Topic: 3.6 Corresponding Parts of Congruent Triangles are Congruent

1. What could you say about two congruent apples?

2. What are corresponding angles? Draw two parallel lines and a transverse line, and label the corresponding angles.

3. Draw two triangles $\triangle ABC$ and $\triangle XYZ$ that satisfy $\triangle ABC \cong \triangle XYZ$.

   - What angles in each triangle do you think correspond to one another? What sides correspond?

   - If $\angle ABC = 90°$ and $\angle ACB = 40°$, find $\angle XYZ$ and $\angle XZY$. What do you notice?

   - Find $\angle YXZ$ and $\angle BAC$. What do you notice about these angles? Are there any similarities?

   - If $\overline{AB} = 3$ and $\overline{BC} = 4$, find $\overline{XY}$ and $\overline{YZ}$. What do you notice?

   - Using the Pythagorean Theorem, find sides $\overline{AC}$ and $\overline{XZ}$. Are there any similarities?

   - What pattern do you notice between these two triangles? Are they the same for all congruent triangles?

4. Using what you have learned, write a conjecture about congruent triangles and their sides and angles.