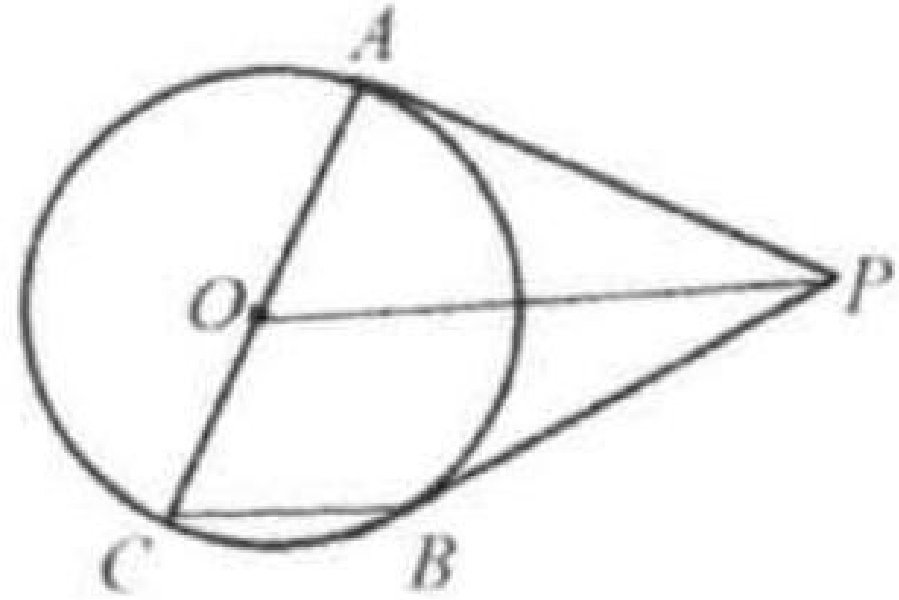
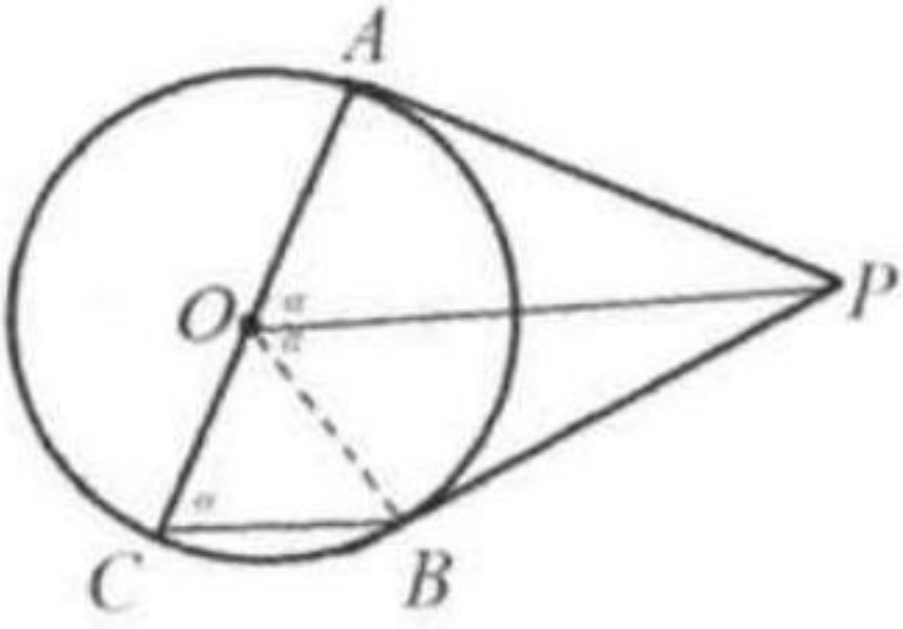
Problem

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



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 $\angle POA = \angle BOB = \alpha$.
$\angle PAO = 90°, \angle PDA = 90°$,
$\angle AOB = 2\angle ACB$ (the measure of the central angle is twice



of the inscribed angle facing the same arc).
$\angle C = \angle POA = \alpha$.
Thus $BC//PO$.