

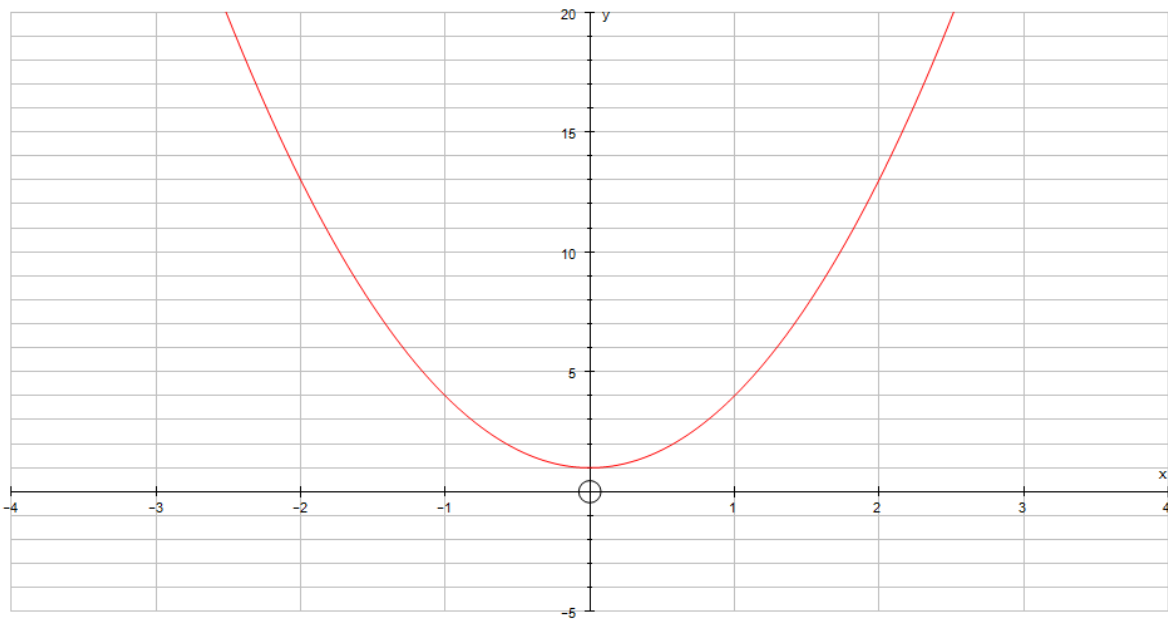
Transformations

On each of the grids, I have drawn $f(x) = 3x^2 + 1$

By completing the table, plot the new curve on the grid. Then describe the transformation which takes the original graph to the new one.

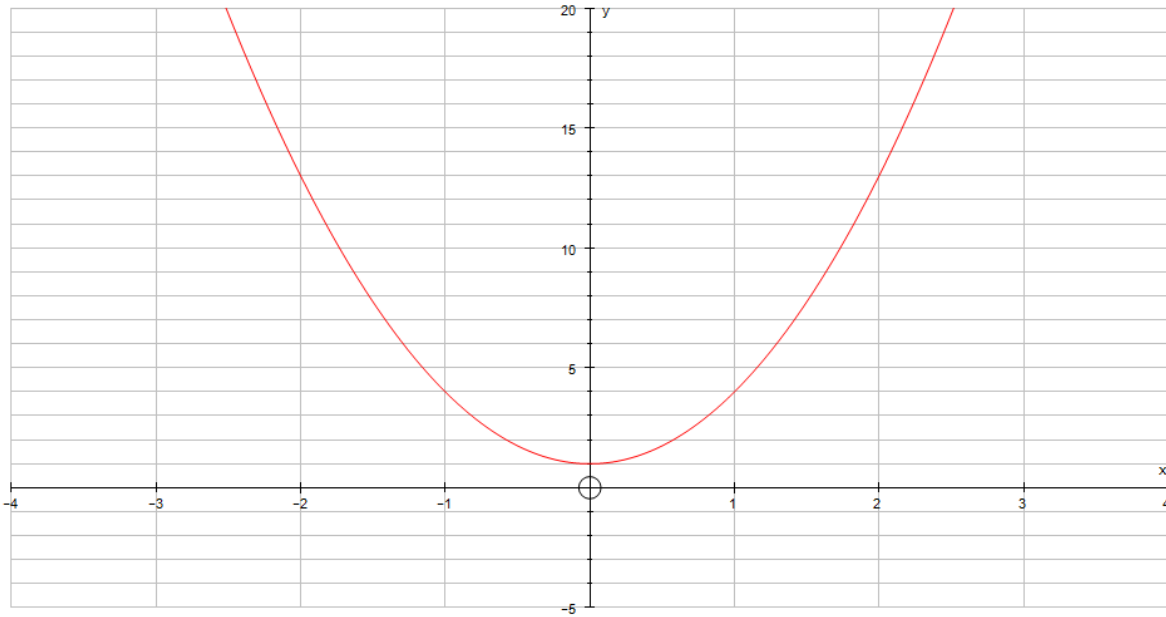
$$f(x) + 3 = 3x^2 + 1 + 3 = 3x^2 + 4$$

-3	-2	-1	0	1	2	3



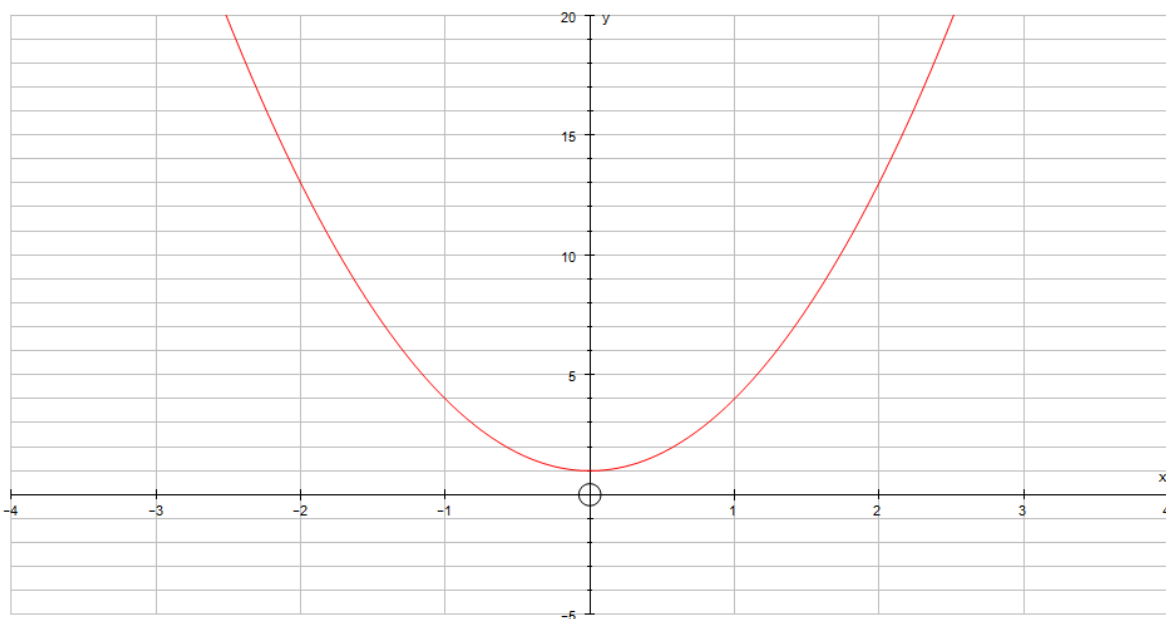
$$f(x) - 2 = 3x^2 + 1 - 2 = 3x^2 - 1$$

-3	-2	-1	0	1	2	3



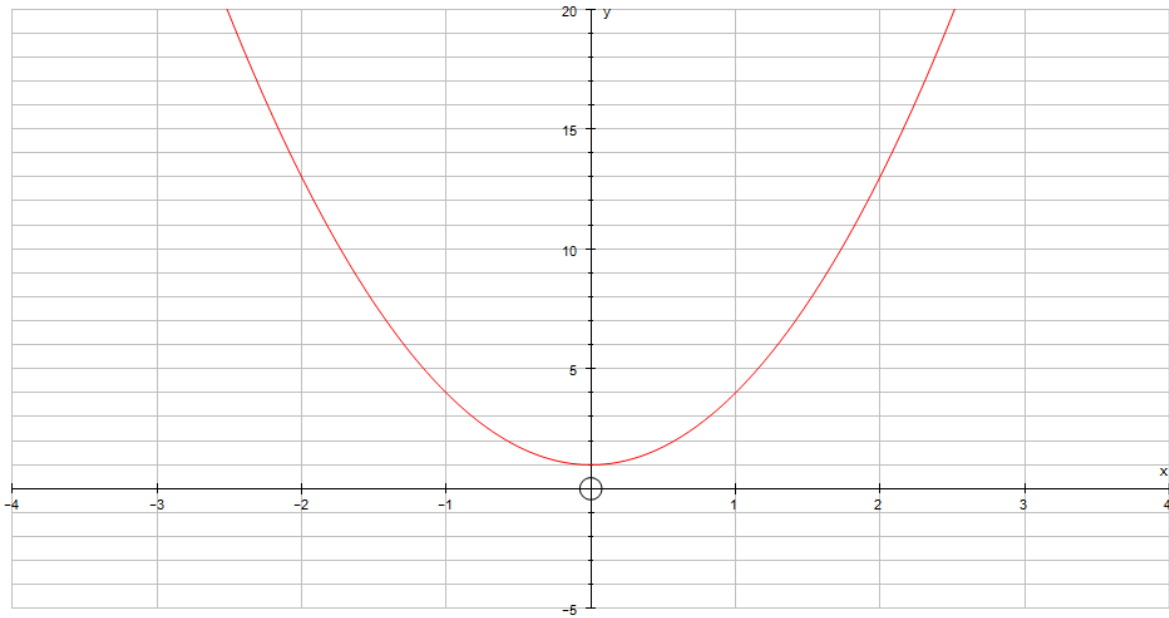
$$f(x+2) = 3(x+2)^2 + 1$$

-3	-2	-1	0	1	2	3



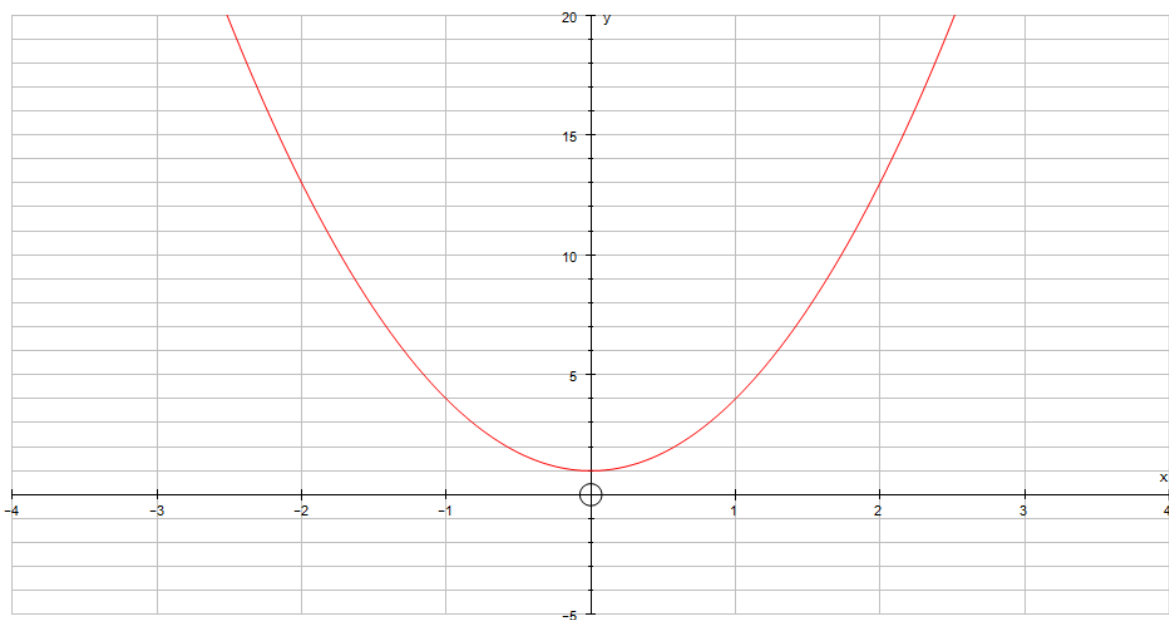
$$f(x-2) = 3(x-2)^2 + 1$$

-3	-2	-1	0	1	2	3



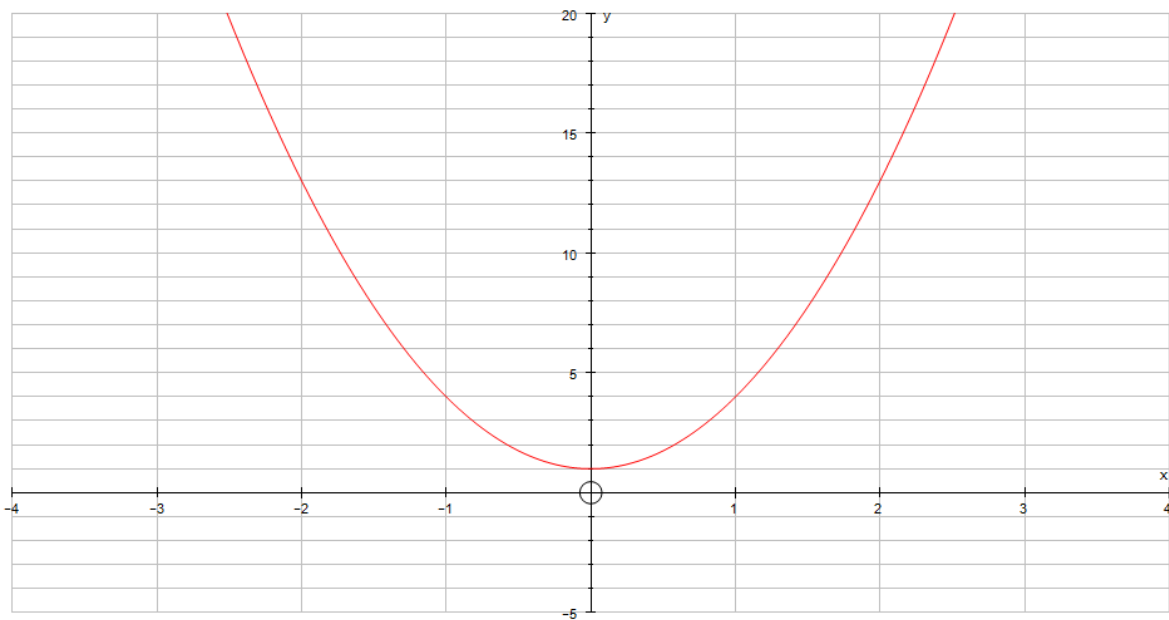
$$3f(x) = 3(3x^2 + 1) = 9x^2 + 3$$

-3	-2	-1	0	1	2	3



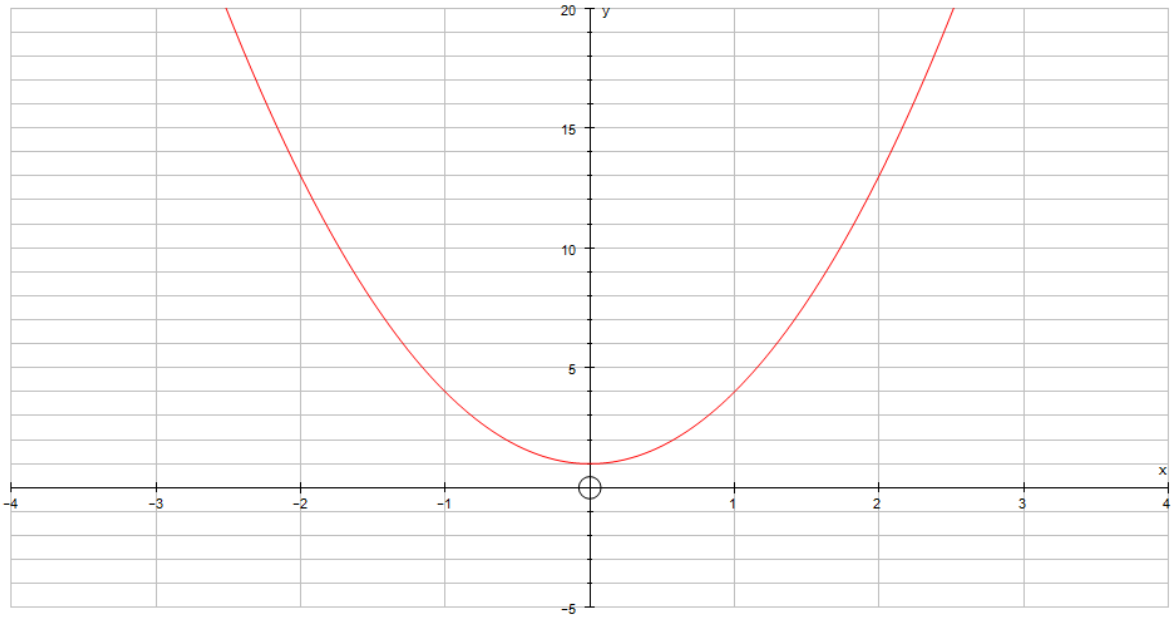
$$f(2x) = 3(2x)^2 + 1$$

-3	-2	-1	0	1	2	3



$$-f(x) = -3x^2 - 1$$

-3	-2	-1	0	1	2	3



$$f(-x) = 3(-x)^2 + 1$$

-3	-2	-1	0	1	2	3

