Geometry Unit 1
Task 4: Coordinating Translations

Create any polygon you want on the coordinate plane. Label the points A, B, C, etc. Then create polygons congruent to the one you designed using the three directions described below. Use the same coordinate plane for all transformations but draw each transformation in a different color.

1. For each vertex (x, y) of your original polygon, create its image at the coordinates $(x + 4, y)$.

2. For each vertex (x, y) of your original polygon, create its image at the coordinates $(x, y - 3)$.

3. For each vertex (x, y) of your original polygon, create its image at the coordinates $(x - 4, y + 1)$.

4. Describe the transformation you drew in *Problem 3* in words.

5. What kind of transformations are these?

6. Create a general rule with symbols for a horizontal translation.

7. Create a general rule with symbols for a vertical translation.

Hint: Use x, y and c, where c represents any constant, to create general rules for horizontal and vertical translations.