CIRCLES

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1. In Figure 1, from an external point P, two tangents PQ and PR are drawn to a circle of radius $4cm$ with centre O. If $\angle QPR = 90°$, then length of PQ is

   (A) $3cm$

   (B) $4cm$
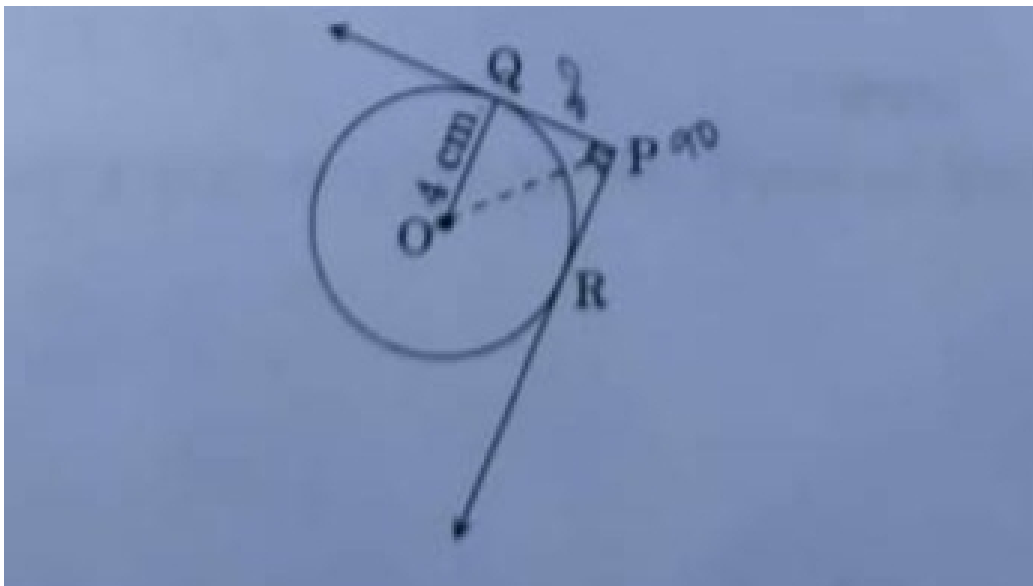
   (C) $2cm$

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

Figure 1: Circle with intersecting lines and external point

2. In Figure 2, PQ is tangent to the circle with centre at O, at the point B.If $\angle AOB = 100°$, then $\angle ABP$ is equal to

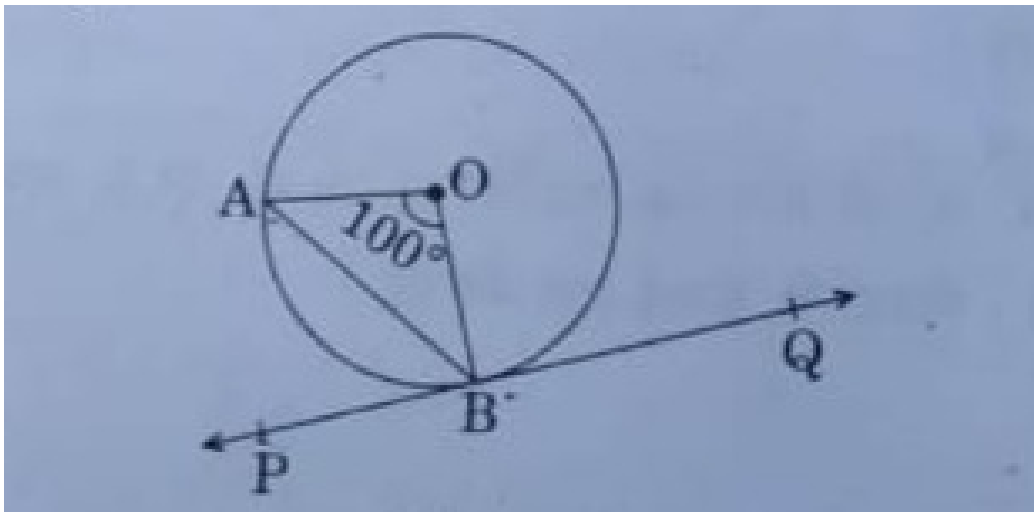(A) 50°

(B) 40°

(C) 60°

(D) 80°

Figure 2: Geometric digram

3. In Figure **??**, a quardilateral $ABCD$ is drawn to circumscribe a circle. Prove that
$AB + CD = BC + AD.$
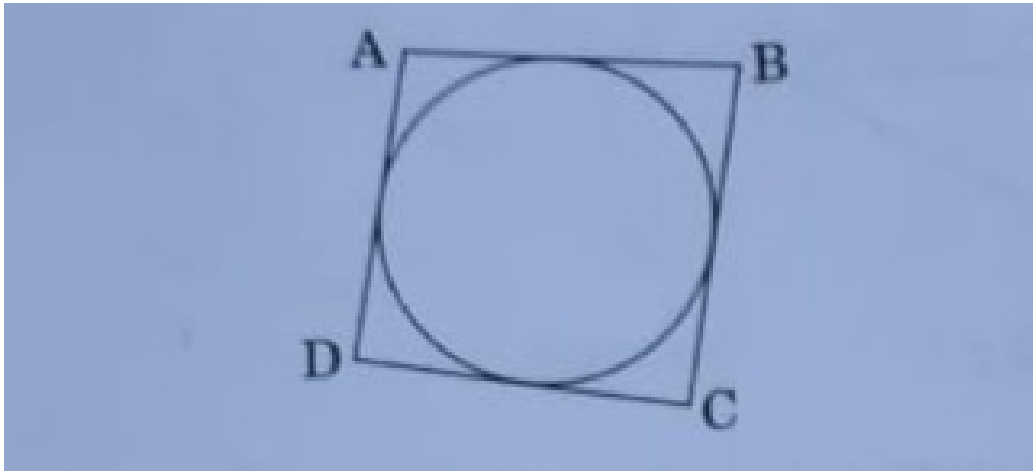
Figure 3: Inscribed circle in a rectangle
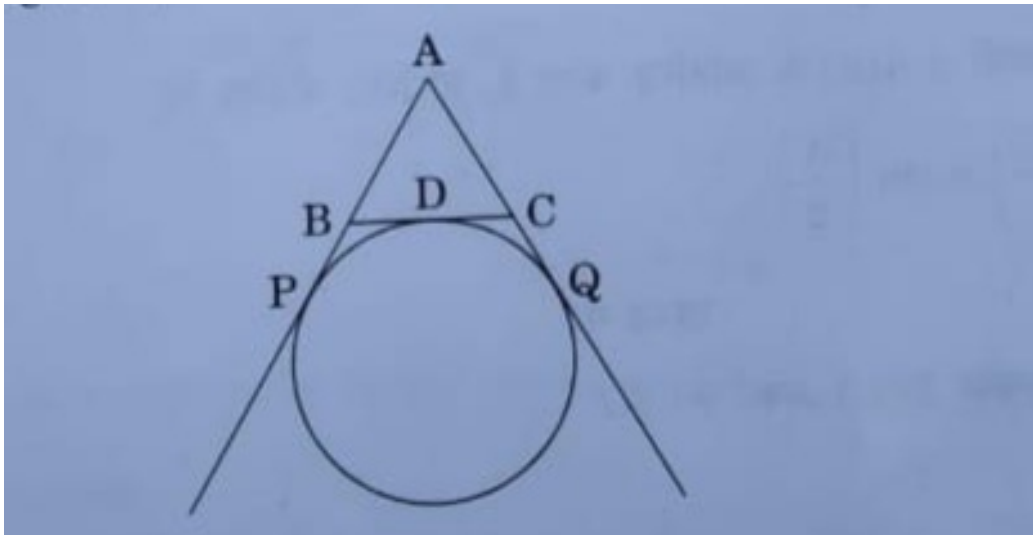
4. In Figure 4, find the perimeter of $\triangle ABC$, if $AP = 12$cm.

Figure 4: Inscribed circle in a triangle