

Name _____

4-10B Lesson Master**Questions on SPUR Objectives**

See Student Edition pages 293–297 for objectives.

PROPERTIES Objective F1. Suppose $A'B'C'D'$ is the image of quadrilateral $ABCD$ under a translation.a. Are $ABCD$ and $A'B'C'D'$ congruent? _____b. Give two facts about \overline{AB} and $\overline{A'B'}$.

_____2. Under $T_{3,-2}$, what is the image of each point?a. $(5, -1)$ _____b. $(-3, 13)$ _____c. $(-9, 0)$ _____d. $(1.75, 1.25)$ _____**PROPERTIES** Objective G3. **Fill in the Blanks** Translate the following matrix addition into English.

$$\begin{bmatrix} -4 & -4 & -4 \\ 5 & 5 & 5 \end{bmatrix} + \begin{bmatrix} 3 & 0 & 1 \\ 2 & -2 & -5 \end{bmatrix} = \begin{bmatrix} -1 & -4 & -3 \\ 7 & 3 & 0 \end{bmatrix}$$

A triangle with vertices at _____, _____, and

_____ is translated _____ units _____

and _____ units _____. The vertices of the image are

_____, _____, and _____.

4. What matrix is associated with the translation of a triangle under $T_{6,-2}$? _____

5. What matrix is the identity matrix for translating pentagons in the plane? _____

PROPERTIES Objective H6. Line k is the image of the line $y = -4x + 1$ under a translation.What is the slope of line k ? _____7. Find an equation for the image of $y = x + 3$ under $T_{-1, \frac{2}{3}}$. _____

Name _____

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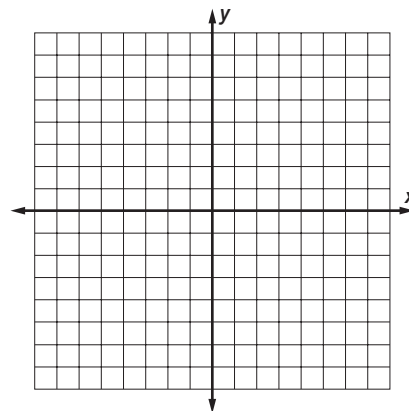
REPRESENTATIONS Objective K

8. The matrix $\begin{bmatrix} -3 & 0 & 2 & -1 \\ 1 & 0 & 3 & 6 \end{bmatrix}$ represents polygon $ABCD$.

a. Write the matrix that represents $T_{4,-1}$ for this polygon.

b. Apply the matrix that represents $T_{4,-1}$ to the matrix for the polygon. Write the resulting matrix.

c. Graph the preimage and image at the right.



9. The matrix $\begin{bmatrix} -1 & 4 & 2 & 0 & -5 \\ -1 & 0 & 3 & 3 & 2 \end{bmatrix}$ represents polygon $PQRST$.

a. Write the matrix that represents $T_{-3,-2}$ for this polygon.

b. Apply the matrix that represents $T_{-3,-2}$ to the matrix for the polygon. Write the resulting matrix.

c. Graph the preimage and image at the right.

