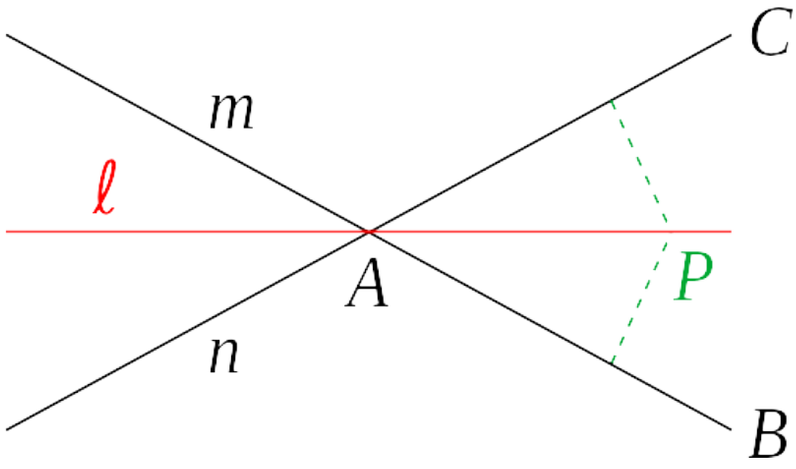
Mathematics 2260H – Geometry I: Euclidean Geometry

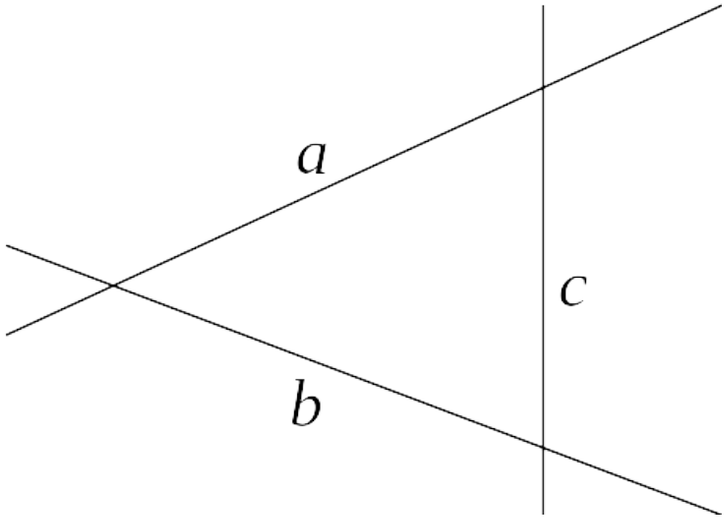
TRENT UNIVERSITY, Winter 2021

Assignment #7 – Angle Bisectors

Due on Friday, 12 March.



1. Suppose we are given $\angle BAC$, where AB is part of line m and AC is part of line n. Let line ℓ be the angle bisector of $\angle BAC$. Show that a point P is on ℓif and only if P is equidistant from m and n. *[5]*



2. Suppose a, b, and c are three lines which are not concurrent and such that no two are parallel. Find all the circles which are tangent to all three lines. *[5]*

NOTE. **2** is the LLL case of the Apollonian problem.