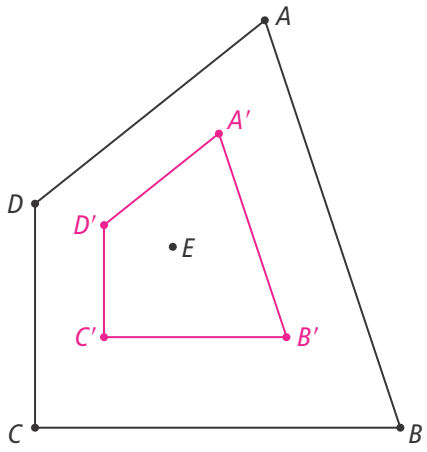
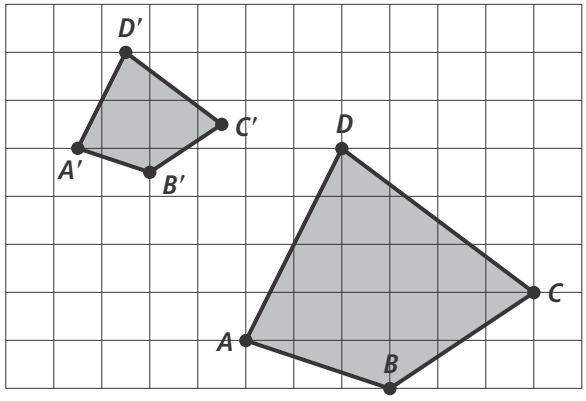
7-1 Additional Practice

Dilations

1. Draw a dilation of *ABCD* with *E* as the center and with sides $\frac{1}{2}$ as long.



2. What is the scale factor of the dilation shown? **0.5**



For Exercises 3 and 4, find the coordinates of the vertices of each image.

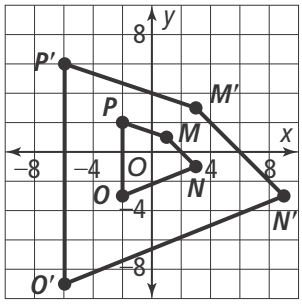
3. $D_{0.75}(\triangle ABC)$, given $A(4, -3)$, $B(6, 1)$, $C(10, -1)$
***A′*(3, −2.25), *B′*(4.5, 0.75), *C′*(7.5, −0.75)**

4. $D_{1.5}(\triangle XYZ)$, given $X(3, 0)$, $Y(4, 2)$, $Z(6, -2)$
***X′*(4.5, 0), *Y′*(6, 3), *Z*(9, −3)**

5. $D_k(\triangle ABC)$has a perimeter of 100 units and an area of 625 units^2.

a. What is the perimeter of $\triangle ABC$? $\frac{100}{k}$ **b.** What is the area of $\triangle ABC$? $\frac{625}{k^2}$

6. Charles enlarged the small kite *MNOP* to make a design for an art project, as shown.



a. How are the side lengths of the preimage and image related?
The side lengths of the image are 3 times the corresponding side lengths of the preimage.

b. How are the areas related?
The area of the image is 9 times the area of the preimage.

c. What is the scale factor of the dilation Charles used to enlarge the kite? **3**