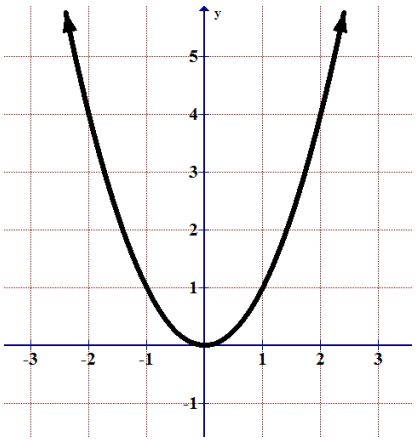
Quick review of transformations

Let's start with a parabola!!



$$y = a(x - h)^2 + k$$

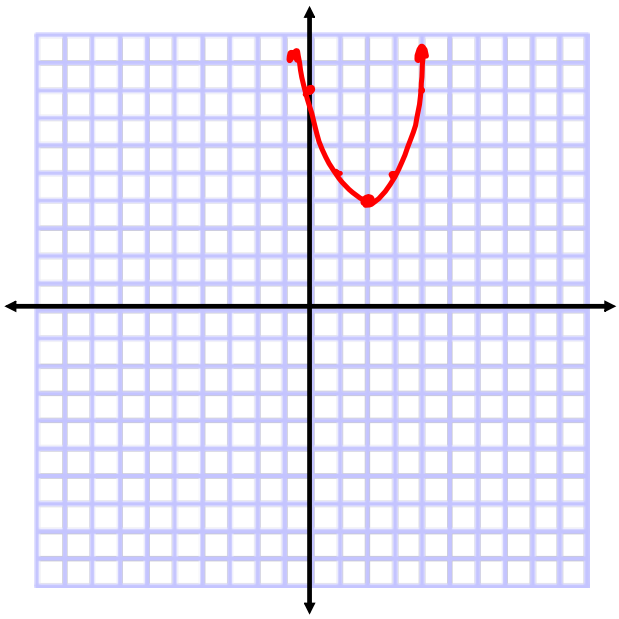
- a: vertical stretch or shrink
- h: horizontal left or right
- k: vertical up or down

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

Graph:

$y = (x - 2)^2 + 4$

V: (2, 4)

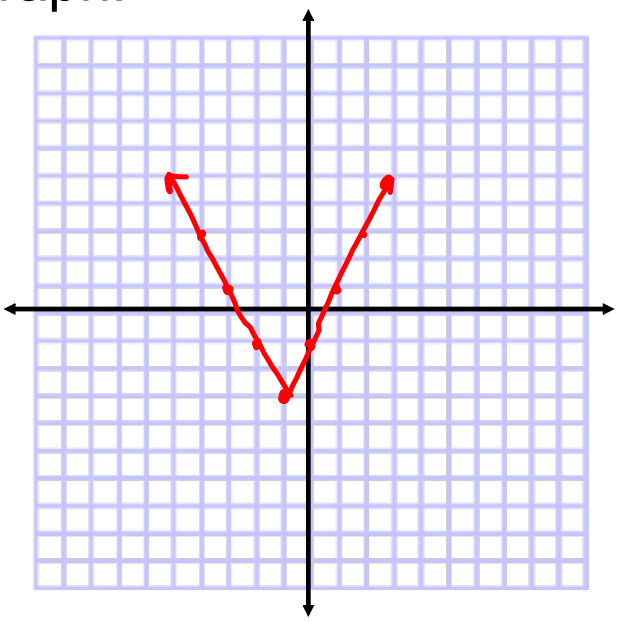


Use the same idea to graph:

$y = 2|x + 1| - 3$

T h K

V: (-1, -3)



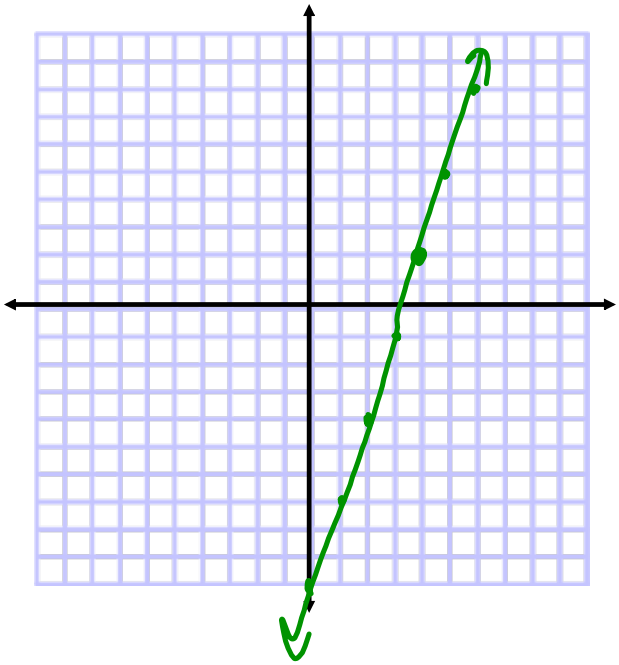
Same idea but with a line.

$y = 3x - 12 + 2$

$y = 3(x - 4) + 2$

m h k

(4, 2)



Sometimes referred to as

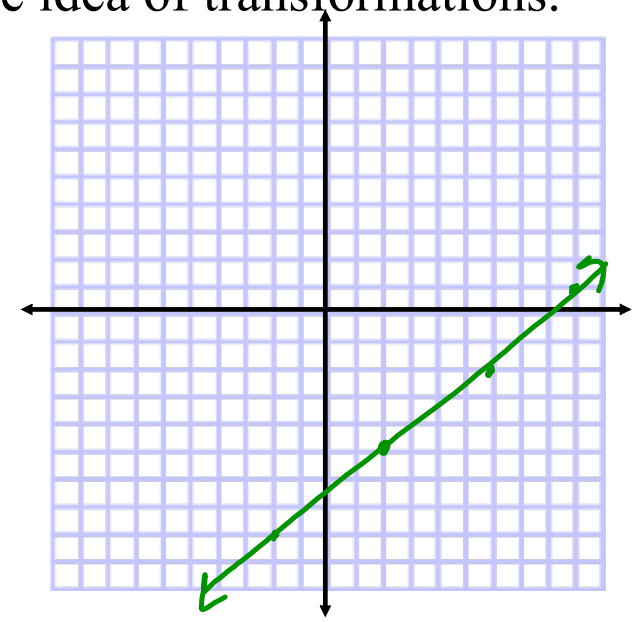
point - slope form

$$y - y_1 = m(x - x_1)$$

Graph and write the equation of the line with the given information. Use the idea of transformations. (point - slope)

(2, -5) $m = \frac{3}{4}$

$y = \frac{3}{4}(x - 2) - 5$



Write the equation for the line that passes through the given points. Use the idea of transformations.

A (5, 4) and B (-6, -3)

$m = \frac{4+3}{5+6} = \frac{7}{11}$

$y = \frac{7}{11}(x-5)+4$ ★

$y = \frac{7}{11}(x+6)-3$ ★