Name:_____

4.1 Translations

Directions: Complete all translations on a separate piece of graph paper.

1. The vertices of ΔLMN are L(2, 2), M(5, 3), N(9, 1). Translate ΔLMN using vector $\langle -2, 6 \rangle$

2. Graph $\overline{TU}$ with endpoints T(1, 2) and U(4, 6) and its image after the composition.
Translation: $(x, y) \rightarrow (x - 2, y - 3)$
Translation: $(x, y) \rightarrow (x - 4, y + 5)$

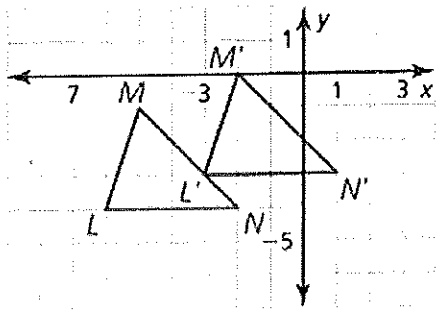
3. Graph ΔRST with vertices R(2, 2), S(5, 2), and T(3, 5) and its image after the translation $(x, y) \rightarrow (x + 1, y + 2)$.

4. Graph $\overline{VW}$ with endpoints V(-6, -4) and W(-3, 1) and its image after the composition.
Translation: $(x, y) \rightarrow (x + 3, y + 1)$
Translation: $(x, y) \rightarrow (x - 6, y - 4)$

5. The vertices of ΔDEF are D(2, 5), E(6, 3), and F(4,0). Translate ΔDEF using the given vector $\langle 5, -1 \rangle$. Graph the pre-image and the image.

6. Find the component form of the vector that translates P(-3,6) to P'(-4, 8).

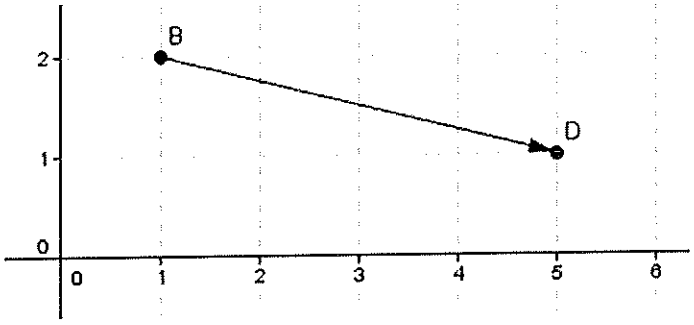
7. Write the rule for the translation of ΔLMN to $\Delta L'M'N'$.



8. What is the pre-image of D'(4, -3) using the translation $\langle -8, 4 \rangle$?

9. Graph ΔPQR with vertices P(-2, 3), Q(1, 2), and R(3, -1) and it's image after the translation $(x, y) \rightarrow (x + 9, y - 2)$.

10. Name the vector and write its component form.



11. Find the component from of the vector that translate A(7, 11) to A'(2, 13).

12. What is the image of Q(4, 2) if the rule is (x,y) -> (x + 5, y – 4).

13. What is the preimage of D' if the rule is (x, y) -> (x – 3, y – 6).

14. Write the equation of the line that passes through (1, 6) and (-1, 14).

15. Write the equation of the line that is perpendicular to y = 3x + 7 and passes through (-2, 5).

16. Find the midpoint of the segment with endpoints (2, 5) and (-4, 13).

17. Find the distance between the points (2, 5) and (-3, -7).