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

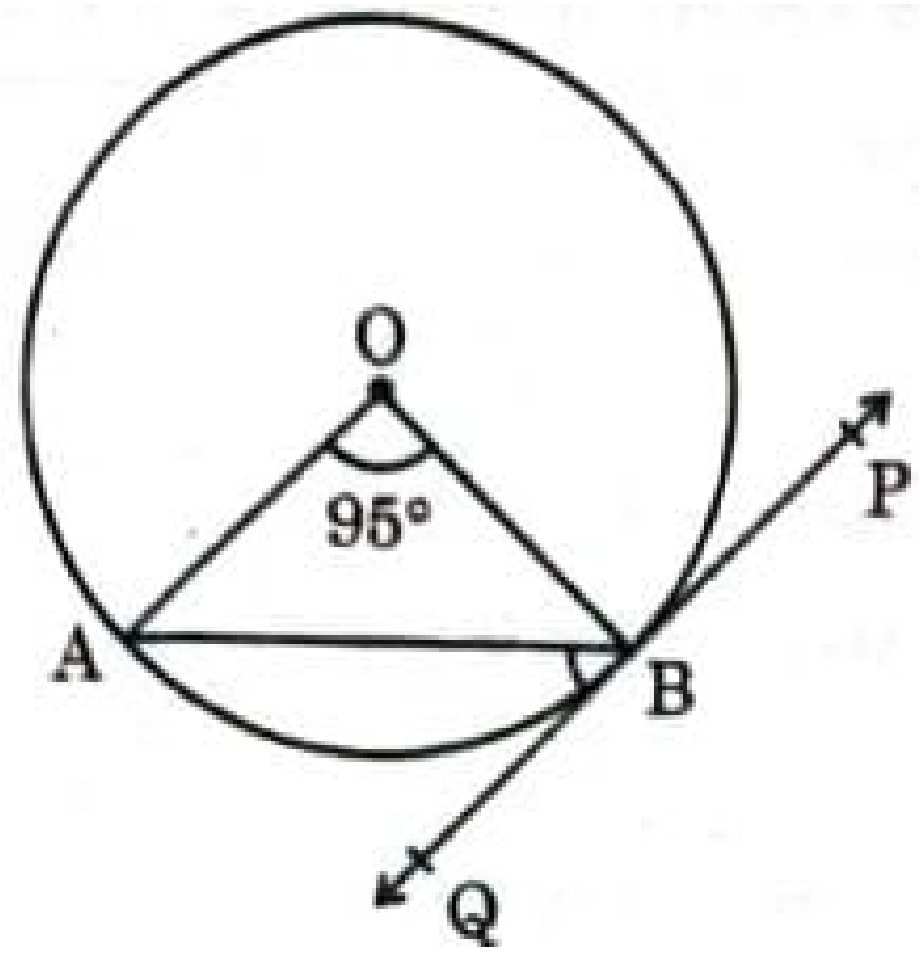


Figure 1:

(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 $\angle PTQ = 2\angle OPQ$.

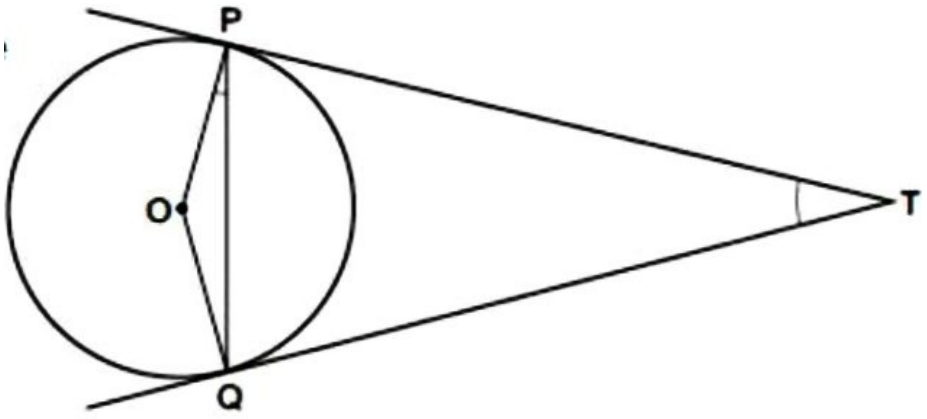


Figure 2:

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

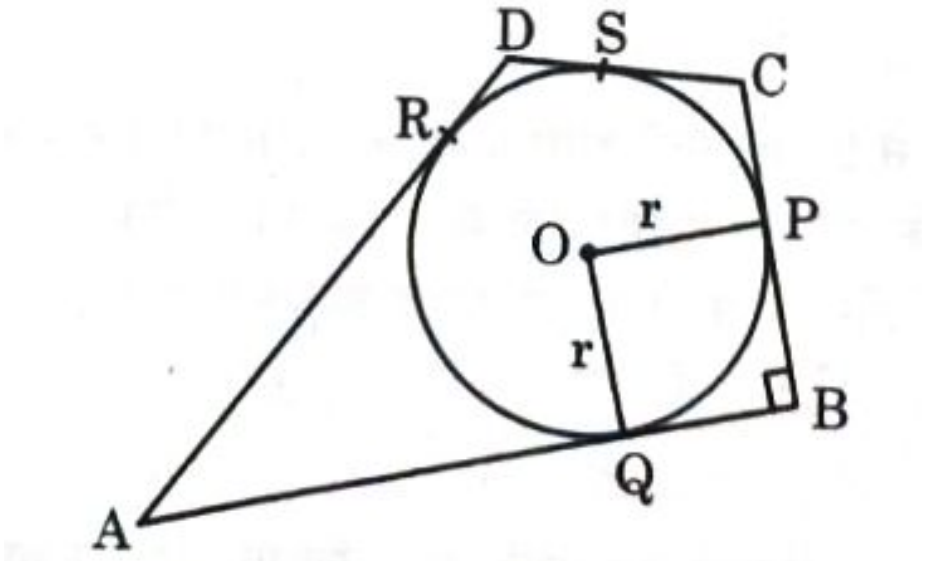
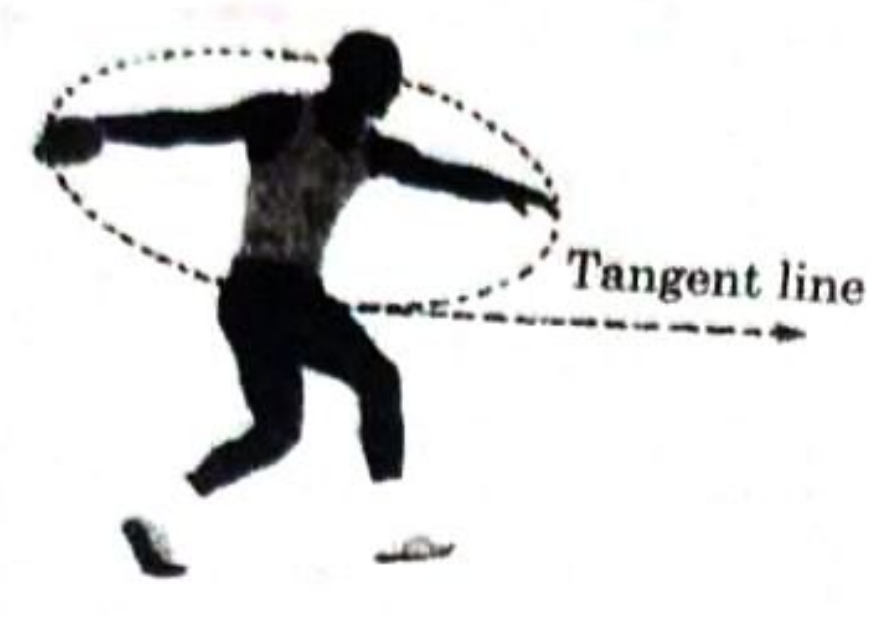


Figure 3:

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 cicrle, then releases the throw. When released, the discus travels along tangent to the circular spin orbit.



In the given figure Fig. 4, AB is one such tangent to a circle of radius 75 cm. Point **O** is centre of the circle and $\angle ABO = 30°$.PQ is parallel to OA.

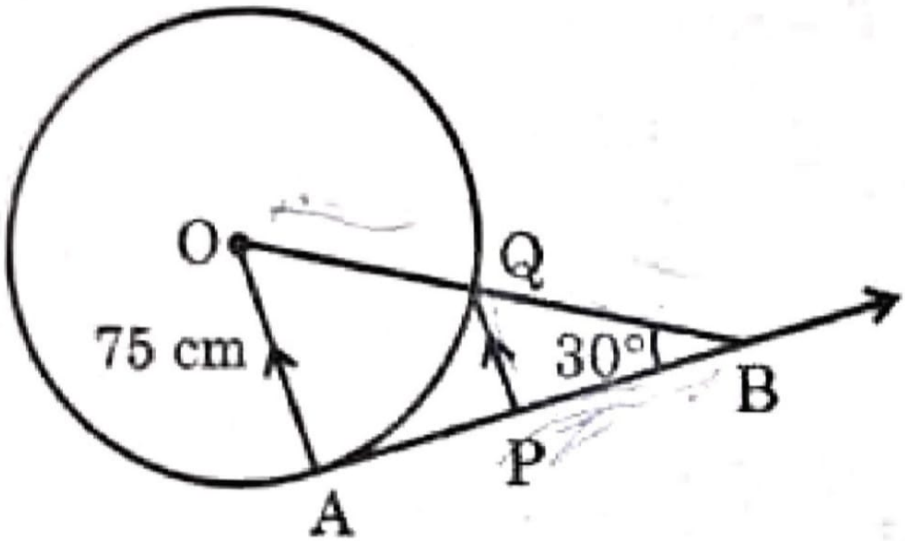


Figure 4:

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 Fig. 5, the quadrilateral $PQRS$ circumscribes a circle. Here $PA + CS$ is equal to :

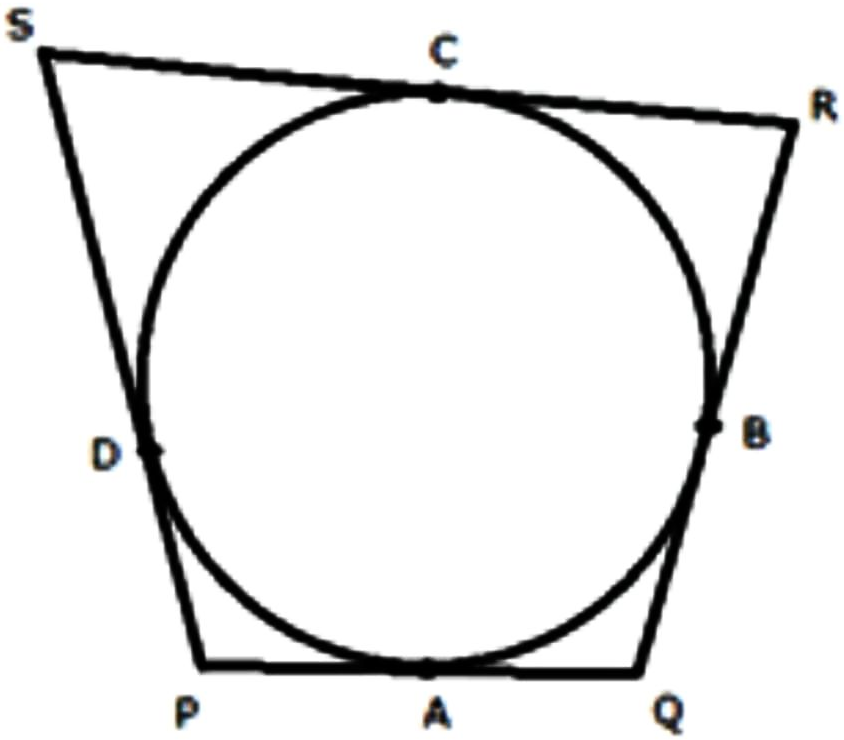


Figure 5:

(a) QR

(b) PR

(c) PS

(d) PQ

5. In the given figure Fig. 6, **O** is the centre of the circle. AB and AC are tangents drawn to the circle from point **A**. If $\angle BAC = 65°$, then find the measure of $\angle BOC$.

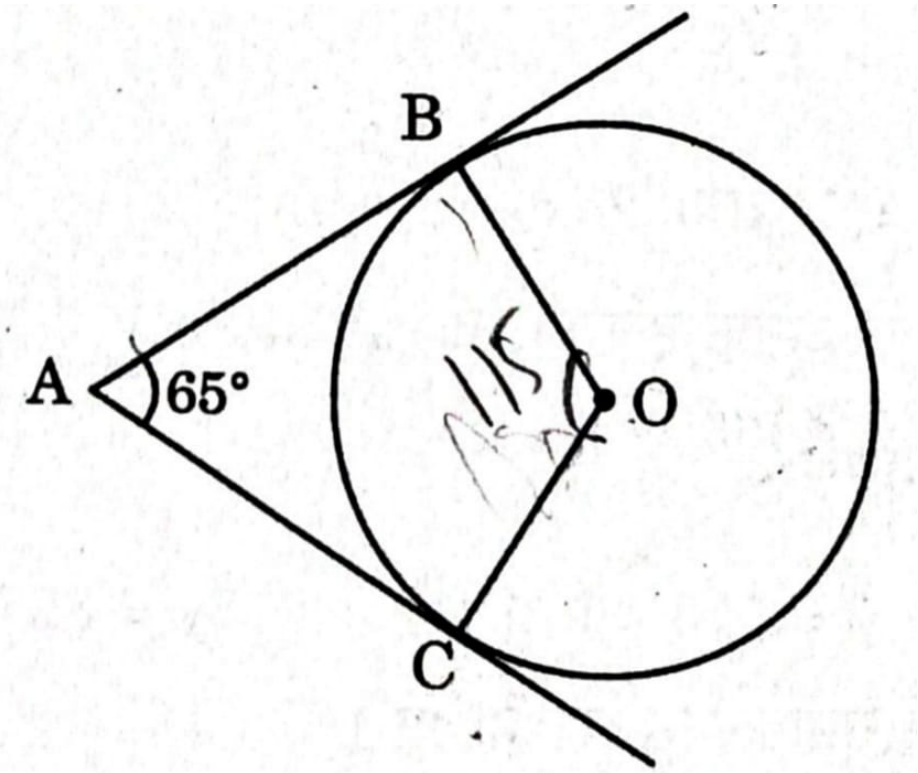


Figure 6:

6. In the given figure Fig. 7, **O** is the centre of the circle and QPR is the tangent to it at **P**. Prove that $\angle QAP + \angle APR = 90°$.

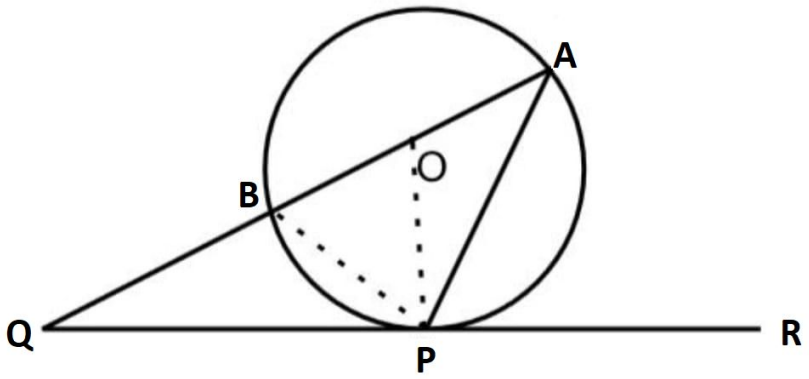


Figure 7:

7. In the given figure Fig. 8, TA is a tangent to the circle with centre **O** such that $OT = 4cm, \angle OTA = 30°$, then length of TA is :

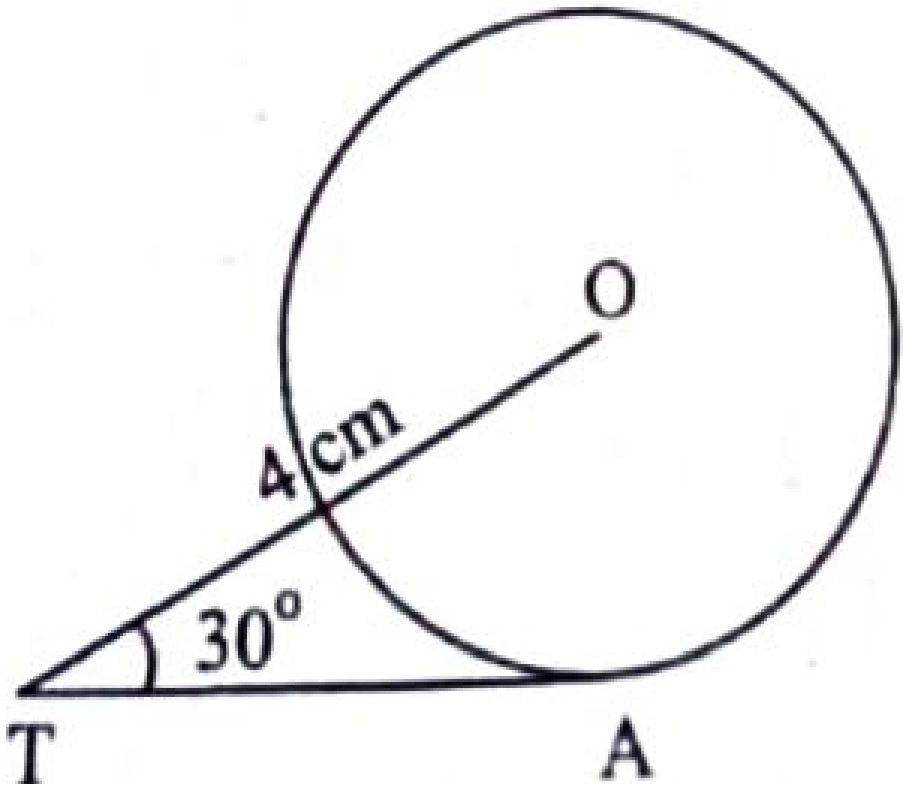


Figure 8:

(a) $2\sqrt{3}cm$

(b) $2cm$

(c) $2\sqrt{2}cm$

(d) $\sqrt{3}cm$

8. In the given figure Fig. 9, PT is a tangent at **T** to the circle with centre **O**. If $\angle TPO = 25°$, then x is equal to :

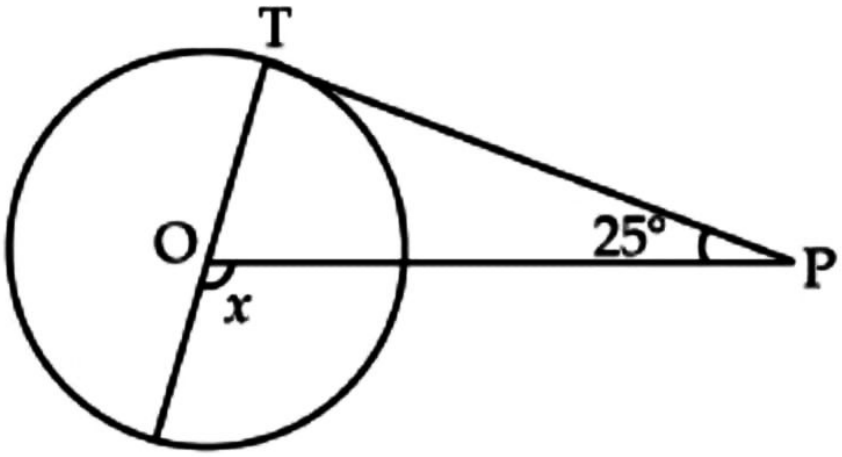


Figure 9:

(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.