Mr. Gunstenson

Math 7

SS7.5 Practice

1. Identify the coordinates of the vertices of figures P, Q, R, and S.
2. On a coordinate grid, draw the number 4. Write instructions for drawing the number using vertices and line segments.
3. Plot and connect the following pairs of points:
(0, 10) and (1, 0), (0, 9) and (2, 0), (0, 8) and (3, 0), (0, 7) and (4, 0).
Write the coordinates of the points that will complete the design. Plot and connect these points.
4. Draw the shape in #3 again, but this time in quadrants II, III, and IV. Use the same coordinate grid you used for #3.
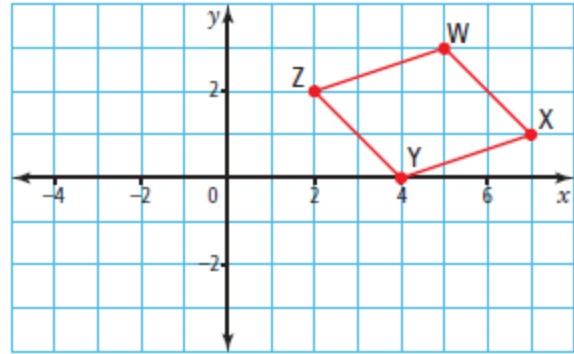5. What is the translation shown in each diagram?

a.

b.

c.

d.
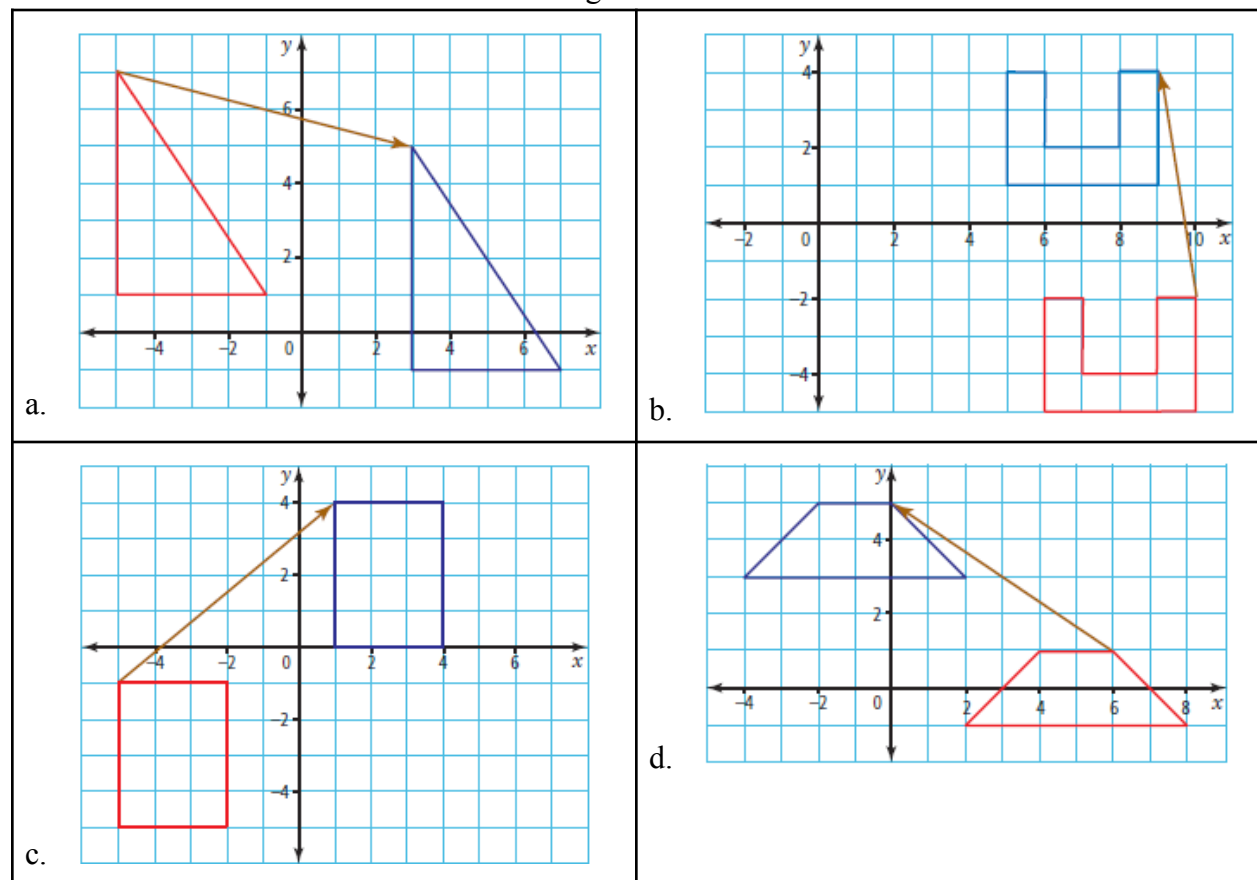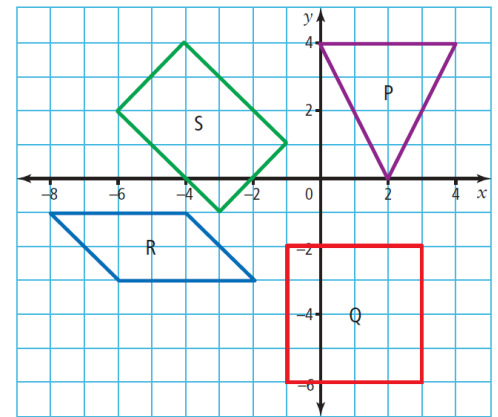
6. Translate figure PQRS 3 units right and 6 units down.
   a. What are the coordinates of the vertices in the translation image?
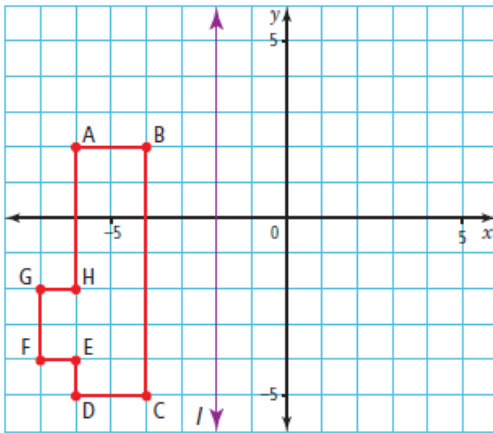   b. Draw the translation arrow.
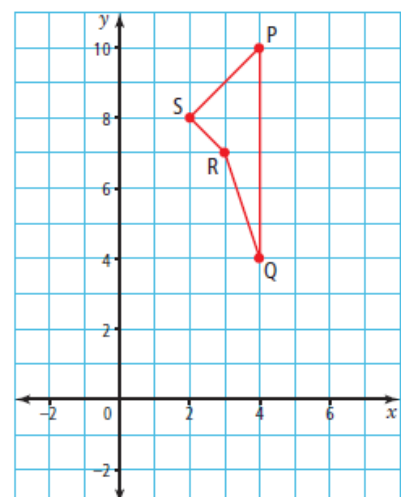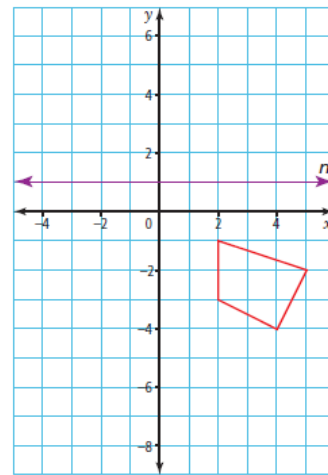
7. Translate WXYZ 6 units left and 3 units down.
   a. Identify the coordinates of the translation image.
   b. Draw the translation arrow.

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8. Draw the reflection image in line *l*.
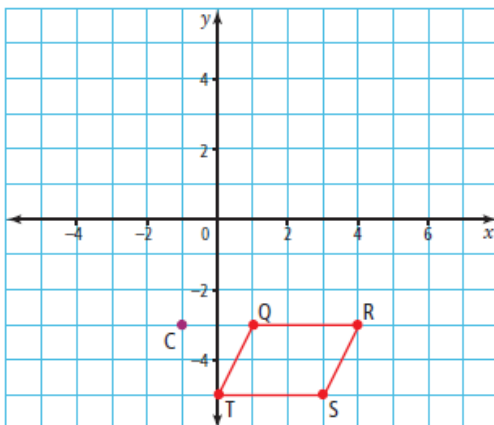What are the coordinates of A'B'C'D'E'F'G'H'?
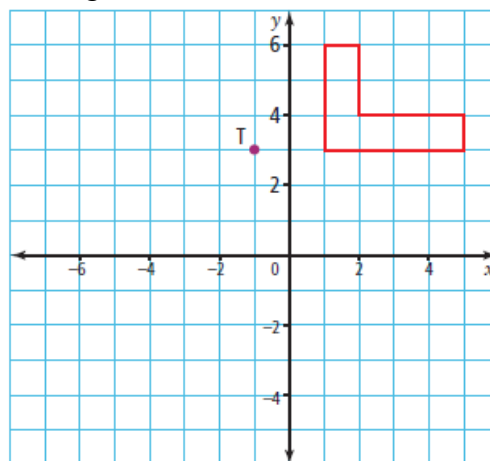
9. Draw the reflection image in line *n*.

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10. Rotate the parallelogram about C, 90° clockwise.
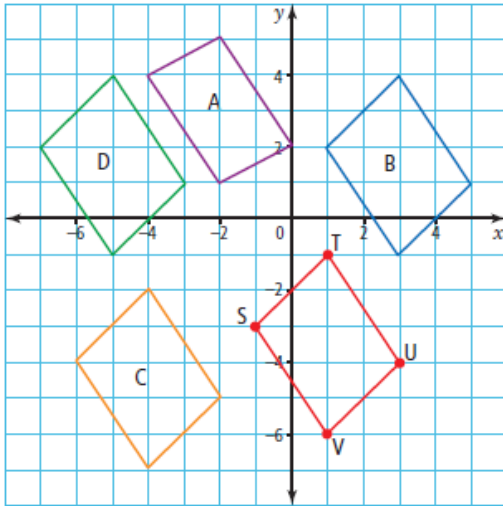What are the coordinates of Q'R'S'T'?

11. Rotate the figure about T, 180° clockwise.
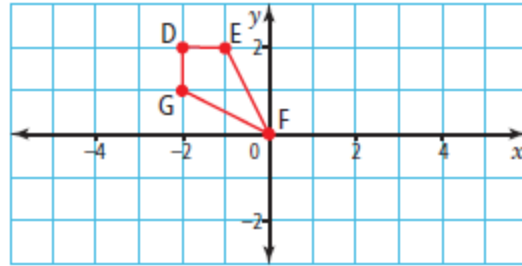Rotate the figure about T, 180° counterclockwise.

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12. Look at figures A, B, C, and D. Which are translation images of parallelogram STUV?

13. Reflect DEFG over the x-axis.
On the same coordinate grid, reflect these two

Draw the translation arrow to each image.
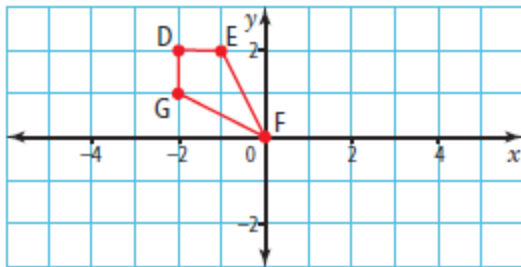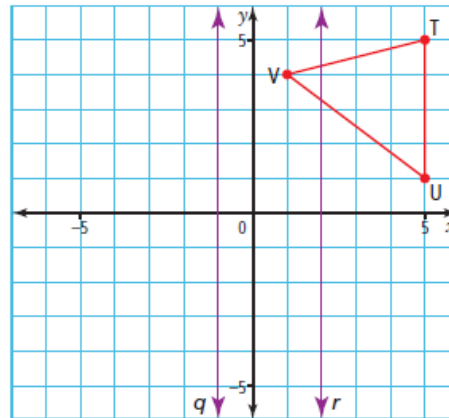Describe each translation in words.

figures over the y-axis.

14. Rotate DEFG 90° clockwise about the centre of rotation at (0, 0).
On the same coordinate grid, rotate DEFG 90° counterclockwise about (0, 0).
On the same coordinate grid, rotate DEFG 180° clockwise about (0, 0).

15. Reflect TUV in line of reflection q.
Reflect TUV in line of reflection r.

16. The plans for a new schoolyard have been drawn on a coordinate grid. The climbing equipment has been placed at coordinates M(-4, 4), N(-3, 5), R(-2, 4), P(-2, 2), and Q(-4, 2). The architect wants to move it into quadrant IV. Points M and Q will lie on the y-axis and point N will lie on the x-axis.
   a. Plot MNRPQ on a coordinate grid.
   b. Move MNRPQ to its new position.
   c. What translation would do this?
17. What are the horizontal and vertical movements of point S to each of the points A,B,C, and D?
18. Draw the square S(-5, -2), T(-3, -2), E(-3, -4), P(-5, -4).
   Translate the square 8 units to the right and 3 units down.
   Draw S' T' E' P'. What is the horizontal and vertical change in position from S to S' and from T to T'?