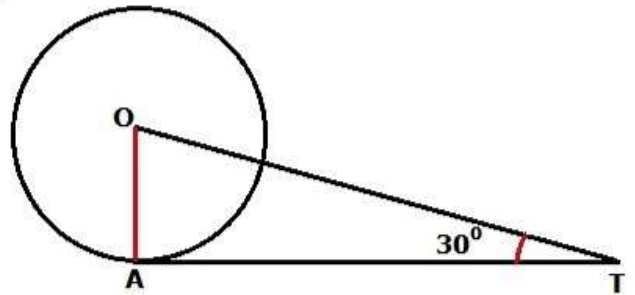


⑥ $\angle OAT = 90^\circ$ [angle between radius and tangent]

$$\cos 30^\circ = \frac{AT}{OT}$$

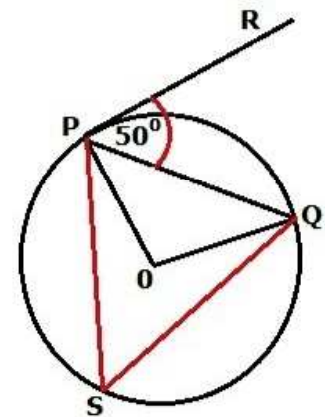
$$\frac{\sqrt{3}}{2} = \frac{AT}{4}$$

$$\Rightarrow AT = 2\sqrt{3} \text{ cm (C)}$$



⑦ $\angle 1 = \angle QPR = 50^\circ$ [angles in alternate segment]

$\angle 2 = 2\angle 1$ [angle sub. by an arc at centre of \odot is twice the angle sub. on the remain. part of \odot]
 $= 2 \times 50^\circ$
 $= 100^\circ$ (A)



⑧ $\angle 1 + \angle P = 180^\circ$ (opp. angles of cyclic \square)

$$\angle 1 + 50 = 180$$

$$\Rightarrow \angle 1 = 180^\circ - 50 = 130^\circ$$

In $\triangle OAB$, $OA = OB$

$\Rightarrow \angle 2 = \angle 3$ (isosceles \triangle prop)

$\angle 2 + \angle 3 + \angle AOB = 180^\circ$ (angle sum prop)

$$\angle 2 + \angle 2 + 130^\circ = 180^\circ$$

$$\Rightarrow 2\angle 2 = 180 - 130$$

$$\Rightarrow \angle 2 = \frac{50}{2}$$

$$= 25^\circ \text{ (A)}$$