Think and Discuss

1. How are the coordinates of each vertex related to the coordinates of its image?

2. Make a conjecture about a general rule for a translation of 4 units right and 5 units down. That is, what do you think is the image of a general point (x, y) after a translation of 4 units right and 5 units down?

Try This

1. Place your quadrilateral on a coordinate plane. Trace the quadrilateral and write down the coordinates of its vertices. Then translate the quadrilateral 3 units left and 4 units up. Write down the coordinates of the vertices of the image. Then make a conjecture: What do you think is the image of a general point (x, y) after this translation?

Think and Discuss

1. How are the coordinates of each vertex related to the coordinates of its image?

2. Make a conjecture about a general rule for a reflection across the y-axis. That is, what do you think is the image of a general point (x, y) after a reflection across the y-axis?

Try This

1. Place your quadrilateral on a coordinate plane. Trace the quadrilateral and write down the coordinates of its vertices. Then reflect the quadrilateral across the x-axis. Write down the coordinates of the vertices of the image. Then make a conjecture: What do you think is the image of a general point (x, y) after a reflection across the x-axis?

Think and Discuss

1. How are the coordinates of each vertex related to the coordinates of its image?

2. Make a conjecture about a general rule for a rotation around the origin. That is, what do you think is the image of a general point (x, y) after a rotation around the origin?

Try This

1. Place your quadrilateral on a coordinate plane. Trace the quadrilateral and write down the coordinates of its vertices. Rotate the quadrilateral 90° counterclockwise around the origin. Write down the coordinates of the vertices of the image. Then make a conjecture: What do you think is the image of a general point (x, y) after a 90° counterclockwise rotation around the origin?