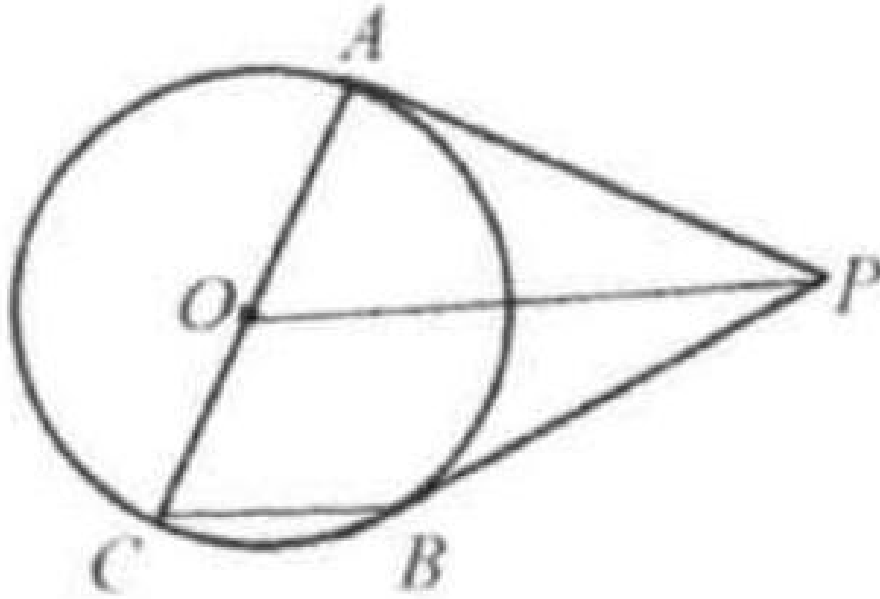


Problem 2

Problem

PA and PB are tangent to circle O at A and B , respectively. AC is the diameter of circle O . Prove: $BC \parallel PO$.



Solution

Method 1:

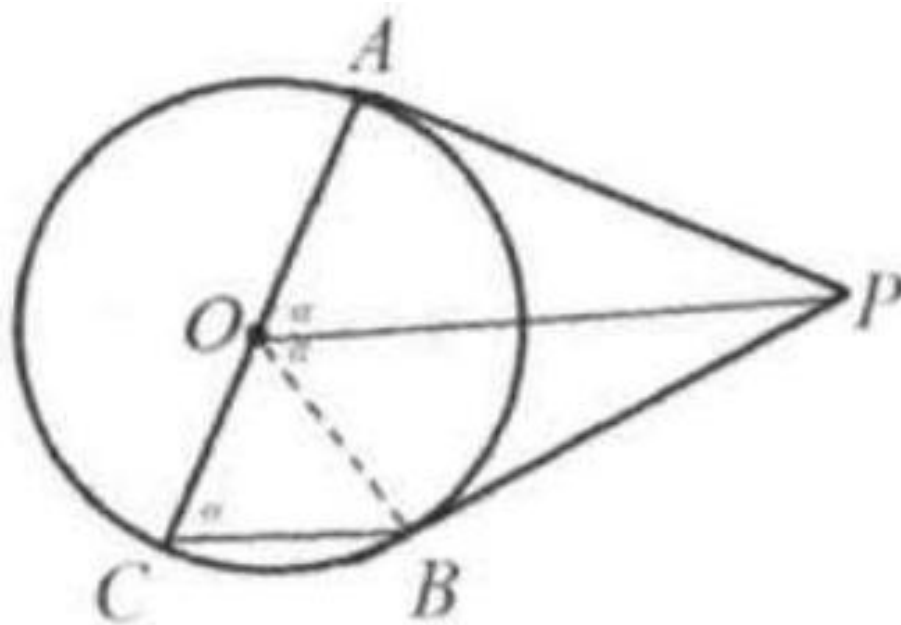
Connect OB .

Since PA and PB are tangent to circle O , $\triangle PAO \cong \triangle PBO$
($OA = OB$, $PA = PB$, $PO = PO$).

So $\angle POA = \angle POB = \alpha$.

$\angle PAO = 90^\circ$, $\angle PBO = 90^\circ$,

$\angle AOB = 2\angle ACB$ (the measure of the central angle is twice



of the inscribed angle facing the same arc).

$$\angle C = \angle POA = \alpha.$$

Thus $BC \parallel PO$.