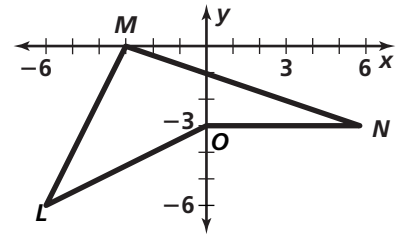


Practice 12-7

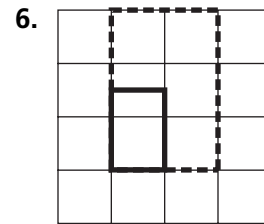
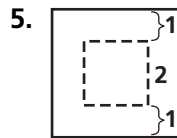
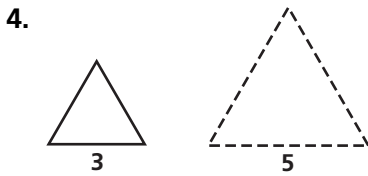
Dilations

Use matrices to find the image of figure $LMNO$ under a dilation centered at the origin with the given scale factor.

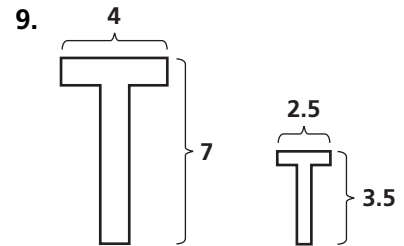
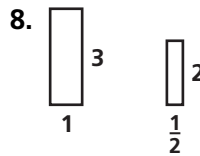
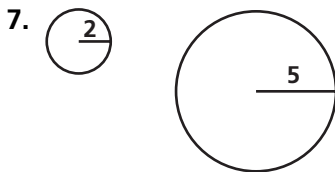
1. $\frac{1}{3}$ 2. 5 3. 2



Find the scale factor for the dilation that maps the solid-line figure onto the dashed-line figure.

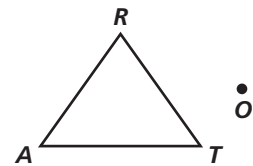


For each pair of figures, determine whether one figure is a dilation of the other.



Draw $\triangle A'R'T'$ under the dilation with the given center and scale factor.

10. center O , scale factor $\frac{1}{2}$
 11. center T , scale factor $\frac{1}{2}$
 12. center O , scale factor 2



Use scalar multiplication to find the image of $\triangle PQR$ for a dilation with center $(0, 0)$ and the given scale factor.

13. x -coordinate $\begin{bmatrix} P & Q & R \\ -6 & -3 & 0 \end{bmatrix}$
 y -coordinate $\begin{bmatrix} -6 & 0 & -3 \end{bmatrix}$
 scale factor 2

14. x -coordinate $\begin{bmatrix} P & Q & R \\ -2 & 5 & 7 \end{bmatrix}$
 y -coordinate $\begin{bmatrix} 1 & -1 & 8 \end{bmatrix}$
 scale factor $\frac{1}{4}$

15. x -coordinate $\begin{bmatrix} P & Q & R \\ -7 & 1 & -2 \end{bmatrix}$
 y -coordinate $\begin{bmatrix} 2 & 8 & 2 \end{bmatrix}$
 scale factor 3

16. x -coordinate $\begin{bmatrix} P & Q & R \\ -10 & -5 & 0 \end{bmatrix}$
 y -coordinate $\begin{bmatrix} 5 & 0 & 5 \end{bmatrix}$
 scale factor $\frac{1}{5}$