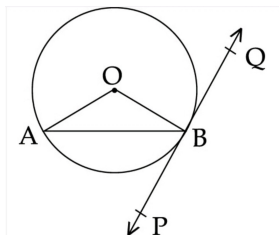
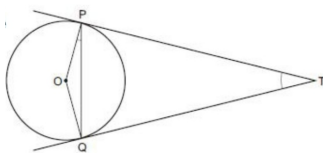


1. In the given figure, PQ is tangent to the circle centred at  $\vec{O}$ . If  $\angle AOB = 95^\circ$ , then the measure of  $\angle ABQ$  will be

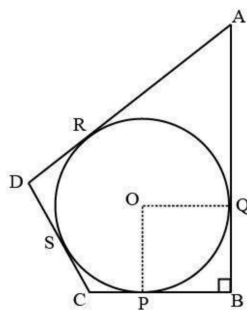


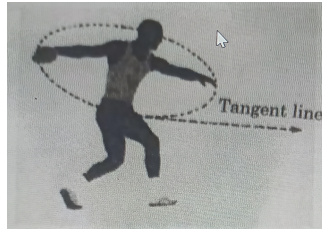
- (a)  $47.5^\circ$   
 (b)  $42.5^\circ$   
 (c)  $85^\circ$   
 (d)  $95^\circ$
2. (a) Two tangents TP and TQ are drawn to a circle with center  $\vec{O}$  from an external point T. prove that  $\angle PTQ = 2\angle OPQ$



**OR**

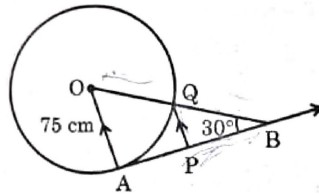
- (b) In the given figure, a circle is inscribed in a quadrilateral ABCD in which  $\angle B = 90^\circ$ . If  $AD = 7$  cm,  $AB = 20$  cm and  $DS = 3$  cm, then find the radius of the circle





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 a tangent to the circular spin orbit.

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



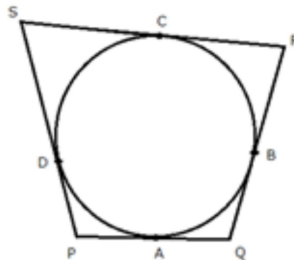
Based on above information:

- find the length of  $AB$ .
- find the length of  $OB$ .
- find the length of  $PQ$ .

OR

find the length of  $PQ$ .

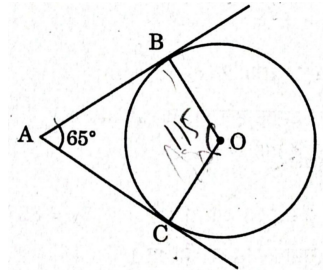
4. In the given figure, the quadrilateral  $PQRS$  circumscribes a circle. Here  $PA + CS$  is equal to:



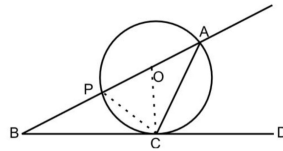
- $QR$

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

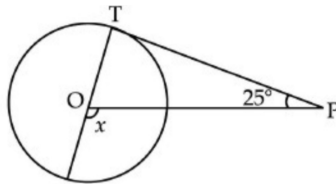
5. In the given figure,  $\vec{O}$  is the center of the circle. AB and AC are tangents drawn to the circle from point A. If  $\angle BAC = 65^\circ$ , then find the measure of  $\angle BOC$ .



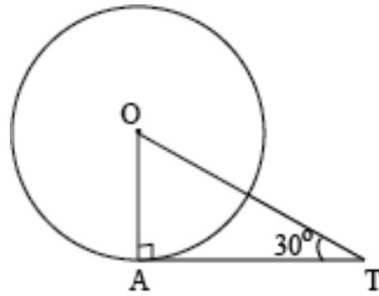
6. In the given figure,  $\vec{O}$  is the center of the circle and QPR is a tangent to it at P. prove that  $\angle QAP + \angle APR = 90^\circ$



7. In the given figure, PT is a tangent at T to the circle with center  $\vec{O}$ . If  $\angle TPO = 25^\circ$ , then x is equal to:



- (a)  $25^\circ$
  - (b)  $65^\circ$
  - (c)  $90^\circ$
  - (d)  $115^\circ$
8. In the given, TA is a tangent to the circle with center  $\vec{O}$  such that  $OT = 4\text{cm}$ ,  $\angle OTA = 30^\circ$ , then length of TA is:



- (a)  $2\sqrt{3}\text{cm}$
  - (b)  $2\text{cm}$
  - (c)  $2\sqrt{2}\text{cm}$
  - (d)  $\sqrt{3}\text{cm}$
9. Two concentric circles are of radii 5cm and 3cm. Find the length of the chord of the larger circle which touches the smaller circle