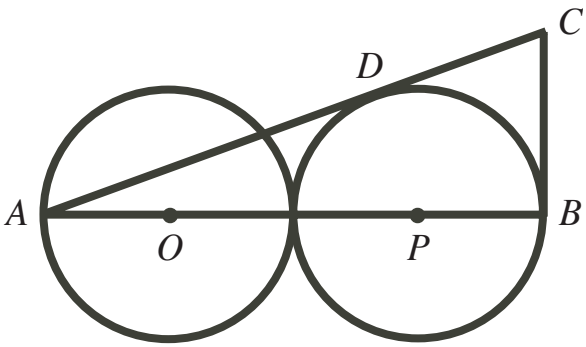
Problem of the Week
Grade 11 and 12

A Touchy Triangle



Two circles with centres O and P, each with a radius of 2, are tangent to each other. A straight line is drawn through O and P meeting the circles at A and B. Two other sides of $\triangle ABC$ are drawn such that side AC is tangent to the circle with centre P at D and side CB is tangent to the circle with centre P at B.

Determine the length of BC.

For purposes of this problem accept the fact that a line drawn from the centre of a circle to a point of tangency is perpendicular to the tangent.