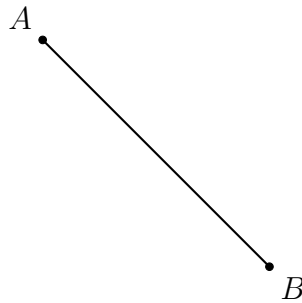


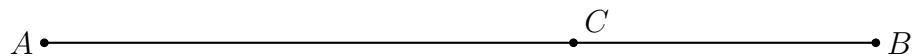
Classwork: Constructions using perpendicular bisection

Use only a compass and straightedge for these classical constructions.

1. Construct a perpendicular bisector the given line segment \overline{AB} . Label the midpoint of \overline{AB} as M . [Leave all construction marks.]



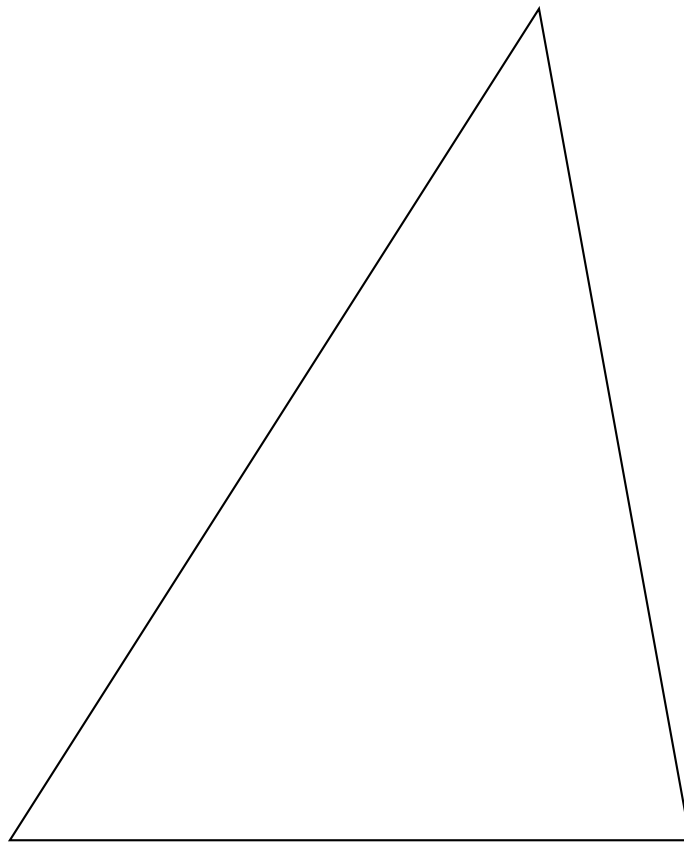
2. Spicy: Construct a perpendicular to \overline{AB} through C .
Hint: Start with a circle centered on C .



Construct a triangle's circumcenter

3. Construct a perpendicular bisector of each of the legs of the triangle. Show their intersection, the circumcenter.

Hint: Circles should be centered at the triangle vertices, but should only be sufficiently large to intersect the other circles.



Construct a triangle's centroid

4. Bisect each leg of the triangle using only a compass and straightedge. Mark each midpoint, and draw a line (a *median*) connecting it to the opposite vertex. Show the medians' intersection, the centroid.

Hint: Circles should be centered at the triangle vertices, but should only be sufficiently large to intersect the other circles.

