

Change to Coordinate Point	Type of Transformation	Type of Transformation	Change to Coordinate Point
$(x, y) \rightarrow (x, y + d)$	Vertical translation up d units	Vertical translation down d units	$(x, y) \rightarrow (x, y - d)$
$(x, y) \rightarrow (x, y + c)$	Horizontal translation left c units	Horizontal translation right c units	$(x, y) \rightarrow (x, y - c)$
$(x, y) \rightarrow (x, -y)$	Reflection over x -axis	Reflection over y -axis	$(x, y) \rightarrow (-x, y)$
$(x, y) \rightarrow (x, ay)$	Vertical stretch for $ a > 1$ Vertical compression for $0 < a < 1$	Horizontal compression for $ b > 1$ Horizontal stretch for $0 < b < 1$	$(x, y) \rightarrow (x/b, y)$