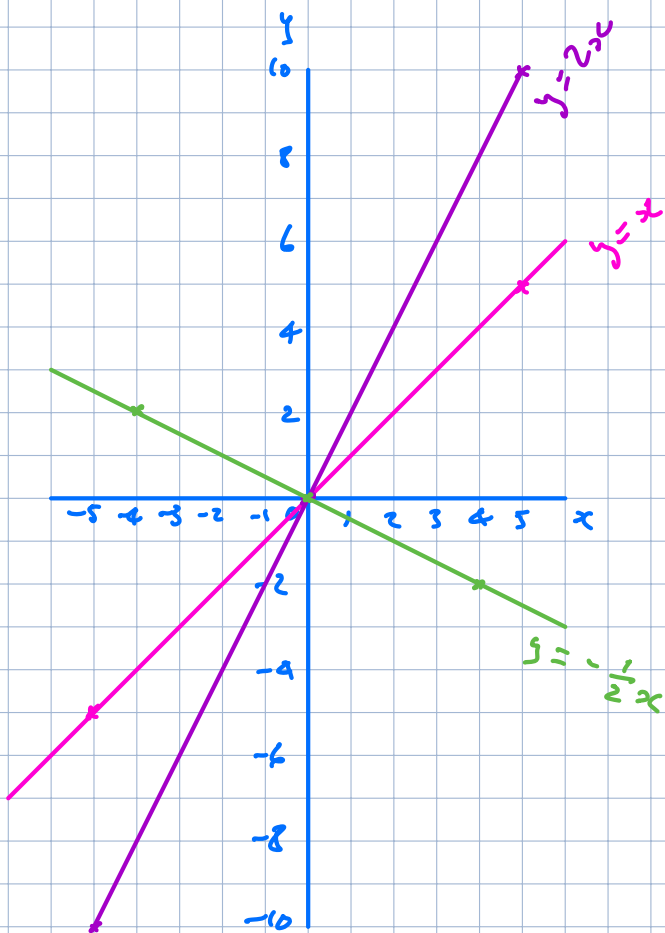


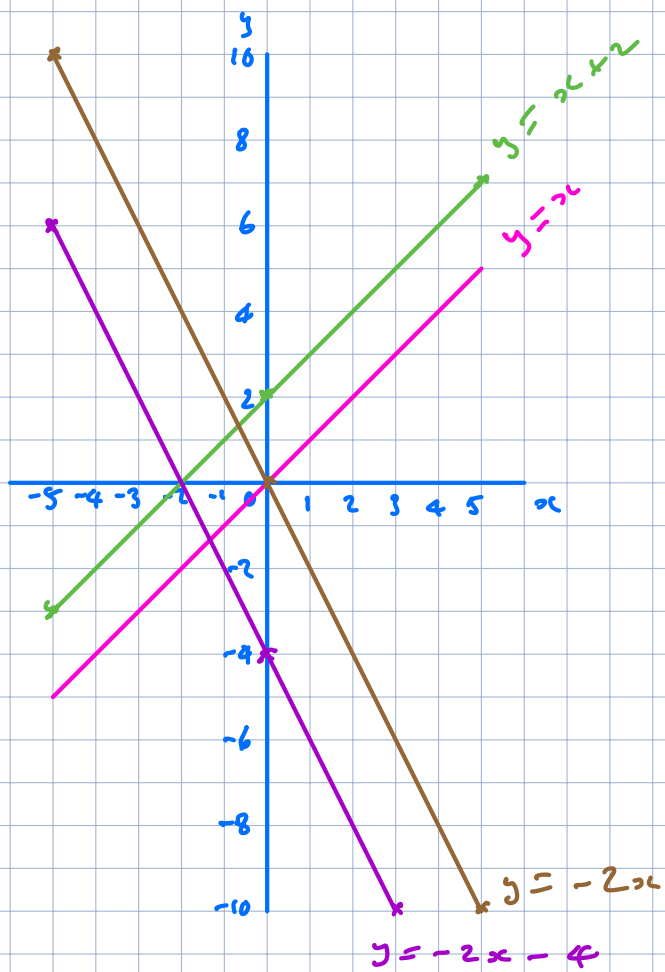
Straight Line Graphs



$y = x$	x	-5	0	5
	y	-5	0	5

$y = 2x$	x	-5	0	5
	y	-10	0	10

$y = -\frac{1}{2}x$	x	-4	0	4
	y	2	0	-2



$y = x$				
$y = x + 2$	x	-5	0	5
	y	-3	2	7

$y = -2x$	x	-5	0	5
	y	10	0	-10

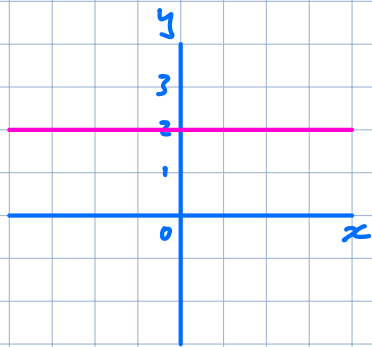
$y = -2x - 4$	x	-5	0	3
	y	6	-4	-10

$$y = mx + c$$

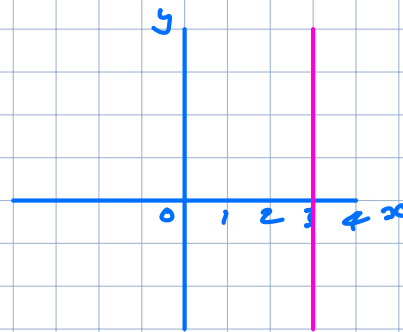
↑
gradient
↑
y-intercept

This is a standard form of the straight line

Vertical and Horizontal Lines



$$y = 2$$



$$x = 3$$

Horizontal Lines

$$y = \text{constant}$$

Vertical Lines

$$x = \text{constant}$$

Exploring $y = mx + c$

$0 < m < 1$ slope with x -axis $< 45^\circ$ shallow

$m = 1$ slope $= 45^\circ$

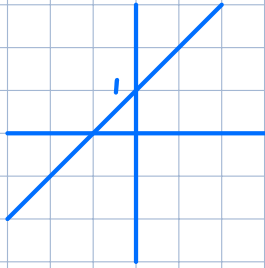
$m > 1$ slope $> 45^\circ$ steep

m negative slope backwards

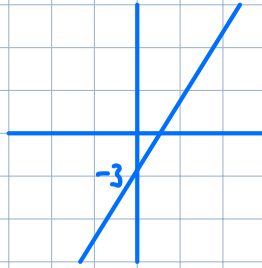
m positive slope forwards

Example Sketches

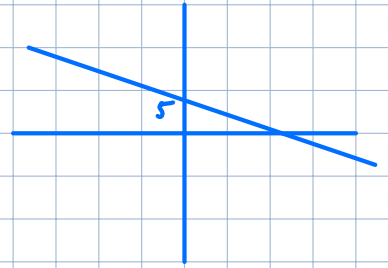
$$y = x + 1$$



$$y = 2x - 3$$

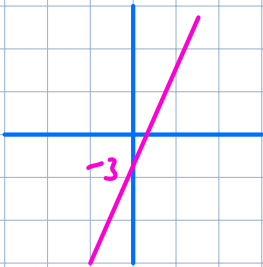


$$y = -\frac{1}{4}x + 5$$

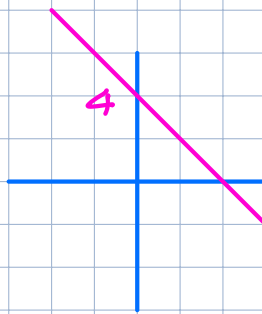


Exercise

$$y = 4x - 3$$



$$y = -x + 4$$



$$y = \frac{1}{2}x + 3$$

