Name: _____
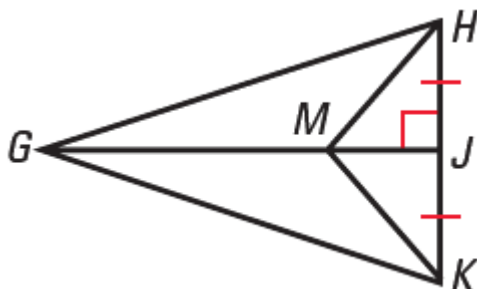
Perpendicular and Bisectors of a Triangle

Exercise 1: Prove that $\triangle GHM \cong \triangle GKM$ given that $\overrightarrow{GJ}$ is the perpendicular bisector of $\overline{HK}$
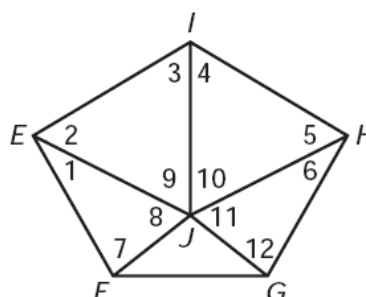
Exercise 2: Draw $\overline{AB}$ with length of 8 centimeters. Construct its perpendicular bisector and locate a point D on the bisector so that the distance between D and $\overline{AB}$ is 3 centimeters. Measure $\overline{AD}$ and $\overline{BD}$

Exercise 3: Write a paragraph proof.

Given: $\overrightarrow{IJ}$ bisects $\angle EIH$, $\angle 7 \cong \angle 12$, $\overline{EF} \perp \overline{EI}$, $\overline{HG} \perp \overline{HI}$
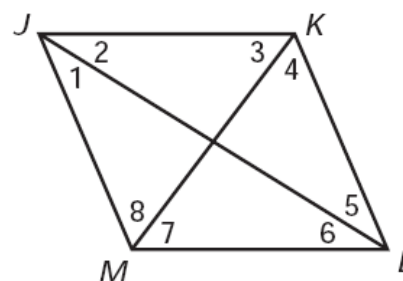
Prove: $\triangle EIJ \cong \triangle HIJ$

Exercise 4: Given: $\overline{JL}$ bisects both $\angle KJM$ and $\angle KLM$, $\overline{KM}$ bisects both $\angle JKL$ and $\angle JML$

1) Name two pairs of triangles that can be proved congruent.

2) Write a proof to prove your answer to part (a).

Exercise 5: Draw an obtuse triangle. Construct the inscribed and the circumscribed circles.

Exercise 6: Construct an equilateral triangle whose side measures 4 cm. Construct the inscribed and the circumscribed circles.