Name _____ Date _____

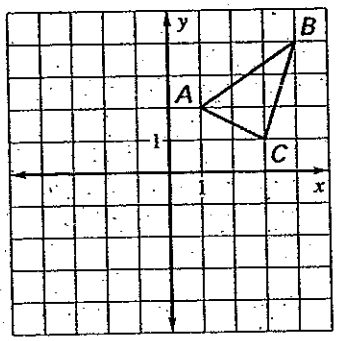
LESSON 9.3

Practice B

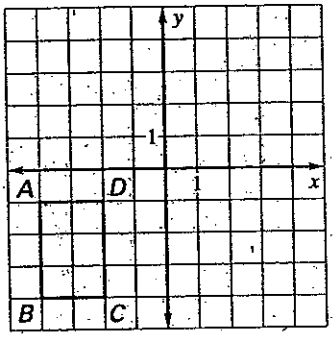
For use with pages 588–596

Graph the reflection of the polygon in the given line.

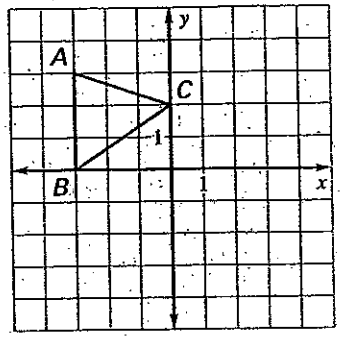
1. x-axis



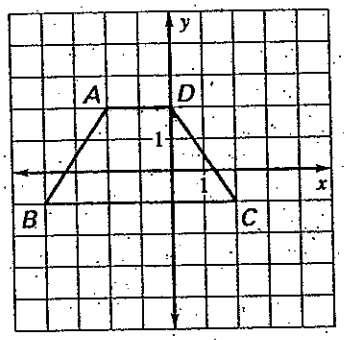
2. y-axis



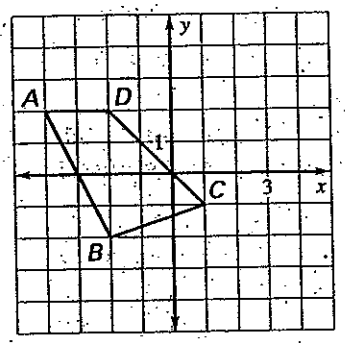
3. $x = -1$



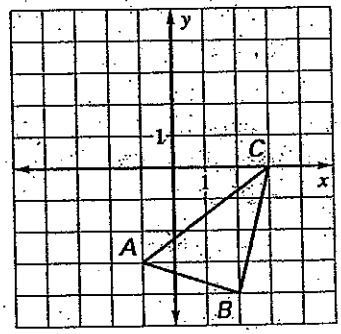
4. $y = 1$



5. $y = -x$

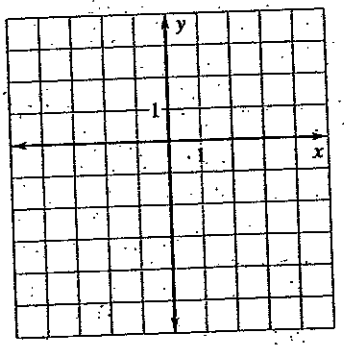


6. $y = x$

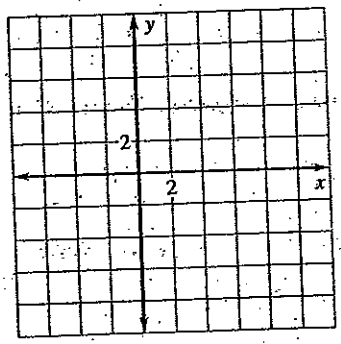


The vertices of $\triangle ABC$ are $A(-2, 1)$, $B(3, 4)$, and $C(3, 1)$. Reflect $\triangle ABC$ in the first line. Then reflect $\triangle A'B'C'$ in the second line. Graph $\triangle A'B'C'$ and $\triangle A''B''C''$.

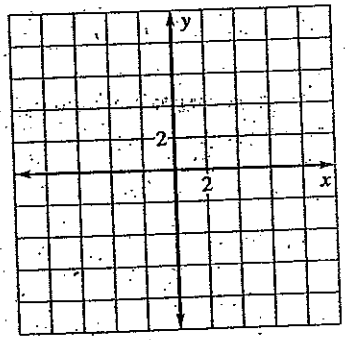
15. In $y = 1$, then in $y = -2$



16. In $x = 4$, then in $y = -1$



17. In $y = x$, then in $x = -2$



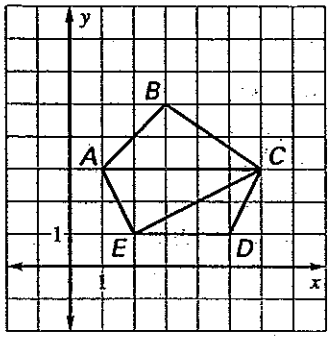
LESSON 9.2

Practice A

For use with pages 580–587

Use the diagram to write a matrix to represent the polygon.

1. $\triangle ABC$
2. $\triangle CDE$
3. Quadrilateral $ACDE$
4. Pentagon $ABCDE$



Add or subtract.

5. $[2 \quad 4] + [6 \quad 3]$

6. $\begin{bmatrix} 4 & 1 \\ 5 & 9 \end{bmatrix} - \begin{bmatrix} 3 & 11 \\ 6 & 7 \end{bmatrix}$

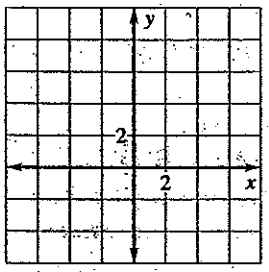
7. $[9 \quad -1] - [13 \quad 2]$

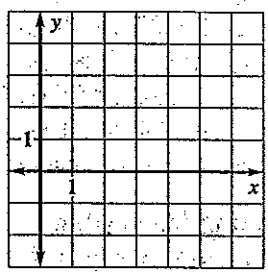
8. $\begin{bmatrix} 10 & 7 \\ 5 & 3 \end{bmatrix} + \begin{bmatrix} 1 & 8 \\ 2 & 4 \end{bmatrix}$

Find the image matrix that represents the translation of the polygon. Then graph the polygon and its image.

9. $\begin{matrix} A & B & C \end{matrix}$
$\begin{bmatrix} -2 & 0 & 1 \\ 1 & 4 & -3 \end{bmatrix}$; 2 units right and 2 units up

10. $\begin{matrix} D & E & F \end{matrix}$
$\begin{bmatrix} 2 & 5 & 4 \\ 3 & 1 & 4 \end{bmatrix}$; 2 units down





Multiply.

11. (a) $[2 \quad 6]\begin{bmatrix} 8 \\ 4 \end{bmatrix}$

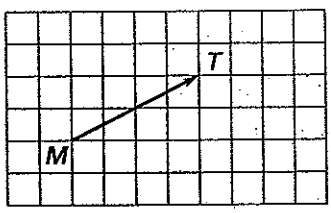
(b) $\begin{bmatrix} 8 \\ 4 \end{bmatrix}[2 \quad 6]$

12. (a) $\begin{bmatrix} 2 & 6 \\ -5 & 9 \end{bmatrix}\begin{bmatrix} 10 & -4 \\ 3 & -7 \end{bmatrix}$

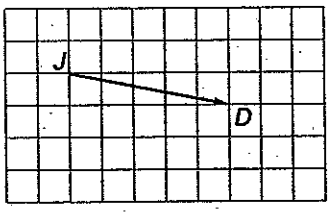
(b) $\begin{bmatrix} 10 & -4 \\ 3 & -7 \end{bmatrix}\begin{bmatrix} 2 & 6 \\ -5 & 9 \end{bmatrix}$

Name the vector and write its component form.

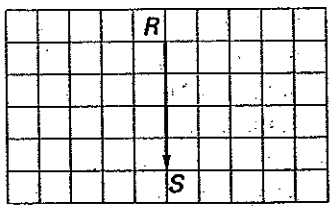
13.



14.



15.



$\triangle ABC$ with vertices $A(-2, 4)$, $B(6, 2)$, and $C(3, -2)$ is translated to $\triangle A'B'C'$. Determine the translation using a vector in component form, and determine the coordinates of the remaining vertices.

16. $A'(-5, 5)$

17. $B'(2, -5)$

18. $C'(-4, -5)$

19. $B'(8, 6)$

LESSON 9.1

Practice C

For use with pages 572–579