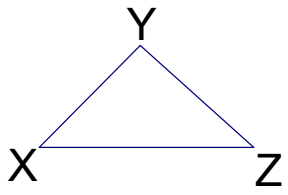
Name _____ Date _____
Mr. Schlansky Geometry

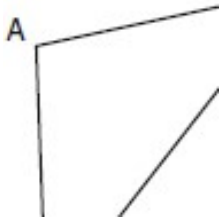
Isosceles Triangles, Angle Bisectors, and Equilateral Triangles

1. In ΔXYZ, $\overline{XY} \cong \overline{YZ}$. If $m\angle Z = 41°$, find the measure of $\angle Y$.



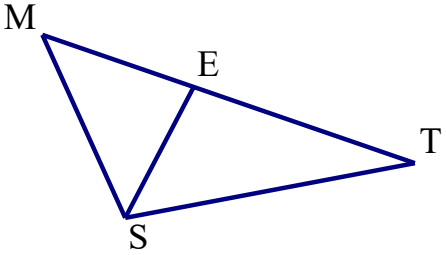
2. In ΔPQR, $\overline{PQ} \cong \overline{QR}$. If $m\angle PQR = 94°$, find the measure of $\angle QPR$.

3. In the diagram of $\triangle ABC$ below, $\overline{AB} \cong \overline{AC}$. The measure of $\angle B$ is 40°.
What is the measure of $\angle A$?

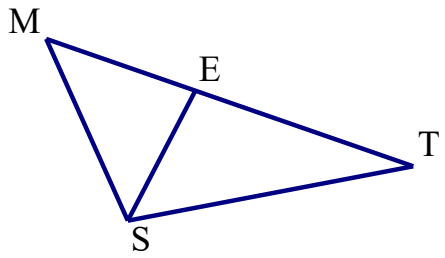


4. In $\triangle RST$, $m\angle RST = 46$ and $\overline{RS} \cong \overline{ST}$. Find $m\angle STR$.

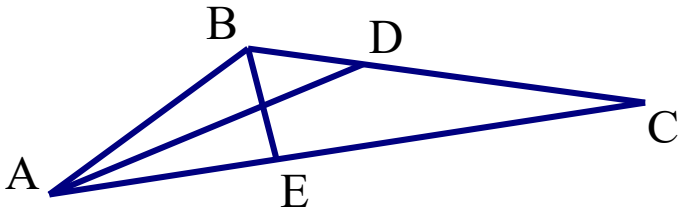
5. In the diagram below of ΔMST, $\overline{ES}$ bisects $\angle MST$. If $m\angle MST = 70$, find $\angle MSE$ and $\angle TSE$.



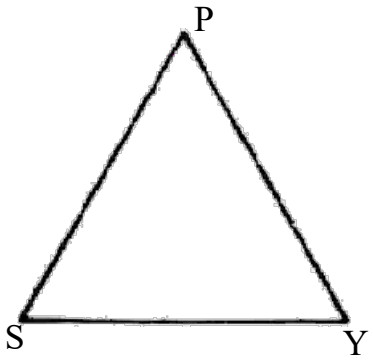
6. In the diagram below of ΔMST, $\overline{ES}$ bisects $\angle MST$. If $m\angle MSE = 40$, find $\angle TSE$ and $\angle TSM$.



7. In the diagram below of ΔABC, $\overline{DA}$ bisects $\angle BAC$ and $\overline{BE}$ bisects $\angle ABC$. If $\angle BAD = 20$ and $\angle ABC = 100$, find $\angle CAD, \angle CAB, \angle ABE, \angle CBE$.



8. In the diagram below, ΔSPY is equilateral. Find the measure of $\angle S, \angle P, \angle Y$.



9. In the diagram below, ΔSPY is equilateral and $\overline{ZY}$ bisects $\angle PYS$. Find the measure of $\angle PYZ$.