

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

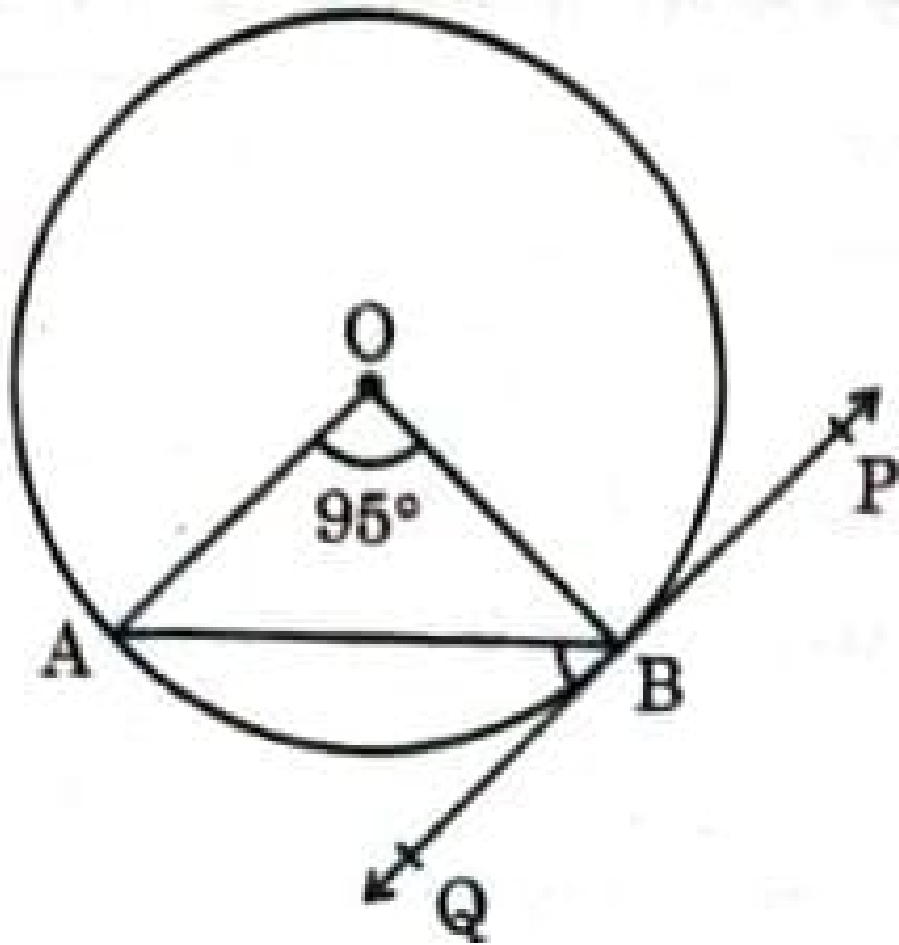


Figure 1:

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

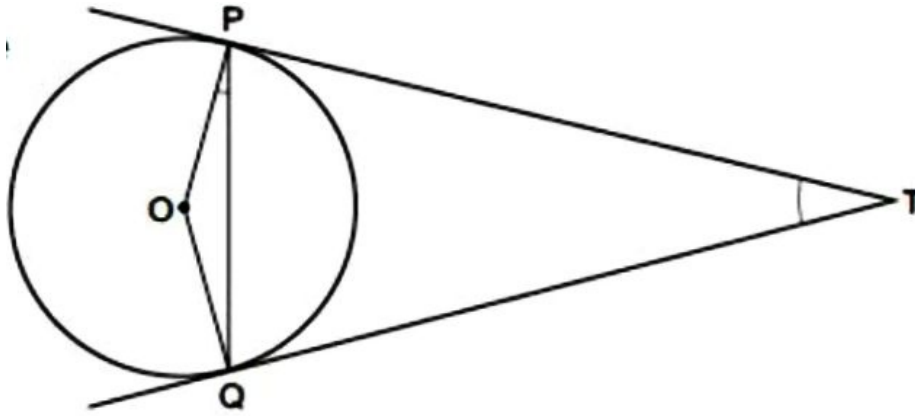


Figure 2:

- (b) In the given figure Fig. 3, 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.

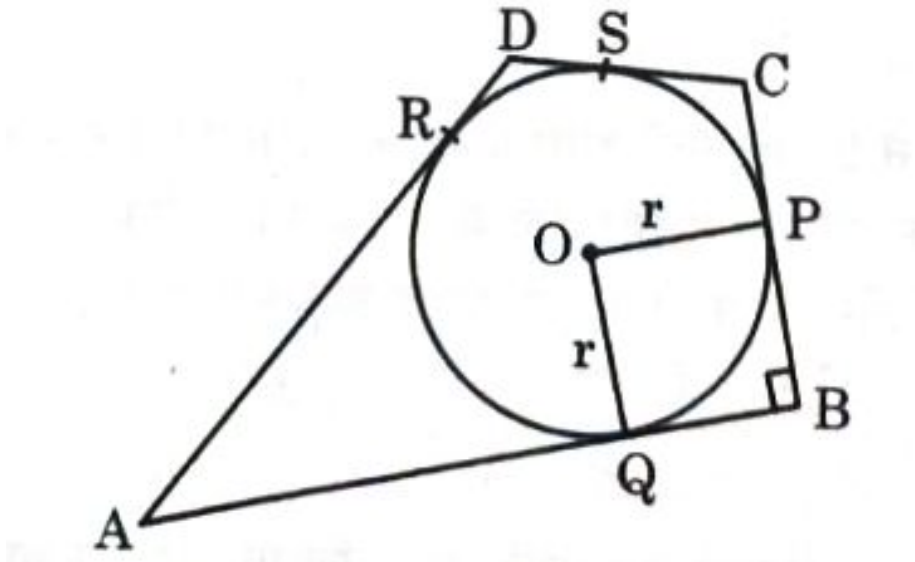


Figure 3:

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 as shown in Fig. 4 below, then releases the throw. When released, the discus travels along tangent to the circular spin orbit.

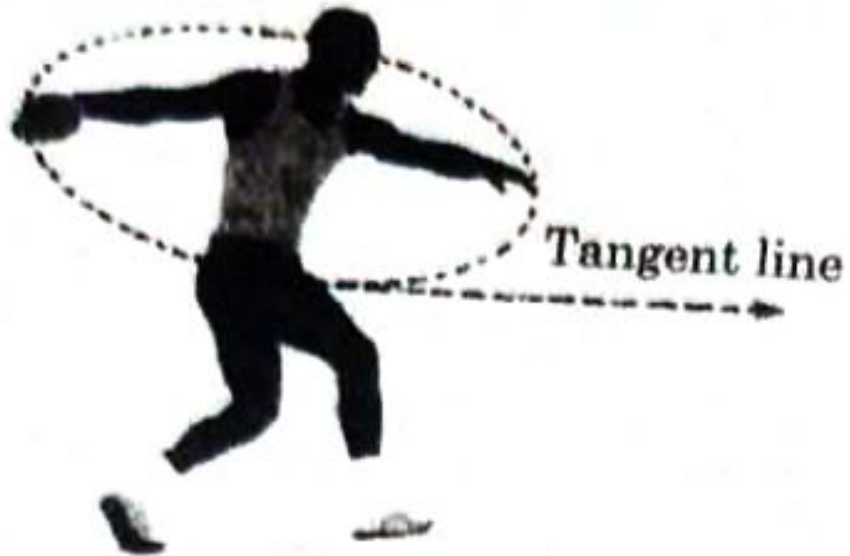


Figure 4:

In the given figure Fig. 5, 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 .

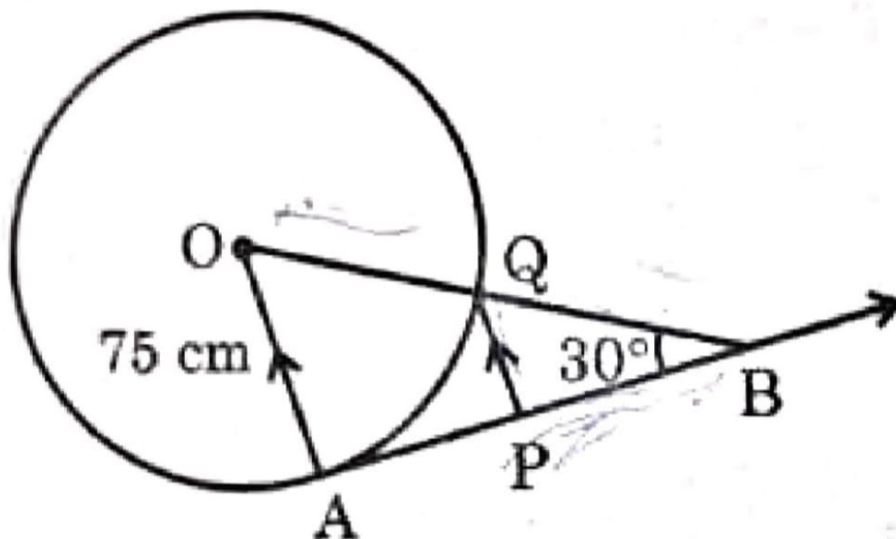


Figure 5:

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 Fig. 6, the quadrilateral $PQRS$ circumscribes a circle.
Here $PA + CS$ is equal to :

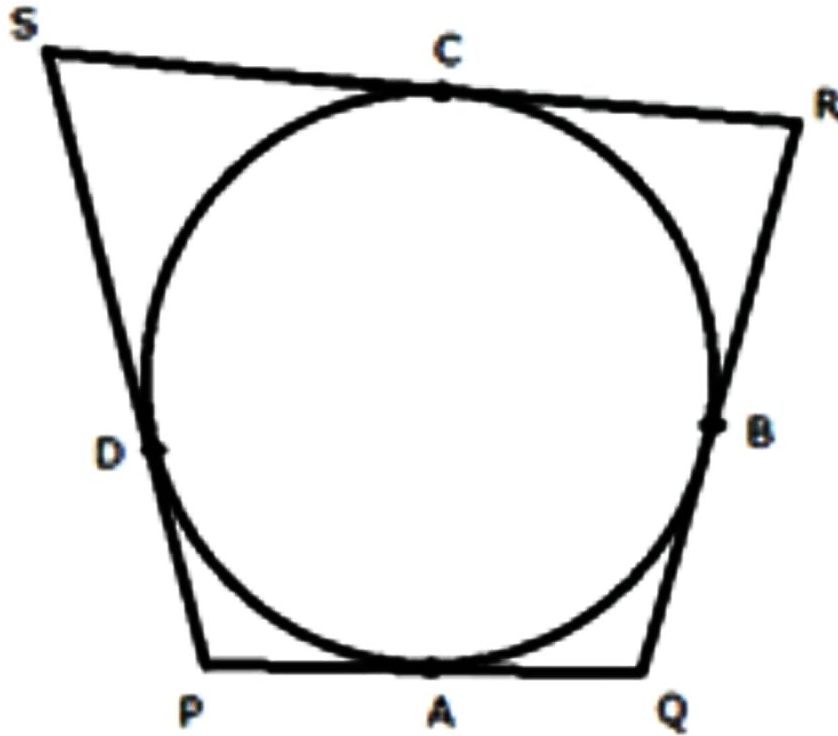


Figure 6:

- (a) QR
- (b) PR
- (c) PS
- (d) PQ

5. In the given figure Fig. 7, 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 $\angle BOC$.

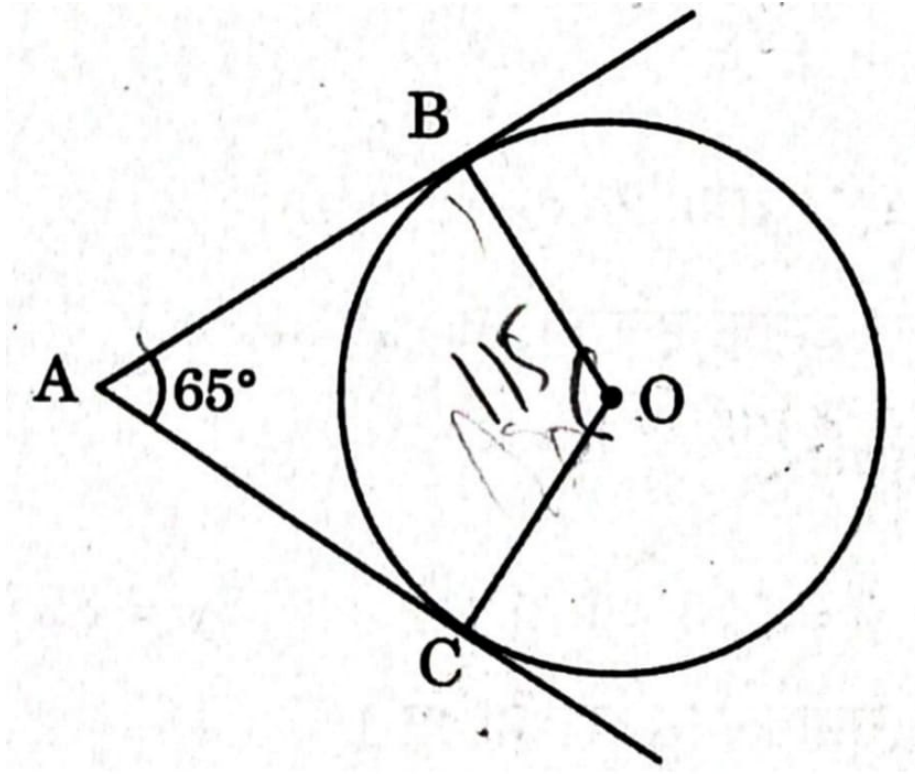


Figure 7:

6. In the given figure Fig. 8, O is the centre of the circle and QPR is the tangent to it at P . Prove that $\angle QAP + \angle APR = 90^\circ$.

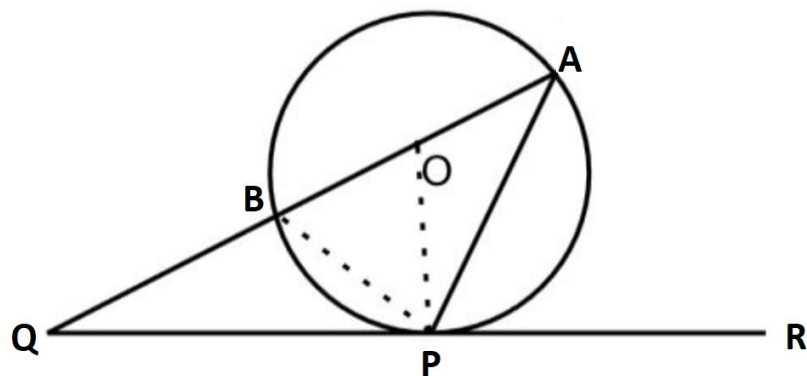


Figure 8:

7. In the given figure Fig. 9, 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 :

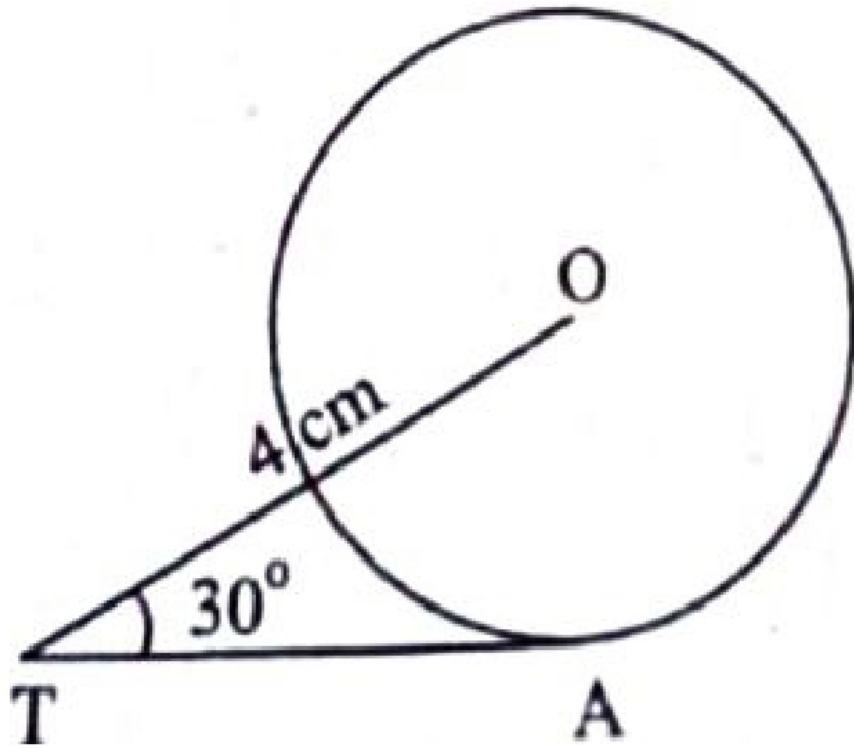


Figure 9:

- (a) $2\sqrt{3}\text{cm}$
 - (b) 2cm
 - (c) $2\sqrt{2}\text{cm}$
 - (d) $\sqrt{3}\text{cm}$
8. In the given figure Fig. 10, PT is a tangent at T to the circle with centre O . If $\angle TPO = 25^\circ$, then x is equal to :

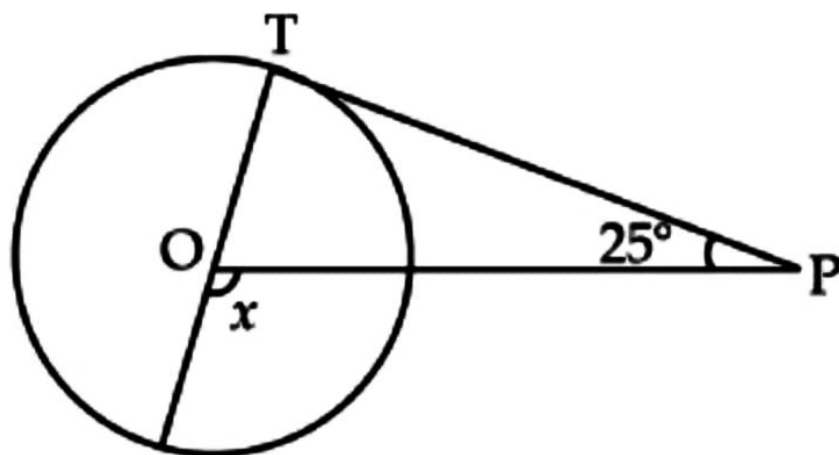


Figure 10:

- (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.