

2.7

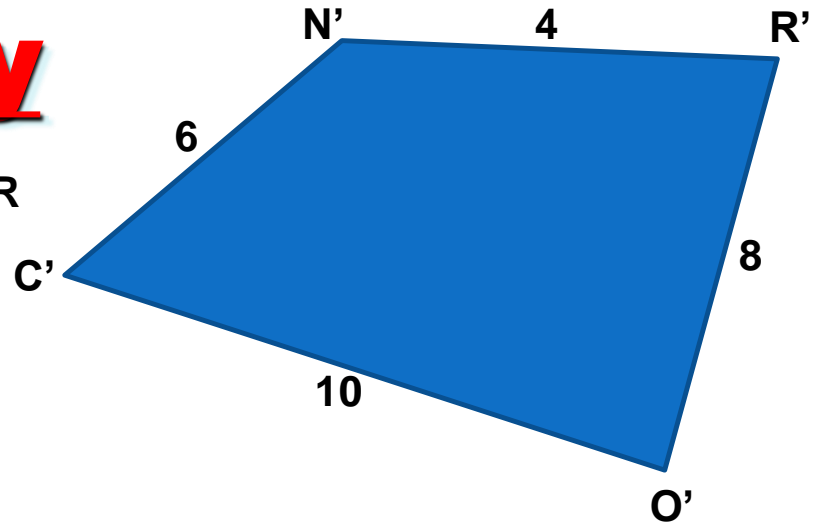
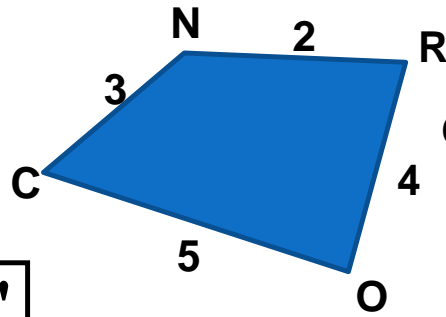
Dilations

What is a Dilation????

A dilation is a type of transformation that produces a _____ figure by either _____ or _____ the size of the figure.



Review: Similarity



$$CORN \sim C'O'R'N'$$

List 3 properties of similar shapes:

- _____
- _____
- _____

Scale Factor

Scale factor is how much we are enlarging or reducing a figure



Original or
"Pre-image" of Igor



"Image" of Igor

What do you think is the scale factor of the image of Igor?

Scale Factor

Scale factor is how much we are enlarging or reducing a figure



Original or
"Pre-image" of Jack



"Image" of Jack

What do you think is the scale factor of the image of Jack?

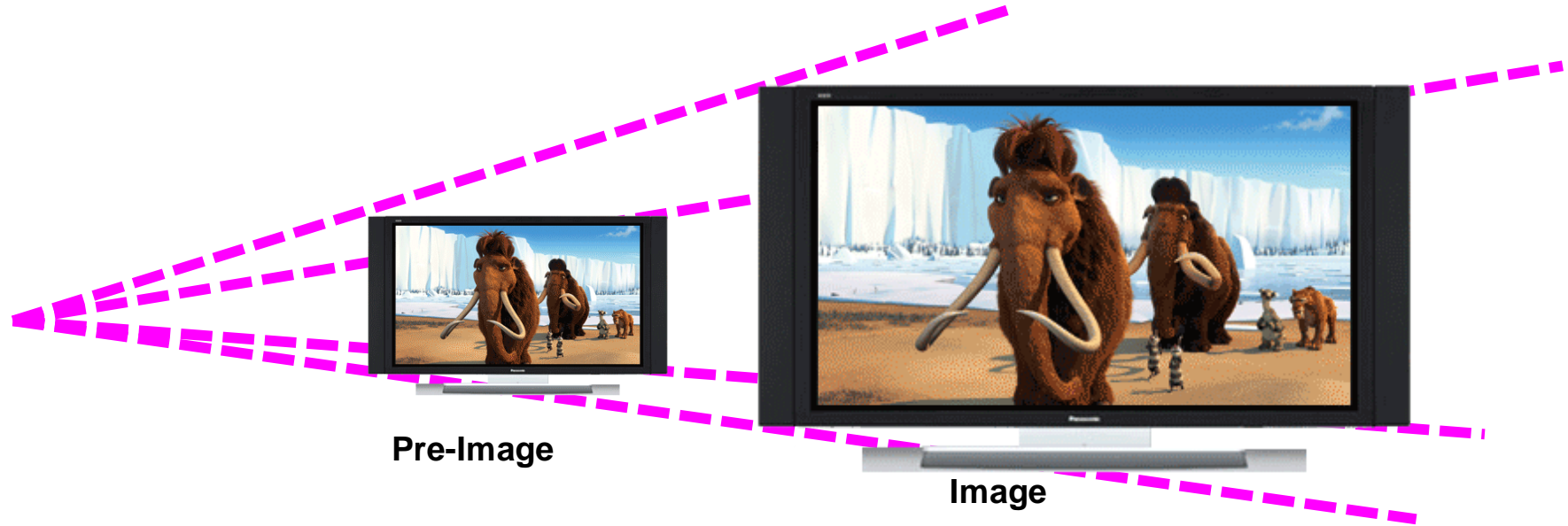
Scale Factor

If the scale is greater than 1, we are _____
the figure.

If the scale is less than 1 but greater than 0, we are
_____ the figure.

Center of Dilation

- The center of dilation is where we reference how we stretched or shrunk a figure.
- This can be in the middle or outside the original or “pre-image”.



Where is the center of dilation this?

Practice

Tell whether the blue figure is a dilation of the red figure. Explain.

1.

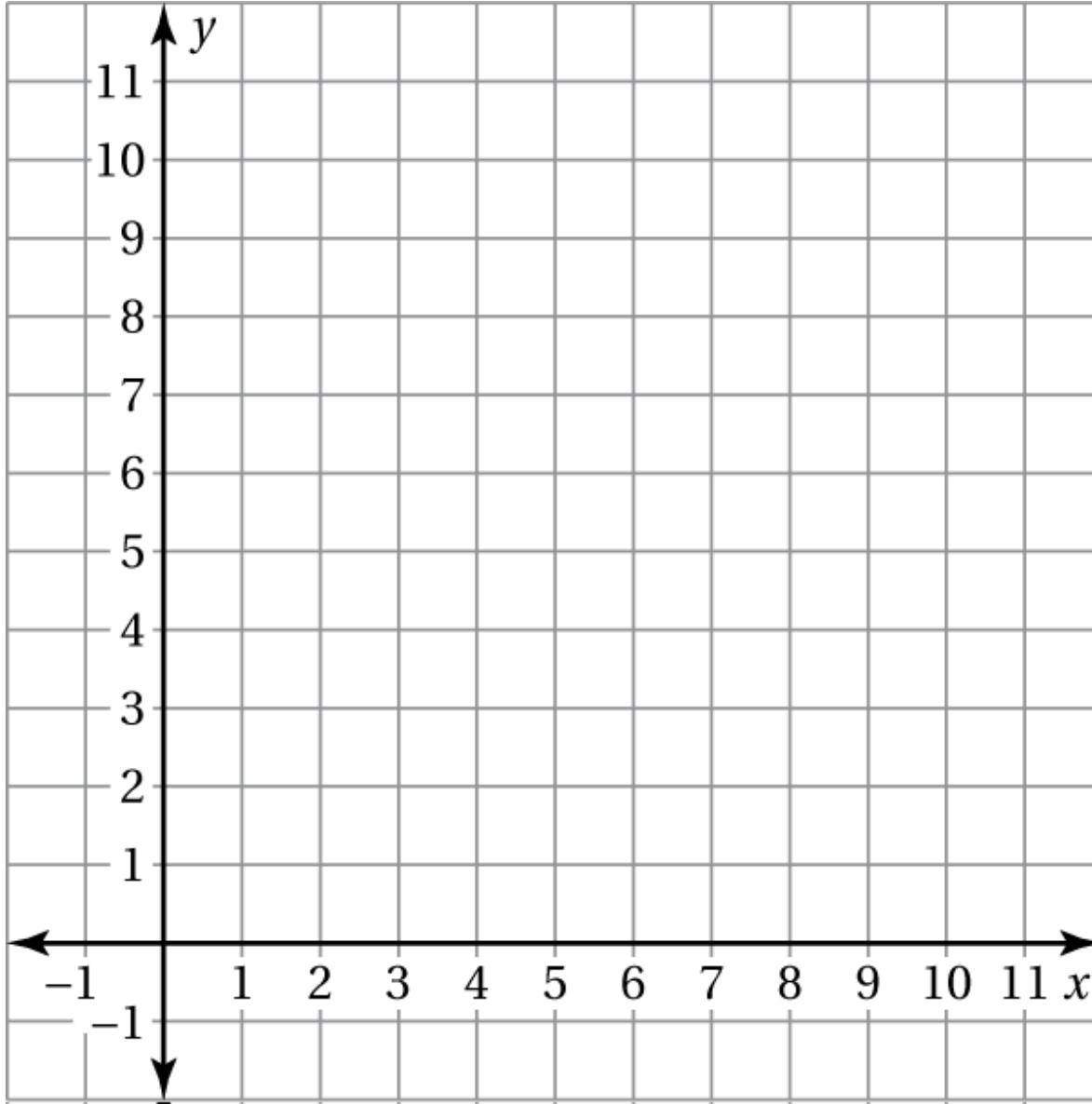


2.



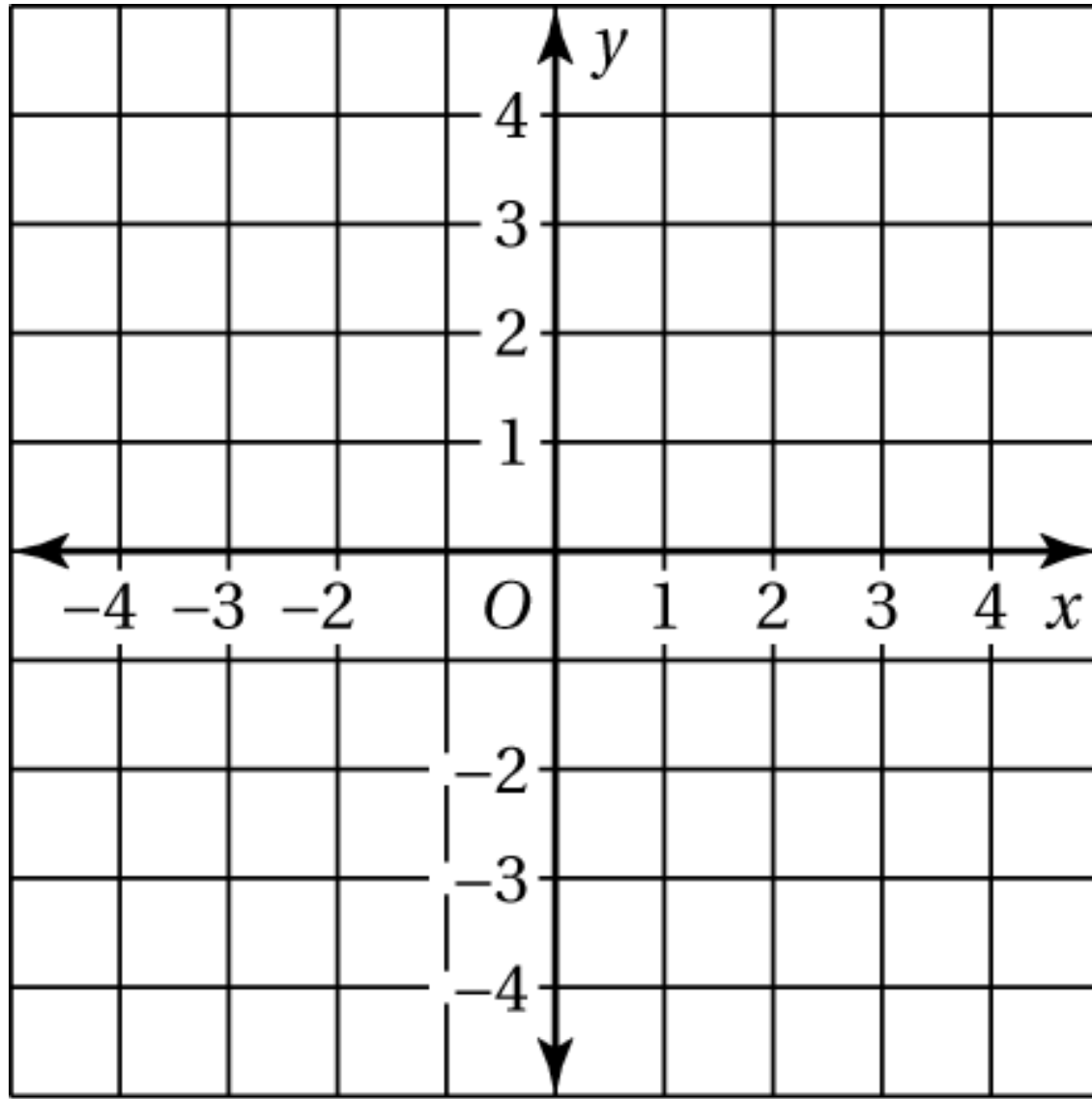
Practice

- 3) The vertices of a triangle are D (1, 4), E (1, 1), and F (3, 1). Draw the triangle and its image after a dilation with a scale factor of 2. Identify the type of dilation.



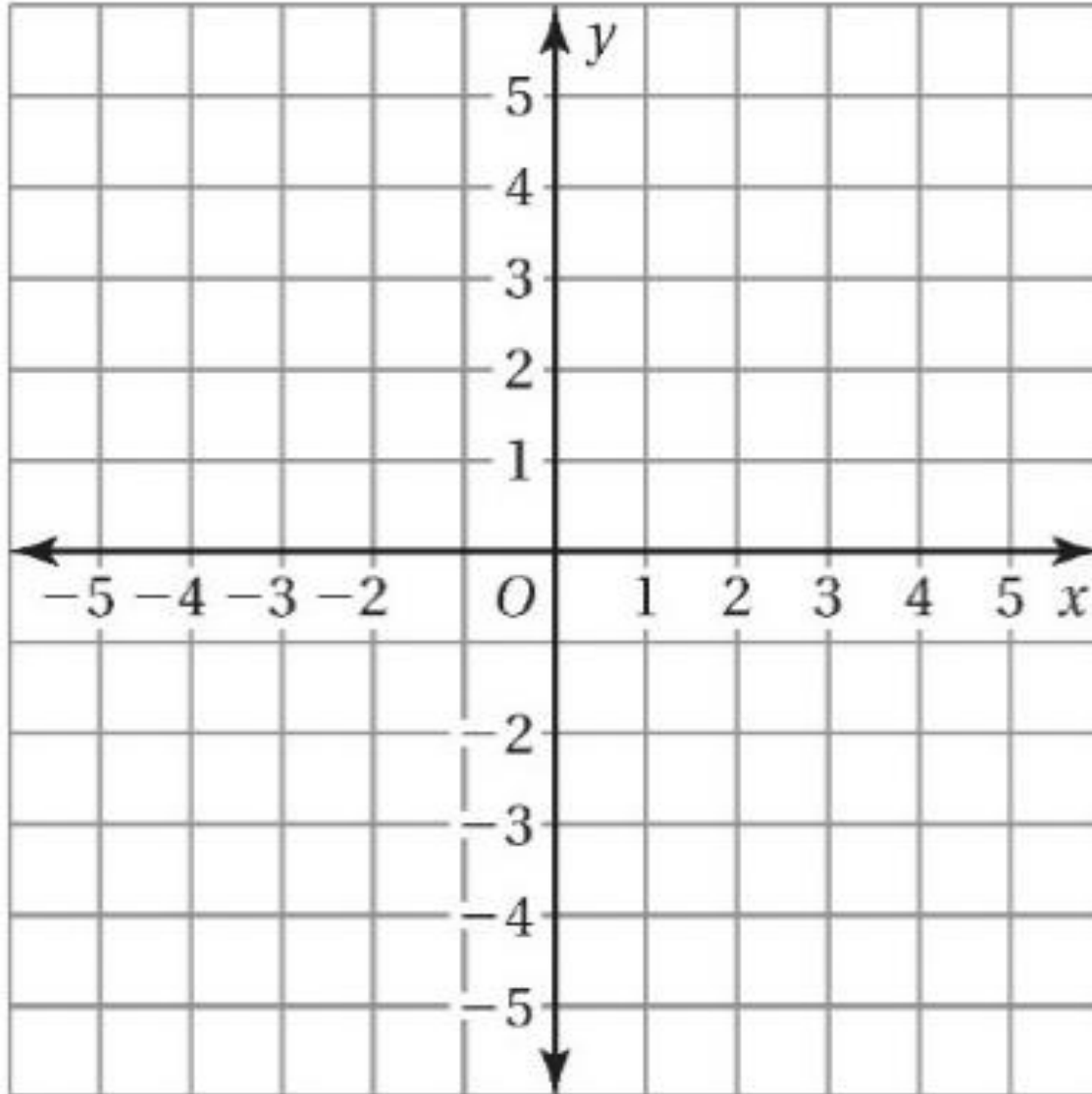
Practice

- 4) The vertices of a rectangle are J $(-4, 2)$ K $(4, 2)$, L $(4, -2)$ and M $(-4, -2)$. Draw the rectangle and its image after a dilation with a scale factor of 0.5. Identify the type of dilation.



Practice

- 5) The vertices of a trapezoid are $A(-4, 0)$, $B(-2, 4)$, $C(2, 4)$, and $D(6, 0)$. Dilate the trapezoid with respect to the origin using a scale factor of 0.5. Then translate it 2 units right and 3 units down. What are the coordinates of the image?



Practice

- 6) The red figure is similar to the blue figure. Describe a sequence of transformations in which the blue figure is the image of the red figure.

