

1a. Draw any rectangle (ABCD) that is not a square. Then next to it, draw its image (A'B'C'D') after applying a scale factor of 3 to the original rectangle. **Label the dimensions and vertices of the original and the image.**

1b. How many copies of the original rectangle will fit inside the new rectangle?

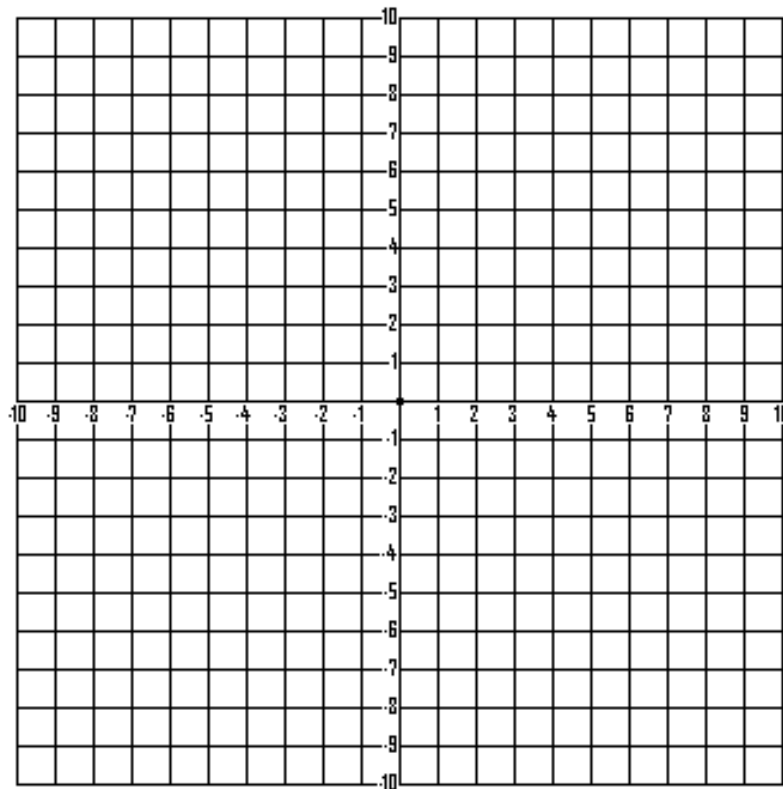
2. Make a figure by connecting the following sets of points on a coordinate grid:

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 the original figure into an image. How would the angles of the image compare with the angles of the original? Explain.

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

 - c. Suppose you used the rule $(3x + 1, 3y - 4)$ to transform the original figure into an image. Explain how the side lengths of the image compare to the side lengths of the original?

 - d. Suppose you used the rule $(3x + 1, 3y - 4)$ to transform the original figure into an image. Would the image be similar to the original? Explain why or why not.
3. When a figure is transformed to make an image, some features change and some stay the same.
- a. Which features change?

 - b. Which features stay the same?

 - c. What does the scale factor tell you about how the figure changes?