CIRCLE

1. In figure 1,the quadrilateral $PQRS$ circumscribes a circle.Here $PA+CS$ is equal to :

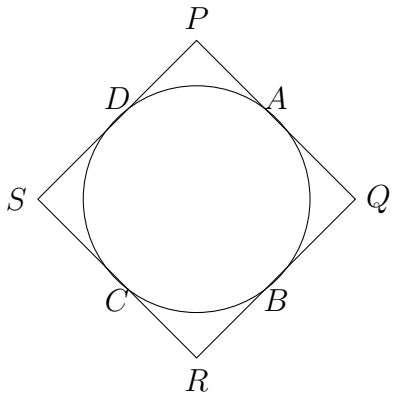

Figure 1

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

2. In figure 2,$\vec{O}$ is the center of the circle.AB and AC are tangents drawn to the circle from point $\vec{A}$.If $\angle BAC = 65°$, then find the measure of $\angle BOC$.

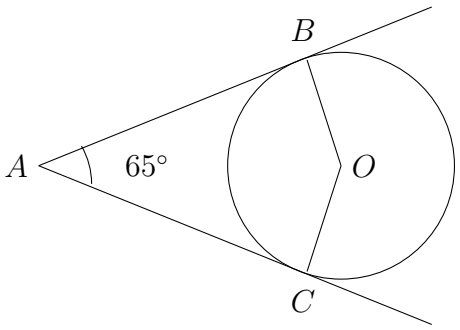

Figure 2

3. In figure 3,$\vec{O}$ is the centre of the circle and QPR is a tangent to it at$\vec{P}$. Prove that $\angle QAP + \angle APR = 90°$.

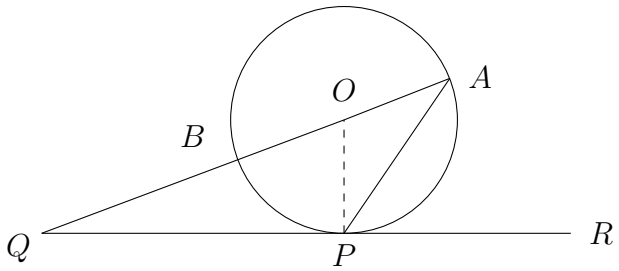

Figure 3

4. In figure 4,PQ is tangent to the circle centred at $\vec{O}$.If $\angle AOB = 95°$, then the measure of $\angle ABQ$ will be

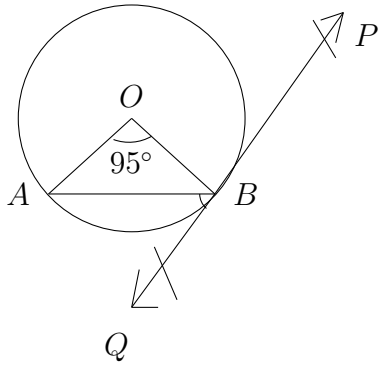

Figure 4

(a) $47.5°$

(b) $42.5°$

(c) $85°$

(d) $95°$

5. (a) Two tangents TP and TQ are drawn between to a circle with centre $\vec{O}$ from an external point $\vec{T}$ (figure 5). Prove that $\angle PTQ = 2\angle OPQ$.

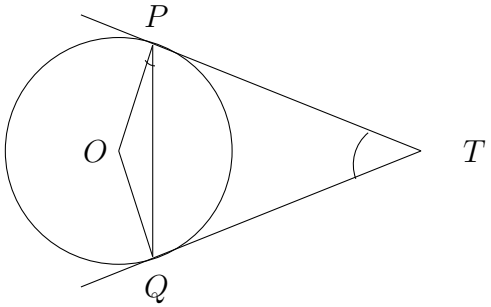

Figure 5

(b) In figure 6,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.

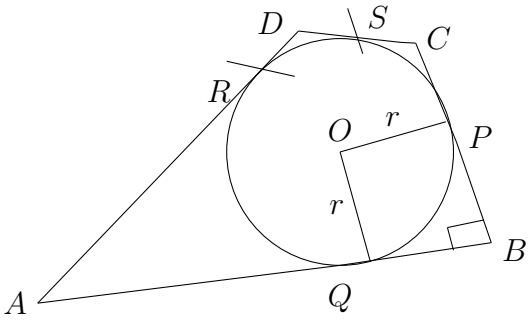

Figure 6

6. The discus throw is an event in which an athlete attempts to throw a discus (as shown in figure 7).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.

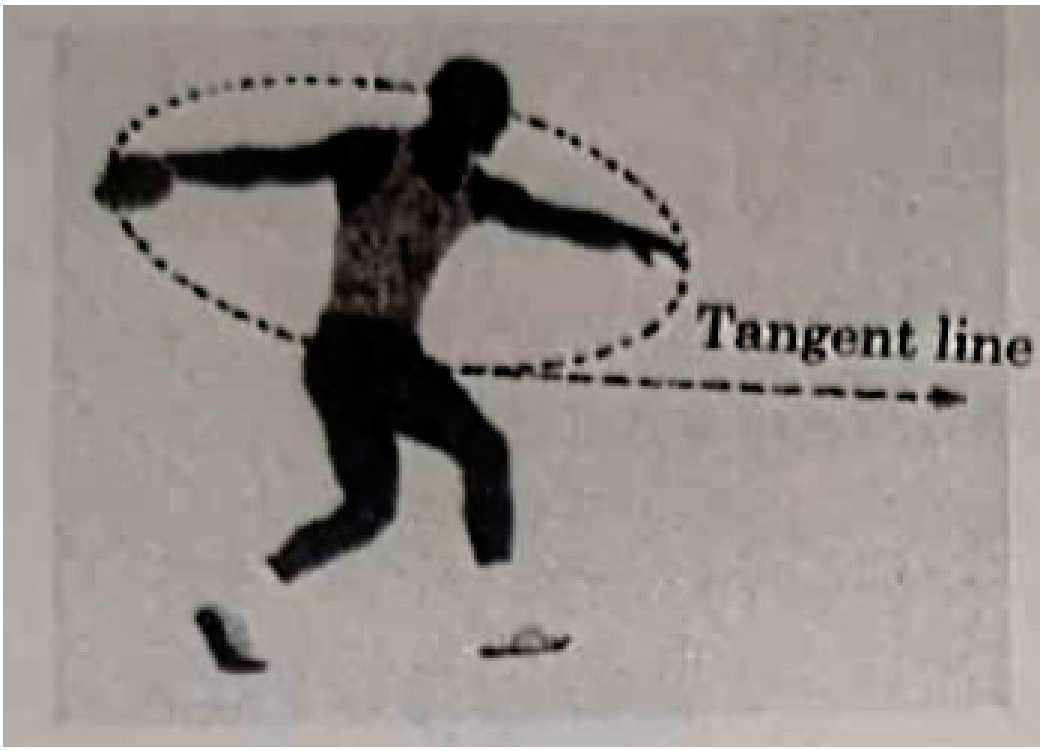

Figure 7

In figure 8, AB is one such tangent to a circle of radius 75 cm.Point $\vec{O}$ is centre of the circle and $\angle ABO = 30°$.PQ is parallel to OA.

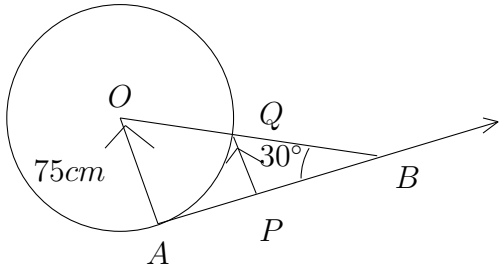

Figure 8

Based on above information:

(a) find the length of AB.

(b) find the length of OB.

(c) find the length of AP.

find the length of PQ.

7. In figure 9,TA is a tangent to the circle with centre $\vec{O}$ such that $OT = 4cm$, $\angle OTA = 30°$, then length of TA is:

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

(b) 2 cm

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

(d) $\sqrt{3}$ cm

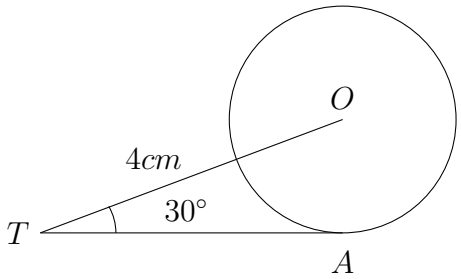

Figure 9

8. In figure 10,PT is a tangent at $\vec{T}$ to the circle with centre $\vec{O}$.If $\angle TPO = 25°$, then x is equal to:

   (a) $25°$

   (b) $65°$

   (c) $90°$

   (d) $115°$

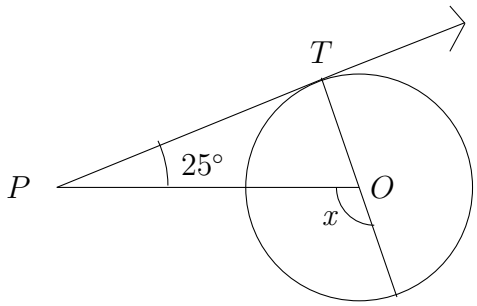

Figure 10

9. Two concentric circles are of radii 5 cm and 3 cm.Find the length of the cord of the larger circle which touches the smaller circle.