Dilations

Center: (0,0)
Scale Factor: $k = 2$

Points shown: (4, 6), (2, 3), (6, 2), (2, 2), (1, 1), (3, 1)
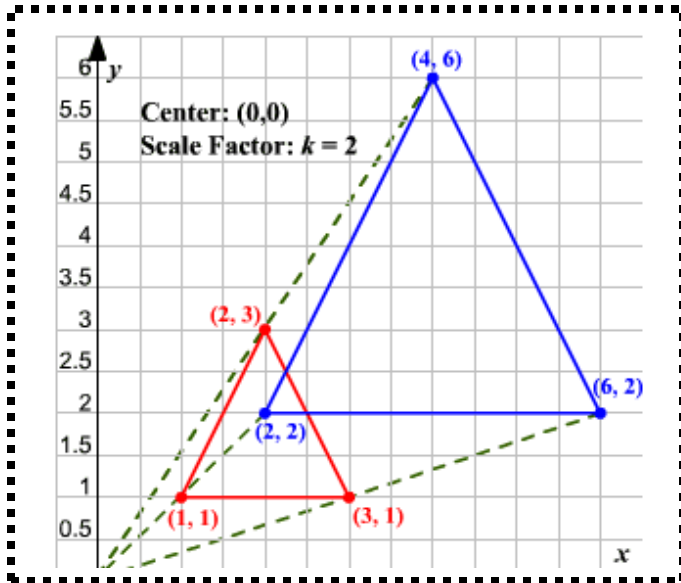
Dilations reduce or enlarge a figure using a scale factor. If the scale factor is between 0 and 1, the resulting figure is smaller than the original. If the scale factor is greater than one, the resulting figure is larger than the original figure. The figures would be the same shape but a different size, so they would be SIMILAR

Effect on Coordinates

A dilation affects both coordinates equally. Both x and y coordinates are MULTIPLIED by the scale factor. In the above example, you can use the given coordinates to determine scale factor. Let's use (2,3) on the small triangle and compare it to the corresponding coordinate on the large triangle to find the scale factor. Since we know the coordinates are multiplied by the scale factor to determine the new coordinate, we have to figure out what (2,3) was multiplied by to get (4,6). (2x2=4 and 3x2=6) The scale factor must be 2. The shape was enlarged to twice the size!

What do you think would happen if the scale factor was one?