

Additional Practice**Investigation 2****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?

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- 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?