Translations You must translate each point as directed.

1. Identify the new coordinates of a figure on **A** (-9 , 9) **B** (-4 , 9) **C** (-10 , 5) **D** (-3 , 5) after it has been translated 6 units to the right.

   Answer:

2. Identify the new coordinates of a figure on **A** (-3 , 4) **B** (2 , 4) **C** (-4 , 0) **D** (3 , 0) after it has been translated 8 units down.

   Answer:

3. Identify the new coordinates of a figure on **A** (2 , -1) **B** (7 , -1) **C** (1 , -5) **D** (8 , -5) after it has been translated 6 units to the left.

   Answer:

4. Identify the new coordinates of a figure on **A** (0 , -5) **B** (5 , -5) **C** (-1 , -9) **D** (6 , -9) after it has been translated 10 units up.

   Answer:

5. Discuss the relationship you between the change in the ordered pair for each vertex, and the direction and number of units the shape was moved.

   Answer:

Reflections You must reflect each point as directed.

1. Identify the new coordinates of a figure on **A** (-7 , 5) **B** (-2 , 5) **C** (-8 , 1) **D** (-1 , 1) after a reflection over the x-axis.

   Answer:

2. Identify the new coordinates of a figure on **A** (3 , -1) **B** (8 , -1) **C** (2 , -5) **D** (9 , -5) after a reflection over the y-axis.

   Answer:

3. Identify the new coordinates of a figure on **A** (-3 , 9) **B** (2 , 9) **C** (-4 , 5) **D** (3 , 5) after a vertical reflection over $x = -3$.

   Answer:

4. Identify the new coordinates of a figure on **A** (4 , 8) **B** (9 , 8) **C** (3 , 4) **D** (10 , 4) after a horizontal reflection over $y = 2$.

   Answer:

5. Discuss the relationship between the change in the ordered pair for each vertex, and the axis over which the shape was reflected.

   Answer:

Rotations: You must rotate each point as directed.

1. Identify the new coordinates of a figure on **A** (-8 , 6) **B** (-3 , 6) **C** (-9 , 2) **D** (-2 , 2) after a 90° clockwise rotation around the origin.

   Answer:

2. Identify the new coordinates of a figure on **A** (7 , -5) **B** (2 , -5) **C** (8 , -1) **D** (1 , -1) after a 90° counterclockwise rotation around the origin.

   Answer:

3. Identify the new coordinates of a figure on **A** (-3 , -5) **B** (-8 , -5) **C** (-2 , -1) **D** (-9 , -1) after a 180° rotation around the origin.

   Answer:

4. Identify the new coordinates of a figure on **A** (-6 , 0) **B** (-1 , 0) **C** (-7 , -4) **D** (0 , -4) after a 270° counter clockwise rotation around point D.

   Answer:

5. Discuss the relationship between the change in the ordered pair for each vertex, and the direction and/or degree of the rotation.

   Answer:

Dilations: You must rotate each point as directed.

1. Write the algebraic representation if a figure is dilated with a scale factor of 4.3

   Answer:

2. Write the algebraic representation if a figure is dilated with a scale factor of $^1/_3$

   Answer:

3. Which algebraic representation represents a dilation?

   A. $(x, y) \rightarrow (x + 4, y - 3)$
   C. $(x, y) \rightarrow (^1/_2x, ^1/_2y)$
   B. $(x, y) \rightarrow (y, -x)$
   D. $(x, y) \rightarrow (-x, -y)$

   Answer:

4. Which algebraic representation represents a reduction?

   A. $(x, y) \rightarrow (^3/_4x, ^3/_4y)$
   C. $(x, y) \rightarrow (x + 3, y - 4)$
   B. $(x, y) \rightarrow (3.4x, 3.4y)$
   D. $(x, y) \rightarrow (x - 4, y + 3)$

   Answer:

5. Which algebraic representation represents an enlargement?

   A. $(x, y) \rightarrow (x + 4, y - 3)$
   C. $(x, y) \rightarrow (^1/_2x, ^1/_2y)$
   B. $(x, y) \rightarrow (x + 7, y + 5)$
   D. $(x, y) \rightarrow (^8/_3x, ^8/_3y)$

   Answer: