



## TRANSFORMATIONS #1

What transformations do you remember?

What do transformations do to the parts (lengths, angles, etc.) of shapes?

**In this activity you will practice your reasoning skills by observing what transformations do to shapes.**

1. Draw a right triangle. (Remember to use a straight edge to “draw” shapes.)
  - a. Reflect your triangle over one of its legs. (Draw it.)
  - b. What shape is formed? Give detailed reasoning for your conjecture.
  
  - c. Describe all the characteristics of your new shape that you think are true. Explain your reasoning. (Hint: reflecting your original triangle makes certain things happen.)
  
2. Now construct an isosceles triangle. (Remember, “construct” is different than “draw.”)
  - a. How is your isosceles triangle similar/different than your final shape in #1.
  
  - b. What characteristics do you think are true about your isosceles triangle? Explain your reasoning.

c. Identify the base of the isosceles triangle you created. Reflect your isosceles triangle over its base. What shape is formed? Explain your reasoning.

d. Describe all the characteristics of the new shape that you think are true. (Hint: use the properties of reflection.)

3. Draw another right triangle. (Remember to use a straight edge to “draw” shapes.)

a. Reflect your right triangle over its hypotenuse.

b. What shape is formed? Give detailed reasoning for your conjecture.

c. Describe all the characteristics of your new shape that you think are true. Explain your reasoning.

4. Draw another triangle. This time, make it scalene and either acute or obtuse.

a. Rotate your triangle 180 degrees about a midpoint of one of the sides. Draw this new shape.

b. What shape is formed? Give detailed reasoning for your conjecture.