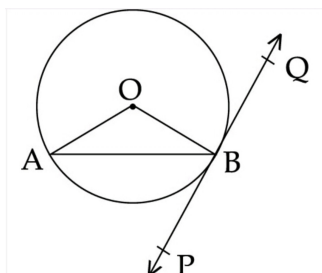
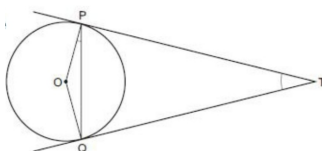


1. In the given figure, PQ is tangent to the circle centred at O. If  $\angle AOB = 95^\circ$ , then the measure of  $\angle ABQ$  will be

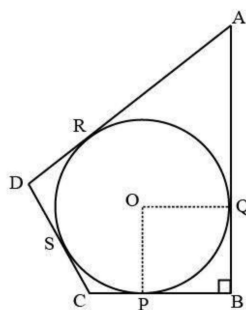


- (a)  $47.5^\circ$  (c)  $85^\circ$   
 (b)  $42.5^\circ$  (d)  $95^\circ$
2. (a) Two tangents TP and TQ are drawn to a circle with center O from an external point T. prove that  $\angle PTQ = 2\angle OPQ$

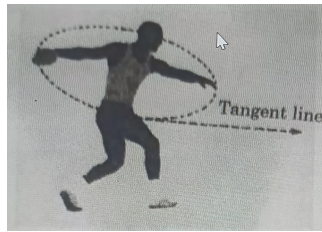


**OR**

- (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

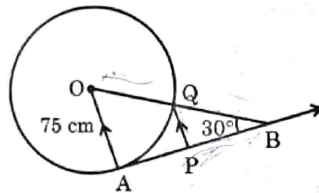


3. The discus throw is an event in which an athlete attempts to throw a discus. The athlete spins anti-clockwise around one and a half times through



a circle, then the release 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 center of the circle and  $\angle ABO = 30^\circ$ . PQ is parallel to OA



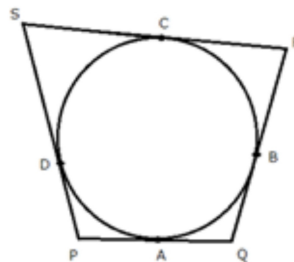
Based on above information:

- (a) find the length of AB.
- (b) find the length of OB.
- (c) find the length of PQ.

OR

find the length of PQ.

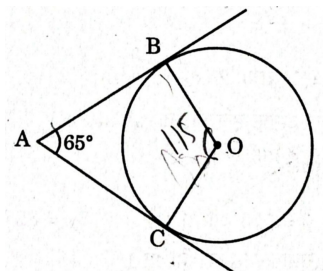
4. In the given figure, the quadrilateral PQRS circumscribes a circle. Here  $PA + CS$  is equal to:



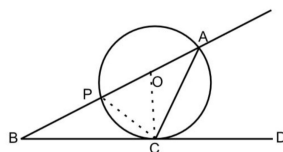
- |        |        |
|--------|--------|
| (a) QR | (c) PR |
| (b) PS | (d) PQ |

5. In the given figure, O is the center of the circle. AB and AC are tangents

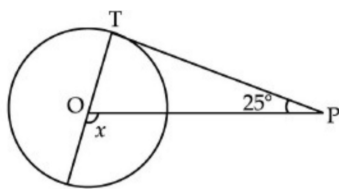
drawn to the circle from point A. If  $\angle BAC = 65^\circ$ , then find the measure of  $\angle BOC$ .



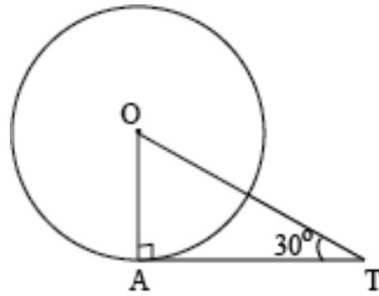
6. In the given figure, O is the center of the circle and QPR is a tangent to it at P. prove that  $\angle QAP + \angle APR = 90^\circ$



7. In the given figure, PT is a tangent at T to the circle with center 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 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