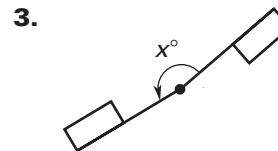
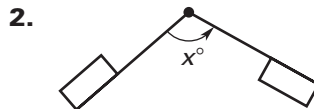
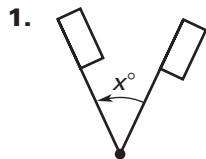


**LESSON 9.4 Practice**  
For use with pages 598–605

Match the diagram with the angle of rotation.



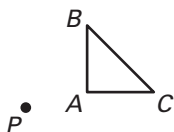
A.  $110^\circ$

B.  $170^\circ$

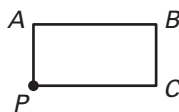
C.  $50^\circ$

Trace the polygon and point *P* on paper. Then draw a rotation of the polygon the given number of degrees about *P*.

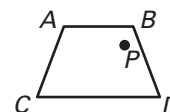
4.  $45^\circ$



5.  $120^\circ$

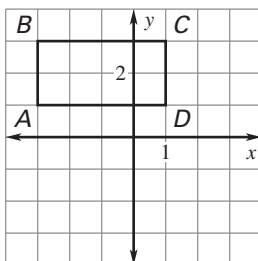


6.  $135^\circ$

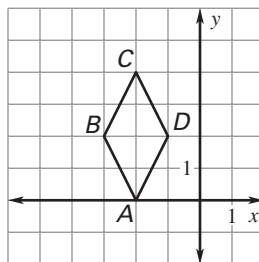


Rotate the figure the given number of degrees about the origin. List the coordinates of the vertices of the image.

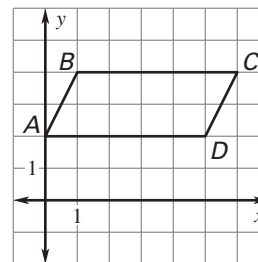
7.  $90^\circ$



8.  $180^\circ$

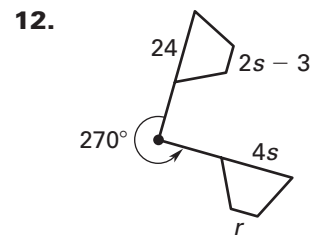
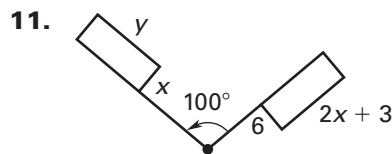
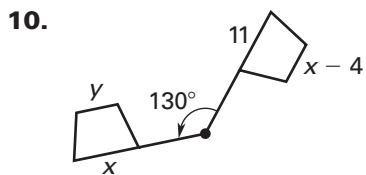


9.  $270^\circ$



**LESSON 9.4 Practice** *continued*  
For use with pages 598–605

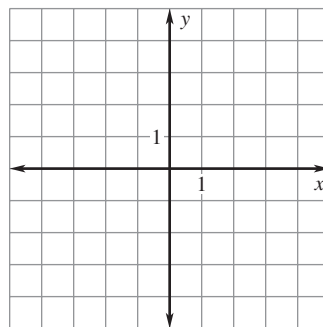
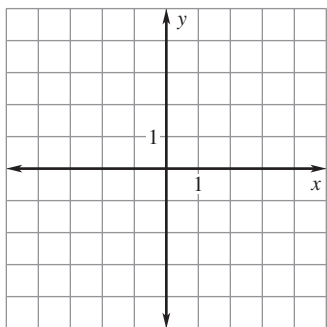
**Find the value of each variable in the rotation.**



**Find the image matrix that represents the rotation of the polygon about the origin. Then graph the polygon and its image.**

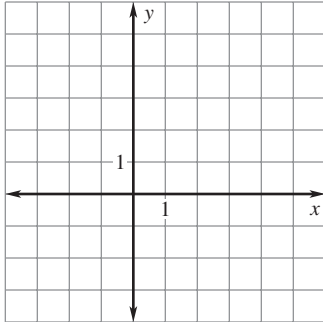
**13.**  $\begin{matrix} A & B & C \\ \begin{bmatrix} 1 & 4 & 3 \\ 2 & 2 & 4 \end{bmatrix}; 90^\circ \end{matrix}$

**14.**  $\begin{matrix} A & B & C \\ \begin{bmatrix} 0 & 4 & 2 \\ -1 & 0 & 3 \end{bmatrix}; 180^\circ \end{matrix}$

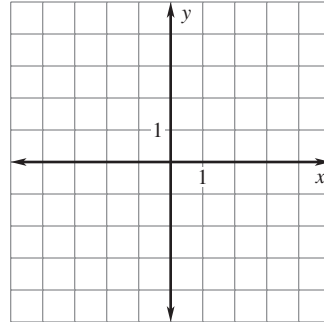


LESSON  
9.4**Practice** *continued*  
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15. 
$$\begin{matrix} A & B & C & D \\ \begin{bmatrix} 1 & 2 & 4 & 5 \\ -1 & 3 & 3 & -1 \end{bmatrix}; 90^\circ \end{matrix}$$

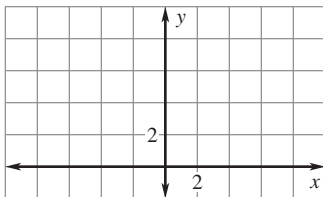


16. 
$$\begin{matrix} A & B & C & D \\ \begin{bmatrix} -3 & -2 & 2 & 1 \\ -4 & -1 & -1 & -4 \end{bmatrix}; 270^\circ \end{matrix}$$



The endpoints of  $\overline{CD}$  are  $C(2, 1)$  and  $D(4, 5)$ . Graph  $\overline{C'D'}$  and  $\overline{C''D''}$  after the given rotations.

17. **Rotation:**  $90^\circ$  about the origin  
**Rotation:**  $270^\circ$  about  $(2, 0)$



18. **Rotation:**  $180^\circ$  about the origin  
**Rotation:**  $90^\circ$  about  $(0, -3)$

