Chapter 6.7: Preform Similarity Transformations

- Dilation - stretches or shrinks a figure to create a similar one.

- Center of Dilation - the point at with the dilation occurs about. most often (0,0)

- Scale Factor of a Dilation - the ratio of sides from one figure to the image.

Equation: $(x, y) \rightarrow (kx, ky)$ scale factor

if k is a fraction... reduction

if k>1 enlargement

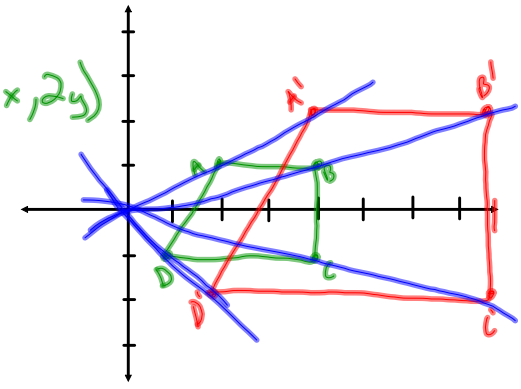
$(x+2, y-3)$

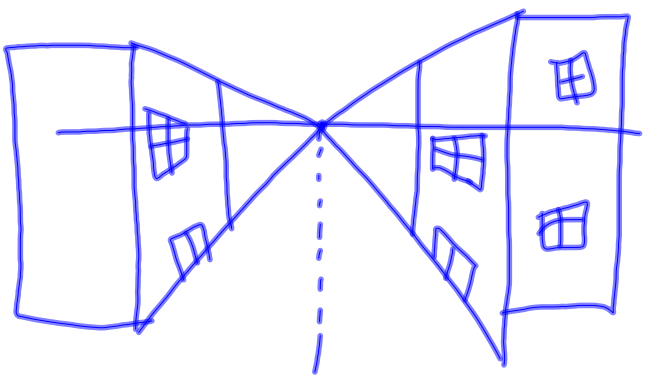
$(x, y) \rightarrow (-3x, -3y)$

Draw a dilation of quad ABCD with vertices A (2,1), B(4,1), C(4,-1), D(1,-1). Use a scale factor of 2.

$(x, y) \rightarrow (2x, 2y)$

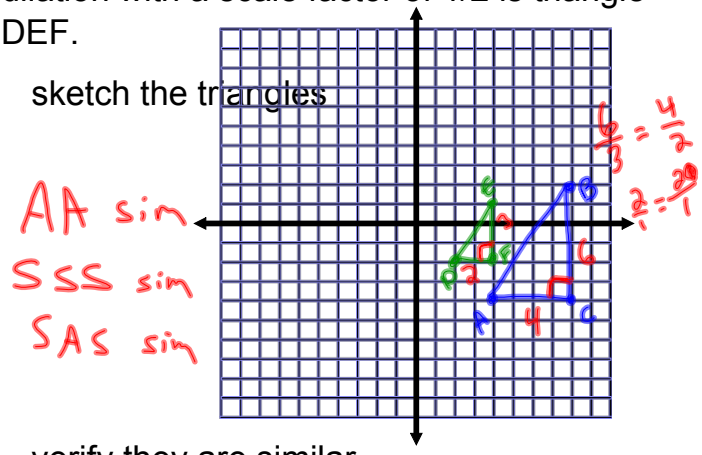
A'(4,2)
B'(8,2)
C'(8,-2)
D'(2,-2)





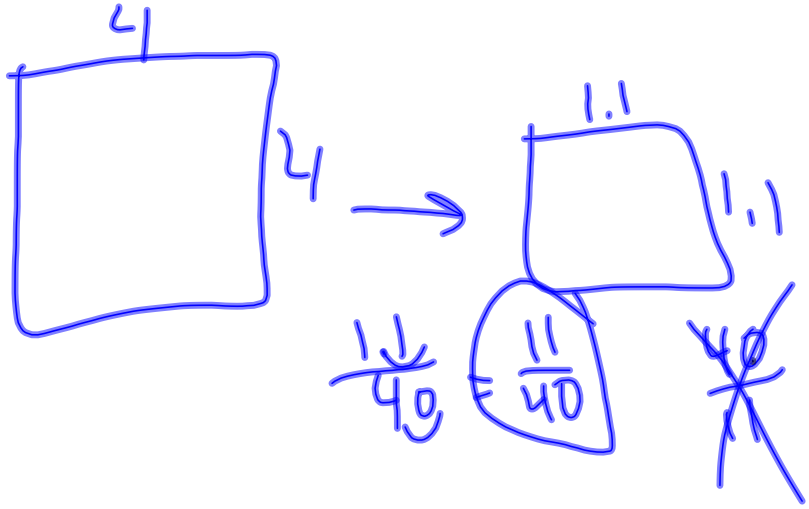
A triangle has the vertices A(4,-4), B(8,2) and C(8,-4). The image of triangle ABC after a dilation with a scale factor of 1/2 is triangle DEF.

sketch the triangles



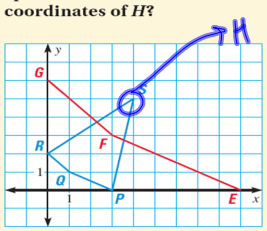
verify they are similar

You are making your own photo stickers. Your photo is 4 inches by 4 inches. The image on the stickers is 1.1 inches by 1.1 inches. What is the scale factor of the reduction?



You want to create a quadrilateral *EFGH* that is similar to quadrilateral *PQRS*. What are the coordinates of *H*?

Ⓐ (12, −15)
Ⓑ (7, 8)
Ⓒ (12, 15)
Ⓓ (15, 18)



(4,5)
(12,15)

$\frac{3}{1}$

Q(1,1) → F(3,3)