

Homework 9 Problem 3 Solution

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Problem 3.

If $AO = OD$ and $AB = CD$, then also $BO = CO$. Then the triangle BOC is isosceles, therefore $\angle OBC = \angle OCB$, which is the same as $\angle ABC = \angle DCB$. Using this together with $AB = CD$ and $BC = BC$ we get that $\triangle ABC = \triangle DCB$ by the SAS principle.