Name _____ **Date** _____

LESSON 9.2

Practice C

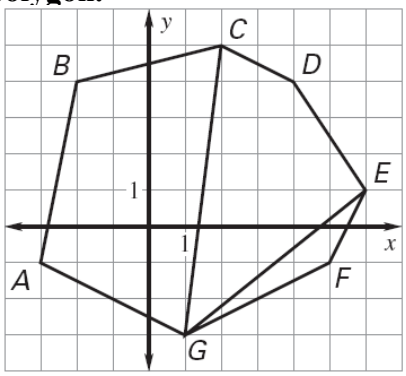
For use with pages 580–587

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

1. ΔEFG

2. Quadrilateral $ABCG$

3. Heptagon $ABCDEFG$



Add or subtract.

4. $\begin{bmatrix} 7 & -1 & 4 \\ 11 & -9 & 2 \end{bmatrix} + \begin{bmatrix} -3 & 6 & 3 \\ 10 & 1 & -5 \end{bmatrix}$

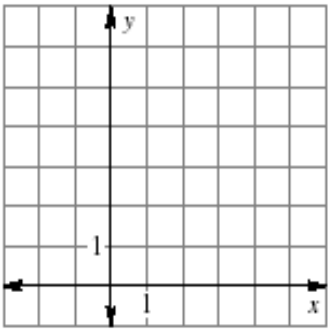
5. $\begin{bmatrix} \frac{1}{2} & \frac{1}{4} \\ 3 & 8 \end{bmatrix} - \begin{bmatrix} 2 & \frac{3}{4} \\ \frac{1}{2} & 5 \end{bmatrix}$

6. $\begin{bmatrix} 1.2 & 3.5 \\ 0.2 & 5.1 \end{bmatrix} + \begin{bmatrix} 4.1 & 8.7 \\ 2.6 & 5.3 \end{bmatrix}$

7. $\begin{bmatrix} 8 & 3 \\ 4 & 0 \end{bmatrix} - \begin{bmatrix} 2 & -7 \\ 6 & -1 \end{bmatrix}$

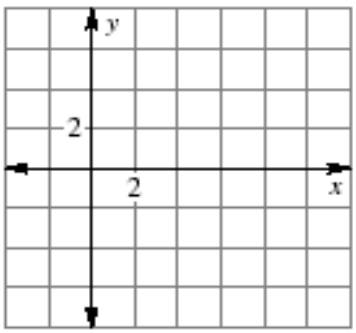
Find the image matrix that represents the translation of the polygon. Then graph the polygon and its image.

8. 3 units right and 2 units down



A	B	C
-2	1	2
3	5	2

9. 6 units left and 3 units up



M	N	O	P
4	5	6	8
1	-2	3	-1

Multiply.

10. $\begin{bmatrix} 3 & -1 \\ -4 & -2 \end{bmatrix}\begin{bmatrix} 7 & 2 \\ 0 & 0 \end{bmatrix}$

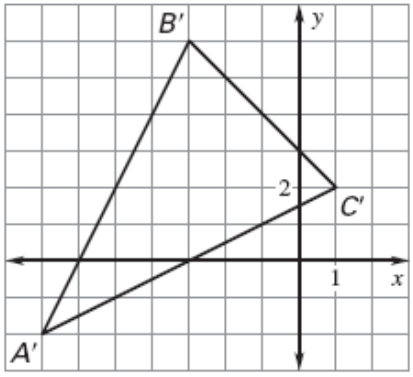
11. $\begin{bmatrix} 6 & -4 & -2 \end{bmatrix}\begin{bmatrix} -5 \\ -2 \\ 1 \end{bmatrix}$

12. $\begin{bmatrix} 1 & -4 \\ 3 & -2 \end{bmatrix}\begin{bmatrix} 4 & -1 \\ 0 & -3 \end{bmatrix}$

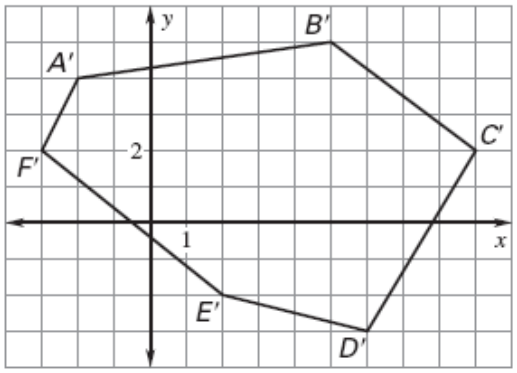
13. $\begin{bmatrix} -1 & -0.5 & 1.25 \\ 1 & -1.5 & -0.25 \end{bmatrix}\begin{bmatrix} 1.2 \\ 0.2 \\ 0 \end{bmatrix}$

Use the described translation and the graph of the image to find the matrix that represents the preimage.

14. 4 units right and 2 units up



15. 3 units left and 2 units down



In Exercises 16-18, use the following information.

Debates Three teams participated in a debating competition. The final score for each team is based on how many students ranked first, second, and third in a debate. The results of 10 debates are shown in matrix *A*.

Matrix *A*			
	Ranking		
	1st	2nd	3rd
Team 1	3	4	2
Team 2	5	3	2
Team 3	2	3	6

16. Teams earn 5 points for each first place, 4 points for each second place, and 3 points for each third place. Organize this information into a matrix *B*.

17. Find the product *AB*.

18. Which team won the competition? How many points did the winning team earn?