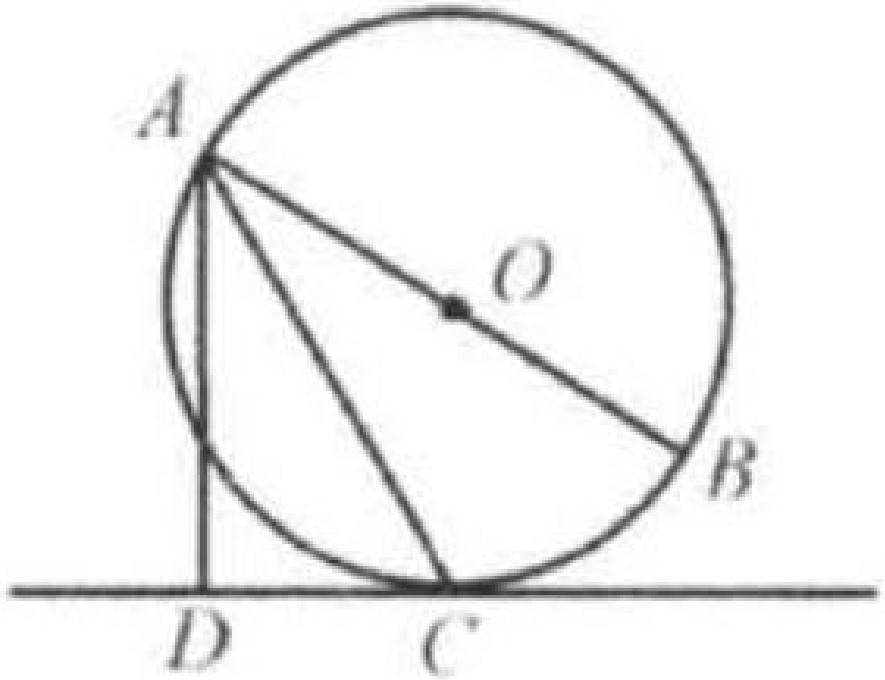
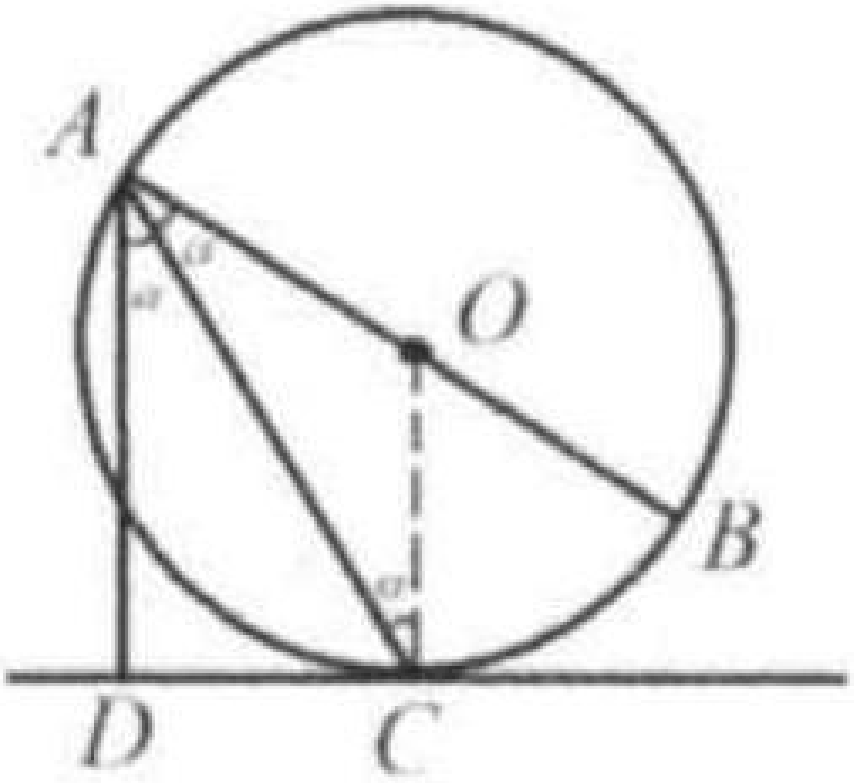
Example 3

AB is the diameter of circle O.C is a point on the circumference of circle O.AD is perpendicular to the tangent line drawn through C. Show that AC is the angle bisector of $\angle DAB$.

Solution: Connect CO. Since $OA = OC, \angle OAC = \angle OCA = \alpha$.



Since $AD \perp CD$ and $OC \perp CD, AD//OC$ and $\angle DAC = \angle OCA = \alpha$
(alternate interior angles).
So AC is the angle bisector of $\angle DAB$.


A
O
B
D
C