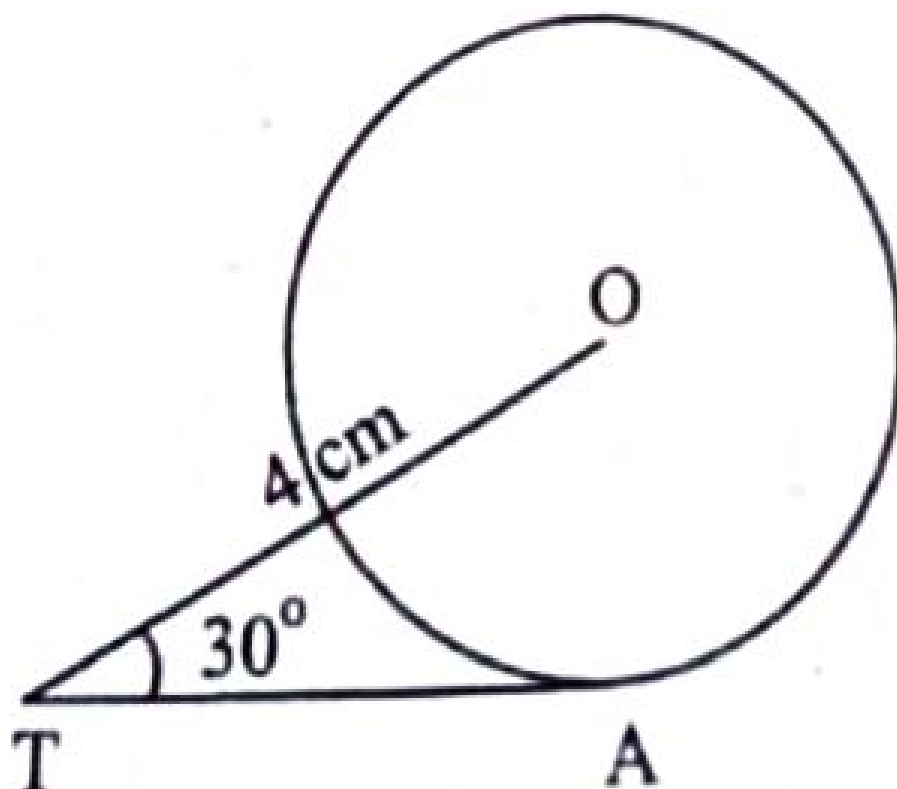


Figure 8: Circle-8

- (a) $2\sqrt{3}cm$
 - (b) $2cm$
 - (c) $2\sqrt{2}cm$
 - (d) $\sqrt{3}cm$
8. In the given figure, PT is a tangent at T to the circle with centre O . If $\angle TPO = 25^\circ$, then x is equal to :

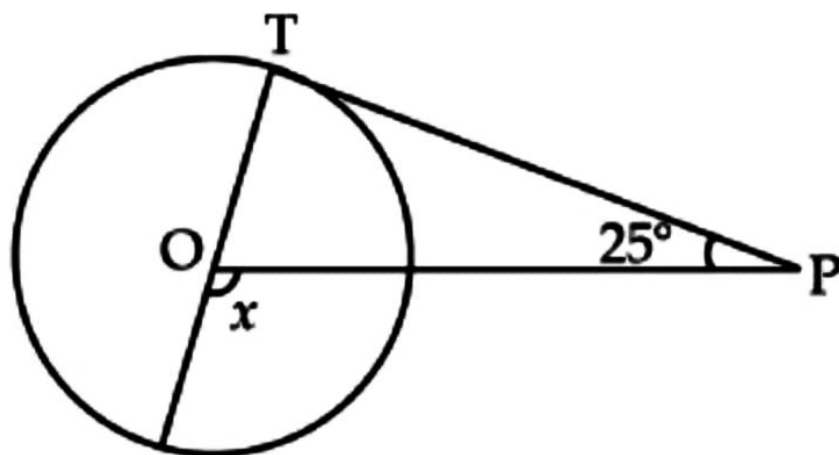


Figure 9: Circle-9

- (a) 25°
 - (b) 65°
 - (c) 90°
 - (d) 115°
9. Two concentric circles are of radii 5 cm and 3 cm. Find the length of the chord of the larger circle which touches the smaller circle.