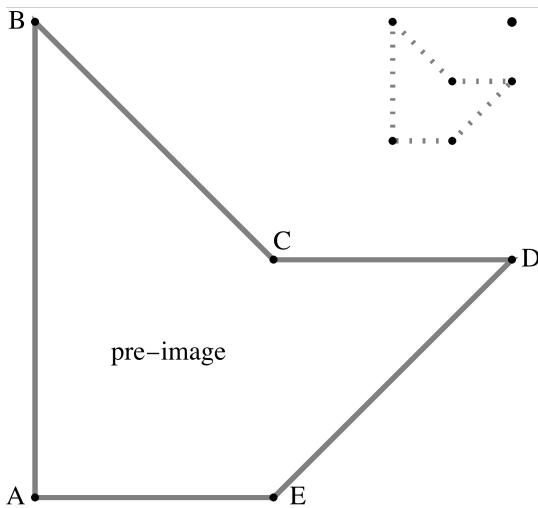


8. Dilation and Scaling Factors

First & Last Name: _____ Class: _____

In the previous handout, the scaling factor that was used was greater than 1 (in fact, it was 3). Scaling factors for dilations do not, however, have to be greater than 1; in fact, they can be between 0 and 1, and they can be negative. Generally speaking, a scaling factor can be any real number.

Task 1

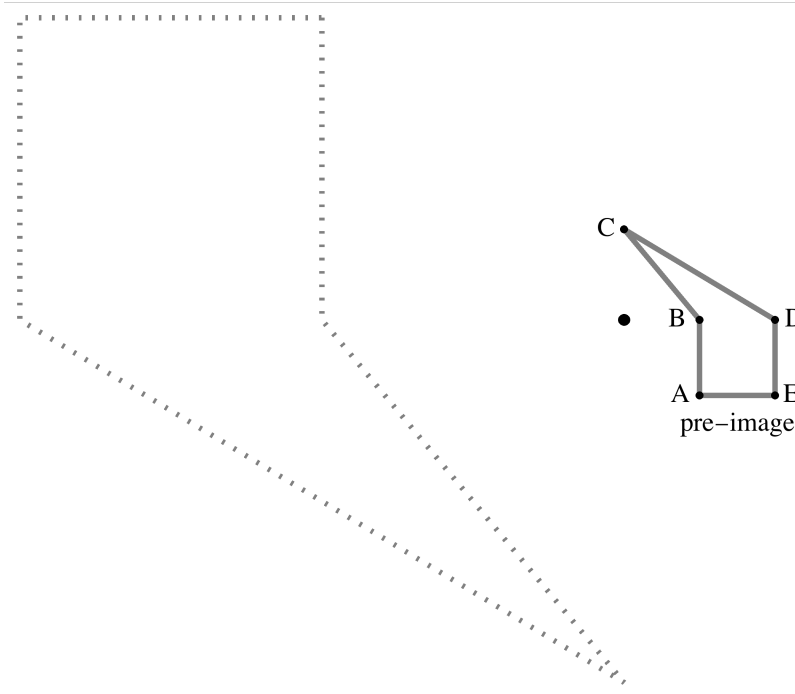


For the dilation shown above, fill in at least 3 rows for distance for center and at least 3 rows for side length in the table below. Be sure to use millimeters for measurements.

Distance from Center			Side Lengths		
Vertex	Pre-image	Image	Side	Pre-image	Image
A					
B					
C					
D					
E					

Use the patterns in your table to determine the scale factor of the dilation. Explain your reasoning.

Task 2



The dilation above is an example of a dilation of with a *negative* scale factor. We know the scale factor is negative because the image is in the *opposite direction* from the center of dilation than the pre-image. Another way of thinking about this is that the center of dilation is *between* corresponding points on the image and pre-image.

Take as many measurements (in millimeters) that you need to determine the scale factor for the above dilation. Record your measurements in the table below.

Distance from Center			Side Lengths		
Vertex	Pre-image	Image	Side	Pre-image	Image
A					
B					
C					
D					
E					

What is the scale factor? Explain how you convinced yourself.