

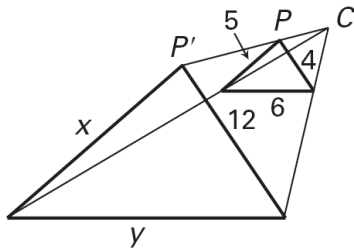
LESSON 9.7

Practice B

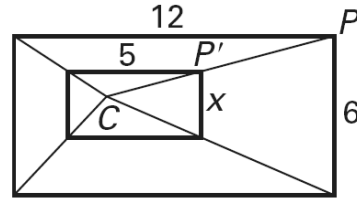
For use with pages 625–633

Find the scale factor. Tell whether the dilation is a *reduction* or an *enlargement*. Then find the values of the variables.

1.



2.



Simplify the product.

3. $7 \begin{bmatrix} 2 & -1 & 5 \\ 3 & 4 & -2 \end{bmatrix}$

4. $-2 \begin{bmatrix} -4 & 1 & 0 \\ 9 & -5 & -7 \end{bmatrix}$

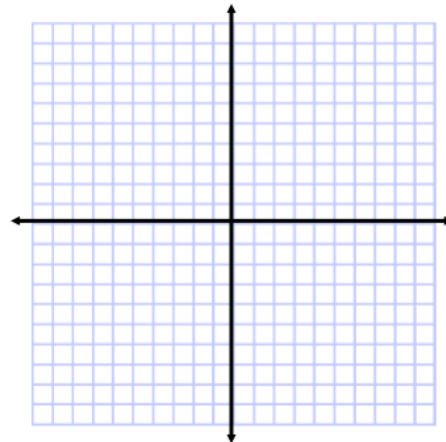
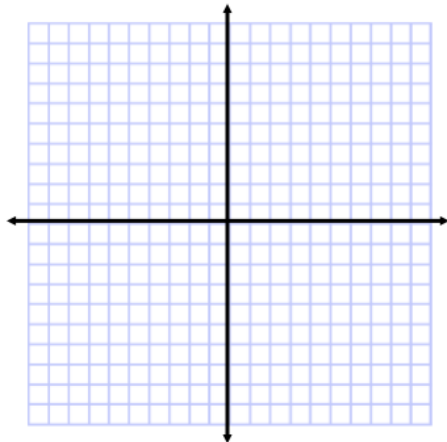
5. $5 \begin{bmatrix} 2 & 1 & -10 \\ 3 & -4 & 7 \end{bmatrix}$

6. $9 \begin{bmatrix} 0 & 3 & 2 \\ -1 & 7 & 0 \end{bmatrix}$

Find the image matrix that represents a dilation of the polygon centered at the origin with the given scale factor. Then graph the polygon and its image.

7. $\begin{bmatrix} 2 & 3 & 5 \\ 1 & 6 & 4 \end{bmatrix}; k = 2$

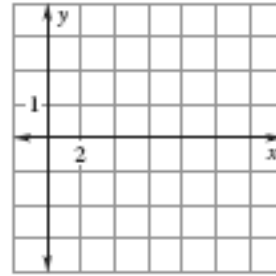
8. $\begin{bmatrix} -6 & -3 & 3 & 3 \\ 0 & 3 & 0 & -3 \end{bmatrix}; k = \frac{2}{3}$



The vertices of $\square ABCD$ are $A(1, 1)$, $B(3, 5)$, $C(11, 5)$, and $D(9, 1)$. Graph the image of the parallelogram after a composition of the transformations in the order they are listed.

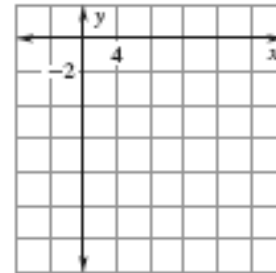
9. **Translation:** $(x, y) \rightarrow (x + 5, y - 2)$

Dilation: centered at the origin with a scale factor of $\frac{3}{5}$



10. **Dilation:** centered at the origin with a scale factor of 2

Reflection: in the x -axis



11. You are making hand shadows on a wall using a flashlight. You hold your hand 1 foot from the flashlight and 5 feet from the wall. Your hand is parallel to the wall. If the measure from your thumb to ring finger is 6 inches, what will be the distance between them in the shadow?