

Reflection on
the x-axis

Reflection on
the y-axis

Reflection on
the $y=x$

Reflection on
the $y=-x$

If (a, b) is reflected over the x-axis, its image is the point $(a, -b)$

Example - Reflect the points over the x-axis

$$(x, y) \rightarrow (x, -y)$$

$$(4, 2) \rightarrow (4, -2)$$

$$(-6, 1) \rightarrow (-6, -1)$$

$$(-2, -4) \rightarrow (-2, 4)$$

If (a, b) is reflected over the y-axis, its image is the point $(-a, b)$

Example - Reflect over the y-axis

$$(4, 2) \rightarrow (-4, 2)$$

$$(-6, 1) \rightarrow (6, 1)$$

$$(-2, -4) \rightarrow (2, -4)$$

If (a, b) is reflected over $y = x$ the point is (b, a)

Example:

$$(4, 2) \rightarrow$$

$$(-6, 1) \rightarrow$$

$$(-2, -4) \rightarrow$$

If (a, b) is reflected over $y = -x$ the point is $(-b, -a)$

Example:

$$(4, 2) \rightarrow$$

$$(-6, 1) \rightarrow$$

$$(-2, -4) \rightarrow$$