

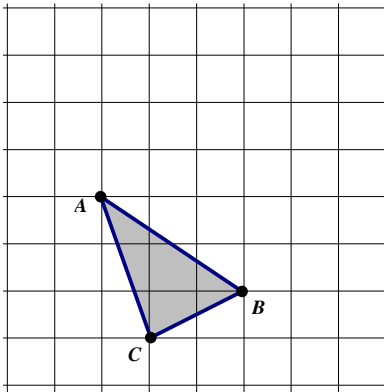
**Problem Set 7-4R / 7-5L**

1. Which of the following is not a dilation?

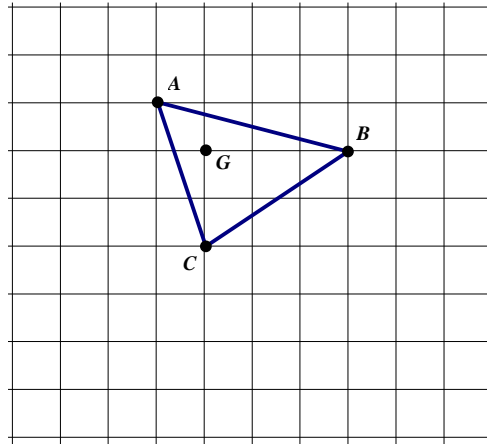
- a.  $(x,y) \rightarrow (3x,3y)$       b.  $(x,y) \rightarrow (0.5x,0.5y)$       c.  $(x,y) \rightarrow (-2x,-2y)$       d.  $(x,y) \rightarrow (3x,4y)$

2. Dilate the following using the specified center of dilation and scale factor. Label the image.

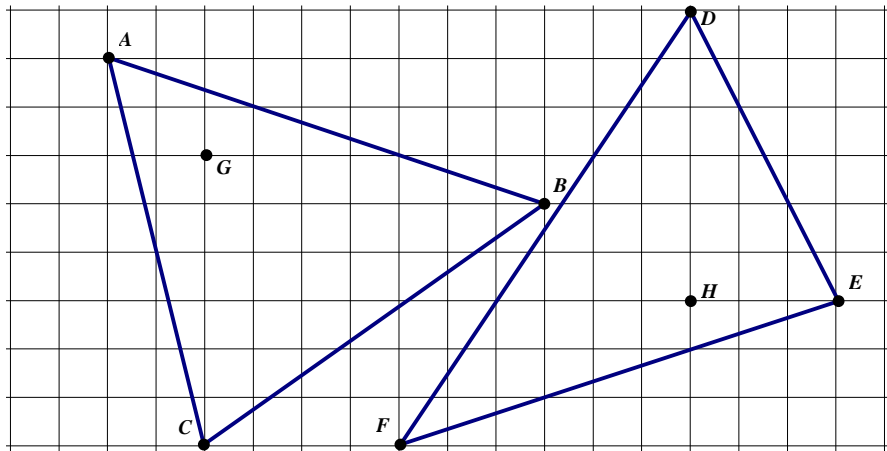
a)  $D_{C,2}(\triangle ABC)$



b)  $D_{G,3}(\triangle ABC)$

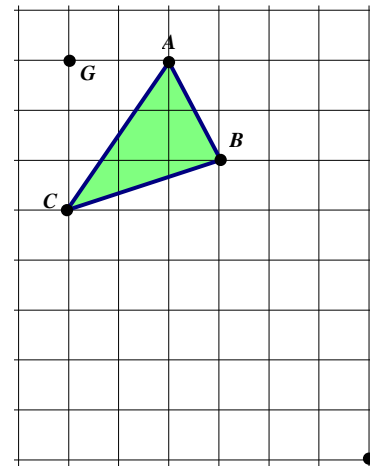


c)  $D_{G, \frac{1}{2}}(\triangle ABC)$



d)  $D_{H, \frac{1}{3}}(\triangle DEF)$

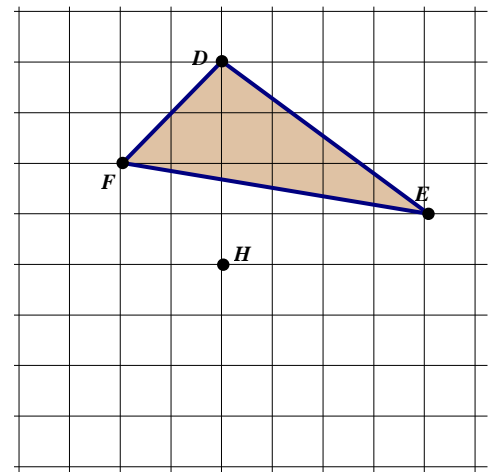
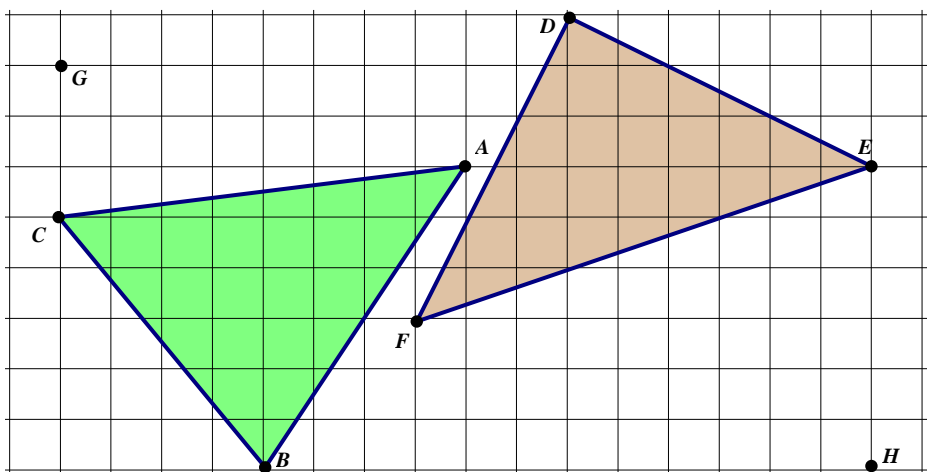
e)  $D_{G,2}(\triangle ABC)$



f)  $D_{G, \frac{1}{2}}(\triangle ABC)$

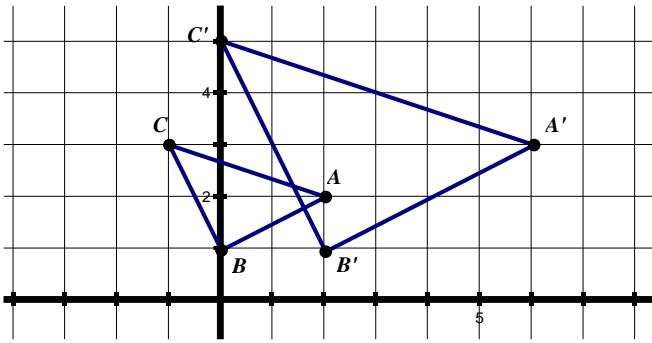
g)  $D_{H, \frac{1}{3}}(\triangle DEF)$

h)  $D_{H,-1}(\triangle DEF)$

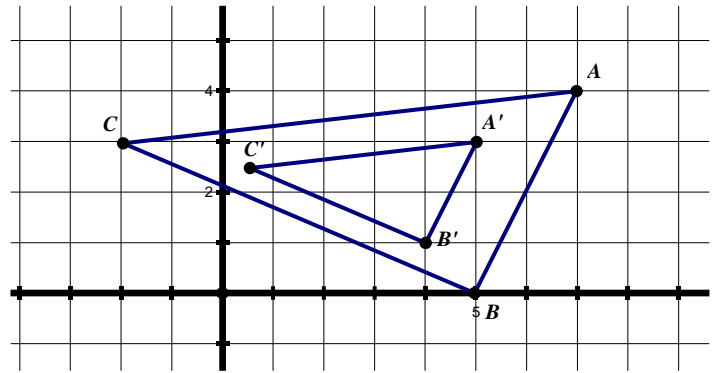


3. Work backwards to find the center of dilation D, and also determine the scale factor.

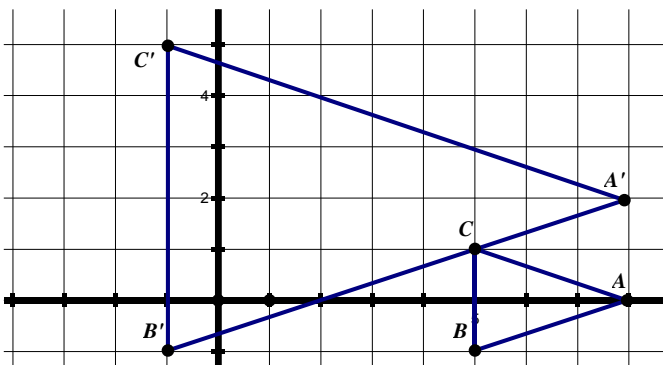
a) D (\_\_\_\_\_, \_\_\_\_\_) Scale Factor = \_\_\_\_\_



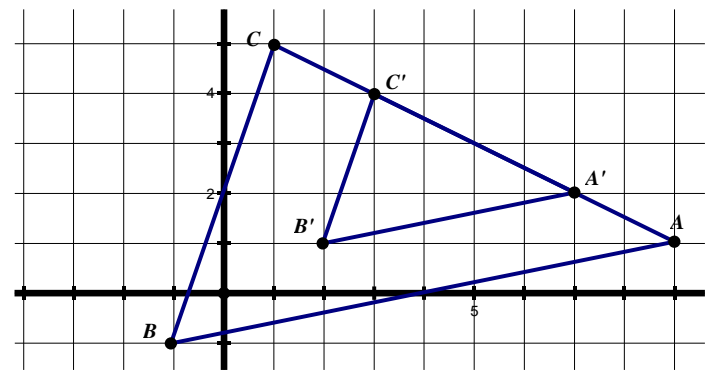
b) D (\_\_\_\_\_, \_\_\_\_\_) Scale Factor = \_\_\_\_\_



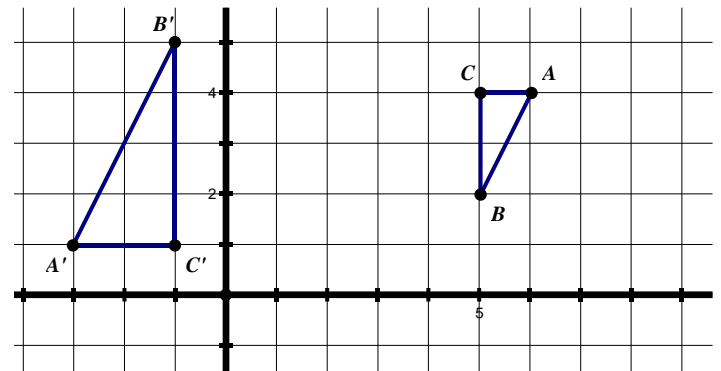
c) D (\_\_\_\_\_, \_\_\_\_\_) Scale Factor = \_\_\_\_\_



d) D (\_\_\_\_\_, \_\_\_\_\_) Scale Factor = \_\_\_\_\_



4. Given:  $A(6,4)$ ,  $B(5,2)$ ,  $C(5,4)$  and  $A'(-3,1)$ ,  $B'(-1,5)$ ,  $C'(-1,1)$   
 Prove using a coordinate proof with triangle similarity criteria that  $\triangle ABC \sim \triangle A'B'C'$



Extra Credit: Prove the triangles are similar using a second method on separate paper