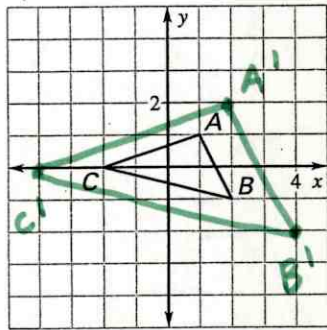


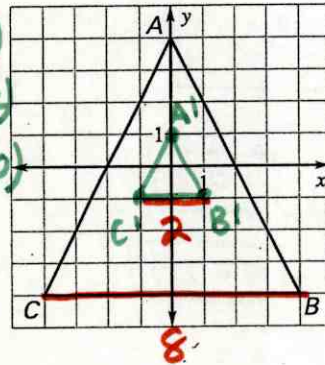
**LESSON 6.7 Practice**  
For use with pages 408-415

Draw a dilation of the figure using the given scale factor.

1.  $k = 2$   $(x, y) \rightarrow (2x, 2y)$       2.  $k = \frac{1}{4}$   $(x, y) \rightarrow (\frac{1}{4}x, \frac{1}{4}y)$



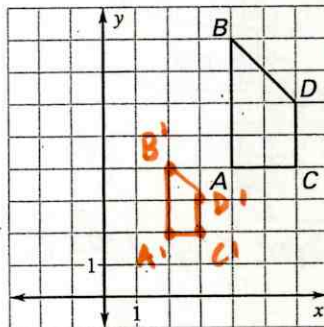
$A(1,1) \rightarrow A'(2,2)$   
 $B(2,-1) \rightarrow B'(4,-2)$   
 $C(-2,0) \rightarrow C'(-4,0)$



$A(0,4) \rightarrow A'(0,1)$   
 $B(4,-4) \rightarrow B'(1,-1)$   
 $C(-4,-4) \rightarrow C'(-1,-1)$

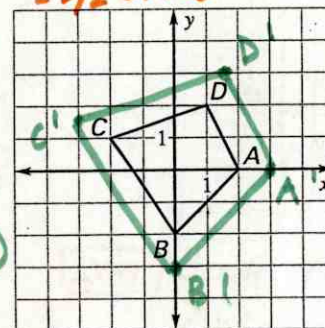
$k = \frac{2}{8} \quad |k = \frac{1}{4}$

3.  $k = \frac{1}{2}$   $(x, y) \rightarrow (\frac{1}{2}x, \frac{1}{2}y)$



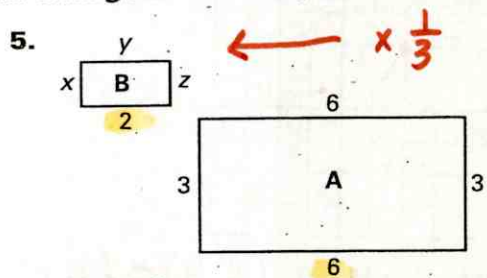
$A(4,4) \rightarrow A'(2,2)$   
 $B(4,8) \rightarrow B'(2,4)$   
 $C(6,4) \rightarrow C'(3,2)$   
 $D(6,6) \rightarrow D'(3,3)$

4.  $k = 1\frac{1}{2}$   $(x, y) \rightarrow (\frac{3}{2}x, \frac{3}{2}y)$   
 $= 3/2 \text{ or } 1.5$

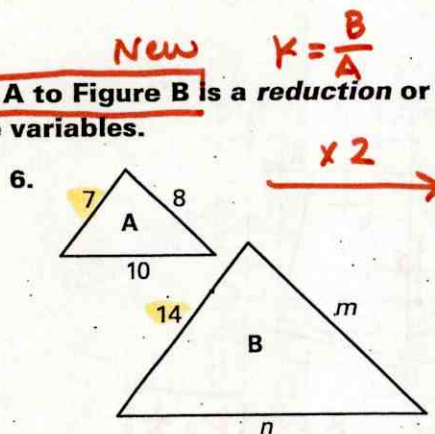


$A(2,0) \rightarrow A'(3,0)$   
 $B(0,-2) \rightarrow B'(0,-3)$   
 $C(-2,1) \rightarrow C'(-3,1.5)$   
 $D(1,2) \rightarrow D'(1.5,3)$

Determine whether the dilation from Figure A to Figure B is a reduction or an enlargement. Then, find the values of the variables.



$k = \frac{2}{6} \frac{B}{A}$   
 $|k = \frac{1}{3}|$   
 $x = \frac{1}{3}(3)$  Reduction  
 $|x = 1|$   
 $y = 2$   
 $|z = 1|$   
 $\frac{2}{6} = \frac{x}{3}$

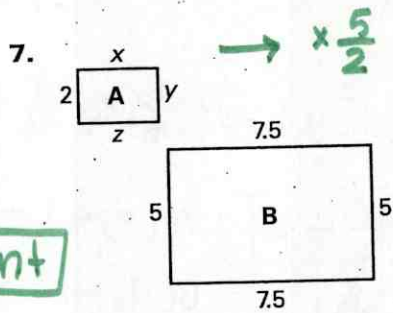


$k = \frac{14}{7}$        $m = 2(8)$  Enlargement  
 $|k = 2|$        $|m = 16|$   
 $n = 2(10)$   
 $|n = 20|$

**LESSON 6.7**

**Practice** *continued*  
For use with pages 408-415

$k = \frac{B}{A}$



**Enlargement**

$k = \frac{5}{2}$

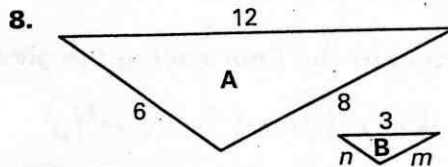
$\frac{5}{2} = \frac{7.5}{x}$

$5x = 15$

$x = 3$

$y = 2$

$z = 7.5$



**Reduction**

$k = \frac{3}{12}$

$k = \frac{1}{4}$

$\frac{1}{4} = \frac{n}{6}$

$4n = 6$

$n = \frac{6}{4}$

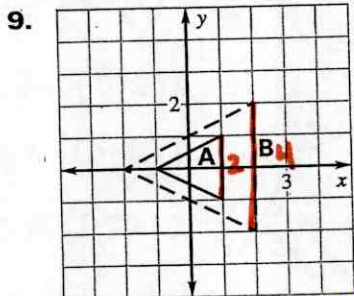
$n = \frac{3}{2}$

$\frac{1}{4} = \frac{m}{8}$

$4m = 8$

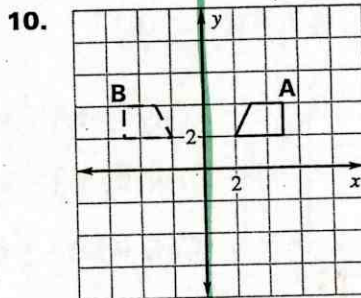
$m = 2$

Determine whether the transformation from **Figure A to Figure B** is a translation, reflection, rotation, or dilation.

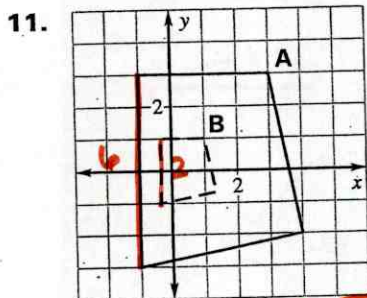


Dilation  $k = \frac{4}{2}$  |  $k = 2$

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

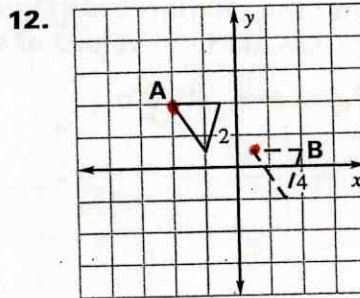


Reflection over y-axis



Dilation  $k = \frac{2}{6}$  |  $k = \frac{1}{3}$

$(x, y) \rightarrow (\frac{1}{3}x, \frac{1}{3}y)$



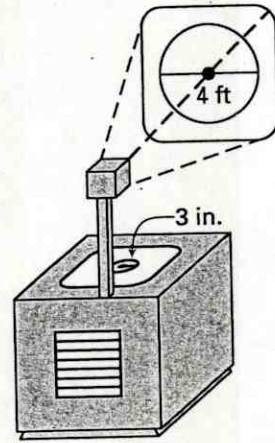
Translation  $(x, y) \rightarrow (x+5, y-3)$

$+5 \left\langle \begin{matrix} A(-4, 4) \\ B(1, 1) \end{matrix} \right\rangle -3$

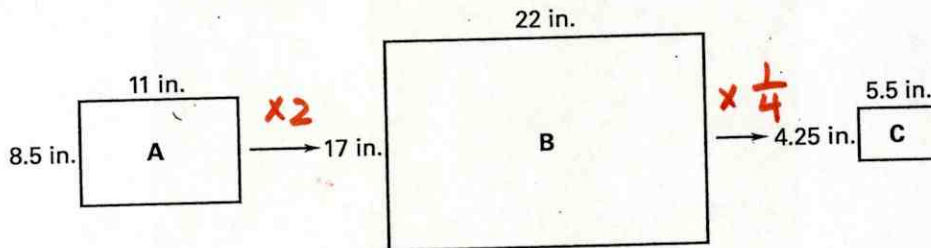
**LESSON**  
**6.7**

**Practice** *continued*  
For use with pages 408–415

- 13. Overhead Projectors** Your teacher draws a circle on an overhead projector. The projector then displays an enlargement of the circle on the wall. The circle drawn has a radius of 3 inches. The circle on the wall has a diameter of 4 feet. What is the scale factor of the enlargement?



- 14. Posters** A poster is enlarged and then the enlargement is reduced as shown in the figure.



- a. What is the scale factor of the enlargement? the reduction?

Enlargement A to B:  $k = \frac{B}{A} = \frac{22}{11}$   
 $k = 2$

Reduction B to C:  $k = \frac{C}{B} = \frac{5.5}{22}$   
 $k = \frac{1}{4}$

- b. A second poster is reduced directly from size A to size C. What is the scale factor of the reduction?

A to C:  $k = \frac{C}{A} = \frac{5.5}{11}$   
 $k = \frac{1}{2}$

- c. How are the scale factors in part (a) related to the scale factor in part (b)?

$2\left(\frac{1}{4}\right) = \frac{1}{2}$   
 The product in a is = to b