Problem Set #11
Angling in circles: repetitive fishing?
Due the week of Monday, 4 April, 2011.

In this assignment you will verify a couple of extensions of the facts about angles inscribed in a circle that we've been doing in class.

1. Suppose the extensions of chords AD and BC of a circle meet in a point P outside the circle, as in the diagram below. Show that $\angle APB = \frac{1}{2}\left(\angle AOB - \angle COD\right)$, where O is the centre of the circle. *[10]*
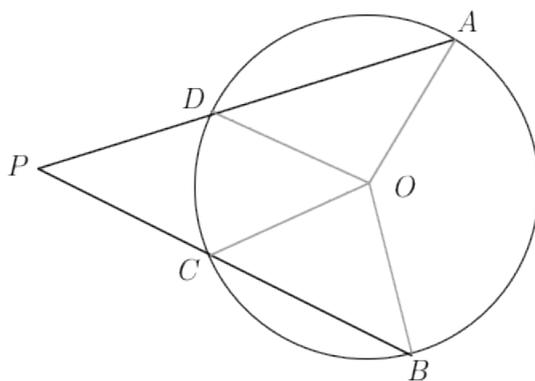
2. Suppose that chords AD and BC of a circle meet in a point P inside the circle, as in the diagram below. Show that $\angle APB = \frac{1}{2}\left(\angle AOB + \angle COD\right)$, where O is the centre of the circle. *[10]*