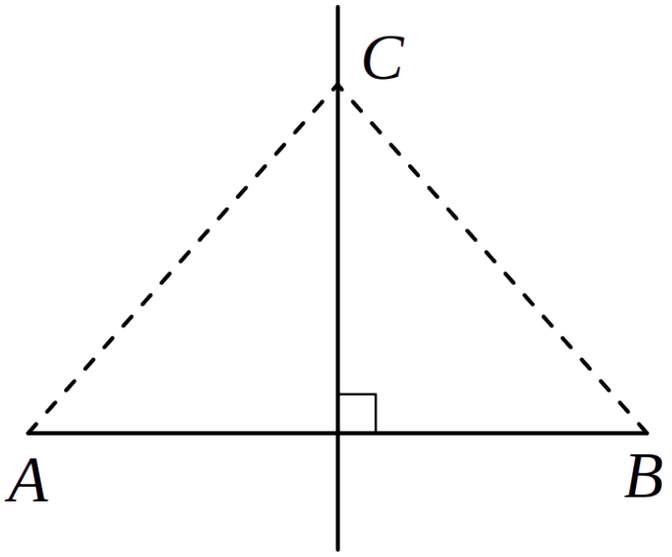
Mathematics 2260H – Geometry I: Euclidean Geometry

TRENT UNIVERSITY, Winter 2024

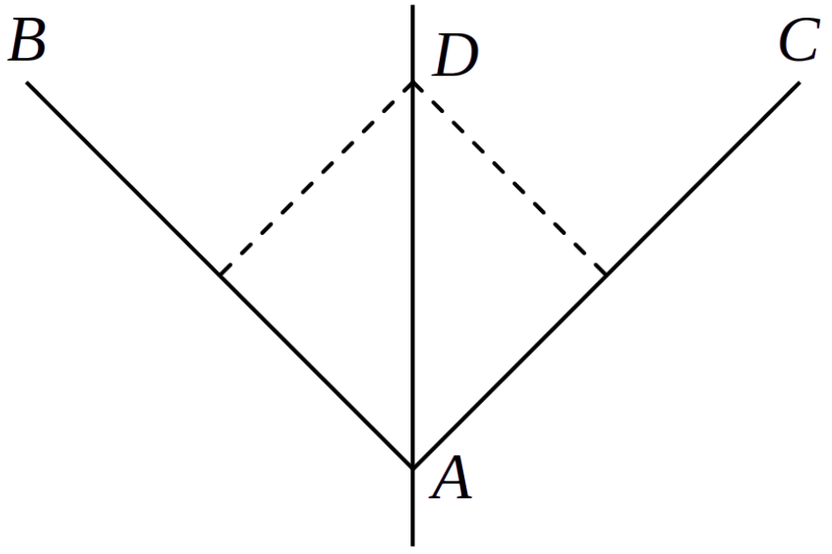
Assignment #6

Equal Distances

Due just before midnight on Friday, 1 March.*



1. Suppose AB is a line segment and C is any point. Show that C is on the perpendicular bisector of AB if and only if C is equidistant from A and B, *i.e.* $|AC| = |AB|$. *[5]*



2. Suppose AB and AC are line segments and D is any point. Show that $\angle BAD = \angle CAD$, *i.e.* D is on the angle bisector of $\angle BAC$, if and only if D is equidistant from the (extensions of) AB and AC. *[5]*

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* You should submit your solutions via Blackboard's Assignments module, preferably as a single pdf. If submission via Blackboard fails, please submit your work to your instructor by email or on paper.