Name: _____
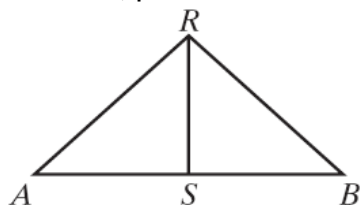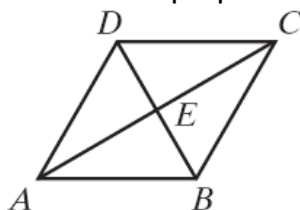
Perpendicular and Bisectors of a Triangle
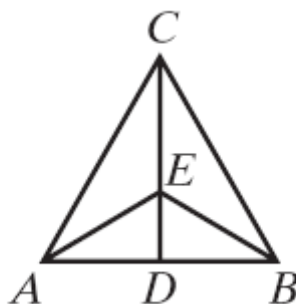
1) IF $\overline{RS}$ is the perpendicular bisector of $\overline{ASB}$, prove that $\angle ARS \cong \angle BRS$.

2) Given polygon ABCD is equilateral (AB = BC = CD = DA).
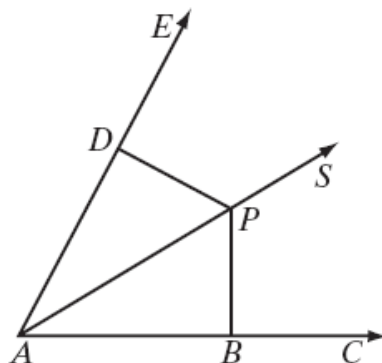   Prove that $\overline{AC}$ and $\overline{BD}$ bisect each other and are perpendicular to each other.

3) Given: $\overline{CED}$ and $\overline{ADB}$ with $\angle ACE \cong \angle BCE$ and $\angle AED \cong \angle BED$
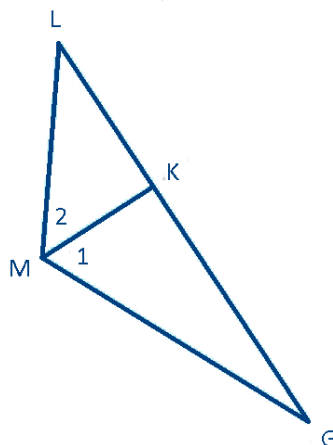   Prove: $\overline{CED}$ is the perpendicular bisector of $\overline{ADB}$.

Grade 9

4)   Given: $\overline{PB} \perp \overrightarrow{ABC}$, $\overline{PD} \perp \overrightarrow{ADE}$ and $PB = PD$

Prove: $\overrightarrow{APS}$ bisects $\angle CAE$

5)   In $\triangle LMG$, $\overline{MK}$ is an angle bisector, $m\angle 1 = 2n + 10$, $m\angle 2 = 4n - 32$ and $m\angle L = 60$ .Find $m\angle G$

6)   Given: $\triangle ABC \cong \triangle DEF$, $\overline{CG}$ bisects $\angle ACB$, and $\overline{FH}$ bisects $\angle DFE$.
       Prove: $\overline{CG} \cong \overline{FH}$