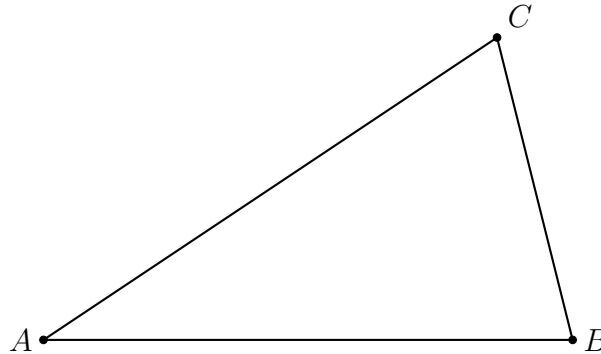


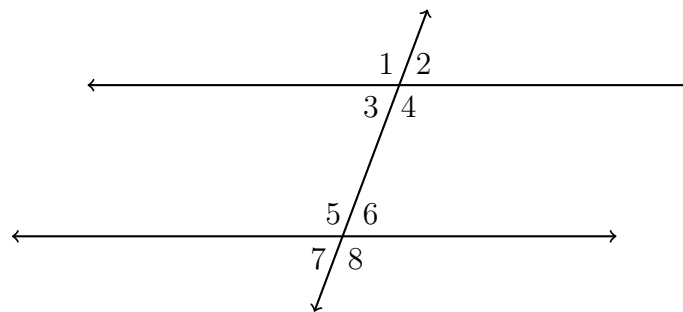
Homework: Construct a median, transversal practice

Use only a compass and straightedge for these classical constructions.

1. Construct the midpoint M of \overline{BC} by using the perpendicular bisector construction. Draw \overline{AM} , a *median* of $\triangle ABC$.
Spicy: Construct the other two medians, and hence, the centroid.



2. Given two parallel lines and a transversal, as shown. Apply the theorem “If a transversal intersects two parallel lines, then corresponding angles are congruent.”



- (a) State the angle corresponding with $\angle 7$.
- (b) Given $m\angle 6 = 80^\circ$ and $m\angle 2 = 2x^\circ$. Find x .
- (c) Given $m\angle 5 = 100^\circ$. Find $m\angle 3$.

3. Given the quadrilateral $RECT$ with $R(-4, 1)$, $E(8, 1)$, $C(8, 6)$, and $T(-4, 6)$.

- (a) Plot and label $RECT$ on the grid.
- (b) Using the distance formula, calculate the length of the two diagonals RC and ET .
- (c) Theorem: If the diagonals of a quadrilateral are congruent, then it is a rectangle.

Prove that $RECT$ is a rectangle.

