Name _____ Date _____ Class _____

Additional Practice

Stretching and Shrinking

1. Draw any rectangle that is not a square. Draw a similar rectangle by applying a scale factor of 3 to the original rectangle.

   a. How many copies of the original rectangle will fit inside the new rectangle?

   b. Will you get the same answer for part (a) no matter what rectangle you use as the original rectangle?

2. Make a figure by connecting the following sets of points on a coordinate grid:

   Set 1: $(8,5), (8,8), (0,8), (0,5), (8,5)$ Set 2: $(4,6), (8,2), (0,2), (4,6)$

   Set 3: $(2,6), (1,6), (1,7), (2,7), (2,6)$ Set 4: $(6,6), (7,6), (7,7), (6,7), (6,6)$

   a. Suppose you used the rule $(6x, 6y)$ to transform this figure into a new figure. How would the angles of the new figure compare with the angles of the original?

   b. Suppose you used the rule $(6x, 6y)$ to transform this figure into a new figure. How would the side lengths of the new figure compare to the side lengths of the original?

Additional Practice *(continued)*

c. Suppose you used the rule $(6x, 6y)$ to transform this figure into a new figure. Would the new figure be similar to the original? Explain your reasoning.

d. Suppose you used the rule $(3x+1, 3y-4)$ to transform the original figure into a new figure. How would the angles of the new figure compare with the angles of the original?

e. Suppose you used the rule $(3x+1, 3y-4)$ to transform the original figure into a new figure. How would the side lengths of the new figure compare to the side lengths of the original?

f. Suppose you used the rule $(3x+1, 3y-4)$ to transform the original figure into a new figure. Would the new figure be similar to the original? Explain.

3. Recall that Zug Wump was made from Mug Wump using a scale factor of 2. What is the scale factor from Zug to Mug? Explain.

4. a. Wendy drew a very large Wump using the rule $(8x, 8y)$. She said that the scale factor from Mug to her Wump was 8 and that the scale factor from Zug to her Wump was 4. Do you agree with Wendy? Explain.

b. Wendy could not figure out the scale factor from Bug Wump to her new large Wump. What is this scale factor?