

Mathematics 2260H – Geometry I: Euclidean geometry

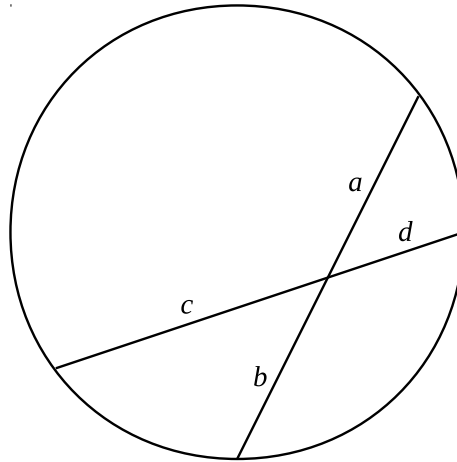
TRENT UNIVERSITY, Fall 2016

Assignment #5

Chord cutting

Due on Wednesday, 16 November.

Suppose we are given two chords of the same circle which intersect in a point inside the circle, cutting the first chord into segments of lengths a and b , respectively, and cutting the second chord into segments of lengths c and d , respectively.



1. Show that $ab = cd$. [5]
2. If the chords are perpendicular to one another, show that $a^2 + b^2 + c^2 + d^2 = 4r^2$, where r is the radius of the circle. [5]