Homework: Translations and Reflections L.3
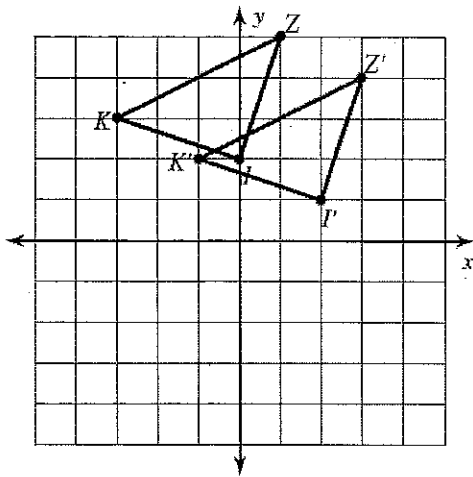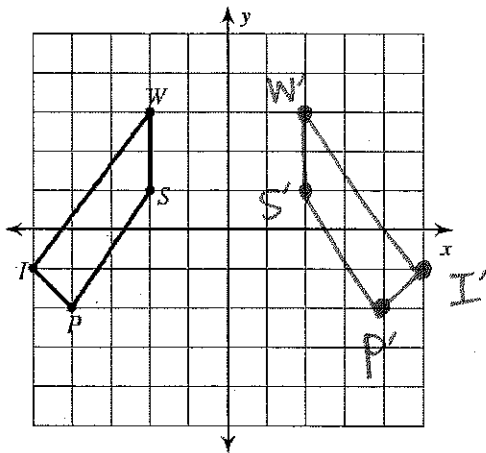
1. Describe the translation pictured below. Be sure to use mathematical language. Include details about direction and distance.

Triangle KZI was translated 2 units horizontally and −1 unit vertically to become triangle K'Z'I'.

2. Reflect the image below across the y axis. **Be sure to label the new points using prime notation.**

3. Which of the following is NOT true?

   A. The images are congruent. (true)

   B. $\overline{PS}$ has the same length as $\overline{P'S'}$ (true)

   C. ∠W is congruent to ∠W' (true)

   D. The x-axis is the line of reflection   y-axis

4. **Using mathematical language**, describe the sequence of transformation that took place in the picture below. Hint: Be sure to tell what type(s) of transformation took place. For translations, include distance and direction. For reflections, identify the line of reflection. Are the figures congruent?
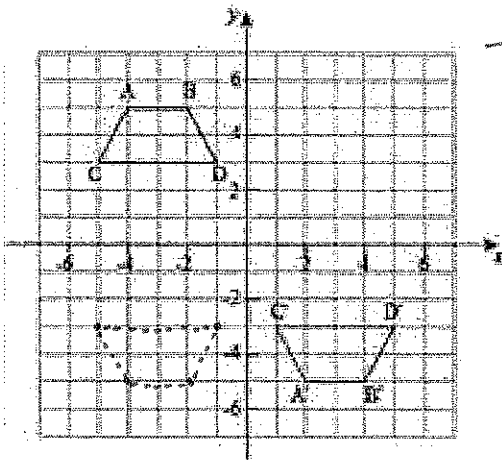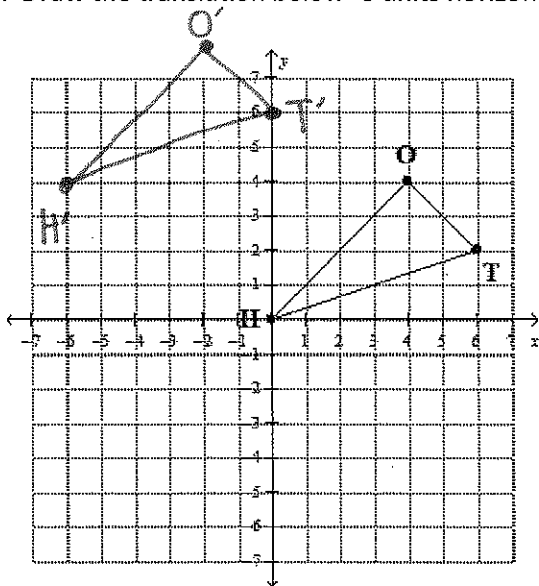
Trapezoid ABCD was reflected across the x-axis and then translated 6 units horizontally to become trapezoid A'B'C'D'.

5. Draw a translation of the figure below using the rule $(x, y) \rightarrow (x - 2, y + 4)$
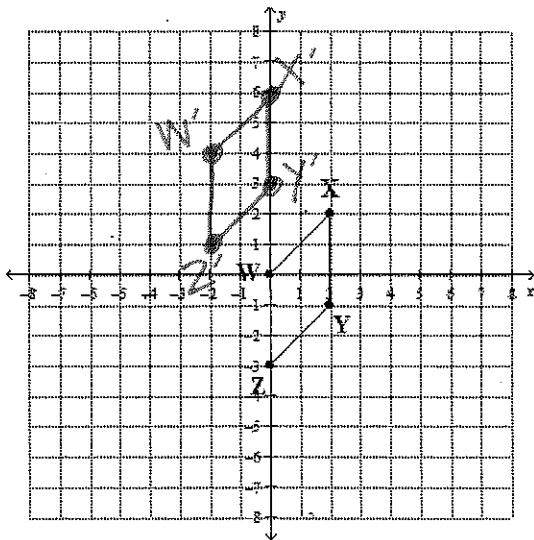

6. Draw the translation below -6 units horizontally and 4 units vertically.

Use the graph below to answer question 8-10.

7. Are the two figures similar or congruent? Justify your answer using mathematical language.

Triangles OHT and O'H'T' are congruent because each vertex of △OHT was translated −6 units horizontally & 4 units vertically (same distance & direction). Their corresponding lengths & angles are congruent.
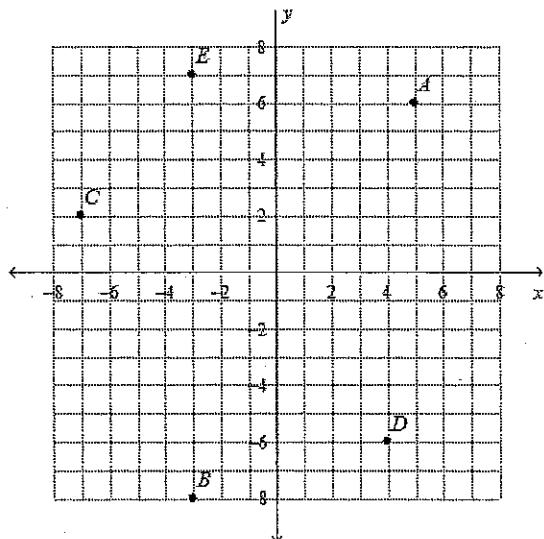
8. Write a rule to describe the movement from point A to point E.

$(x-8, y+1)$

9. Write a rule to describe the movement from point C to point A.

$(x+12, y+4)$

10. Write a rule to describe the movement from point B to point D.

$(x+7, y+2)$