

Translations...

The graph of $y = f(x) + k$ is the graph of $y = f(x)$ but shifted up k units.

The graph of $y = f(x) - k$ is the graph of $y = f(x)$ but shifted down k units.

The graph of $y = f(x + k)$ is the graph of $y = f(x)$ but shifted to the left k units.

The graph of $y = f(x - k)$ is the graph of $y = f(x)$ but shifted to the right k units.

Compressions and stretches...

The graph of $y = cf(x)$ is the graph of $y = f(x)$ but stretched vertically by a factor of c .

The graph of $y = \frac{f(x)}{c}$ is the graph of $y = f(x)$ but compressed vertically by a factor of c .

The graph of $y = f(cx)$ is the graph of $y = f(x)$ but compressed horizontally by a factor of c .

The graph of $y = f\left(\frac{x}{c}\right)$ is the graph of $y = f(x)$ but stretched horizontally by a factor of c .

Flips...

The graph of $y = -f(x)$ is the graph of $y = f(x)$ but flipped vertically (across x -axis).

The graph of $y = f(-x)$ is the graph of $y = f(x)$ but flipped horizontally (across y -axis).

OR, sorted by horizontal/vertical

Vertical...

The graph of $y = f(x) + k$ is the graph of $y = f(x)$ but shifted up k units.

The graph of $y = f(x) - k$ is the graph of $y = f(x)$ but shifted down k units.

The graph of $y = cf(x)$ is the graph of $y = f(x)$ but stretched vertically by a factor of c .

The graph of $y = \frac{f(x)}{c}$ is the graph of $y = f(x)$ but compressed vertically by a factor of c .

The graph of $y = -f(x)$ is the graph of $y = f(x)$ but flipped vertically (across x -axis).

Horizontal...

The graph of $y = f(x + k)$ is the graph of $y = f(x)$ but shifted to the left k units.

The graph of $y = f(x - k)$ is the graph of $y = f(x)$ but shifted to the right k units.

The graph of $y = f(cx)$ is the graph of $y = f(x)$ but compressed horizontally by a factor of c .

The graph of $y = f\left(\frac{x}{c}\right)$ is the graph of $y = f(x)$ but stretched horizontally by a factor of c .

The graph of $y = f(-x)$ is the graph of $y = f(x)$ but flipped horizontally (across y -axis).

Notice... All vertical transformations...

And all horizontal transformations...

And also, the horizontal transformations work in the opposite way that it may seem they should.