The equation of a Line in "***slope y-intercept***" form is written:

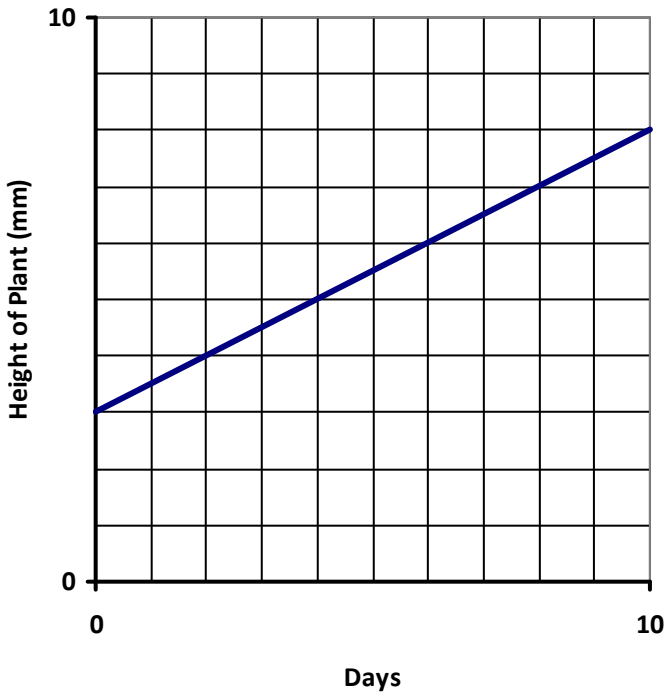
$$y = mx + b$$

1 For example, explain what each of the different parts in the following cost equation might represent (follow the pattern above!)

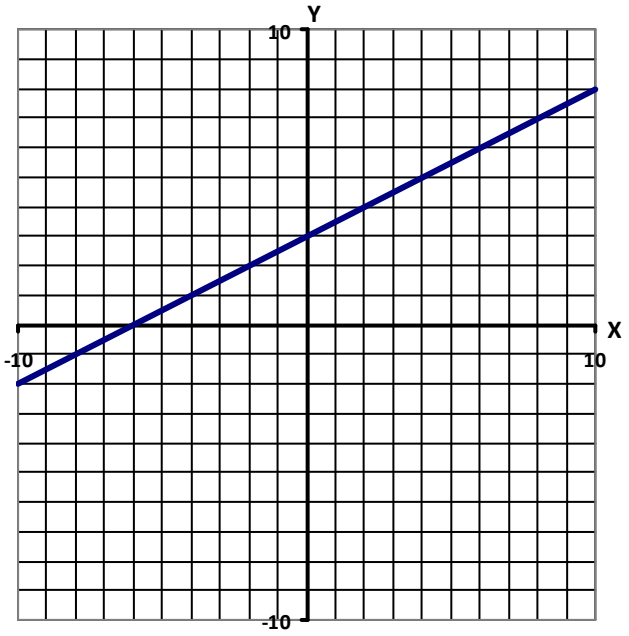
$$C = 15n + 100$$

Lines on a Cartesian Plane

2



3



Initial Value: _____

_____: _____
(Initial Value)

Rate of Change: _____

_____: _____
(Rate of Change)

Equation: _____

Equation: _____

Equation of a Line

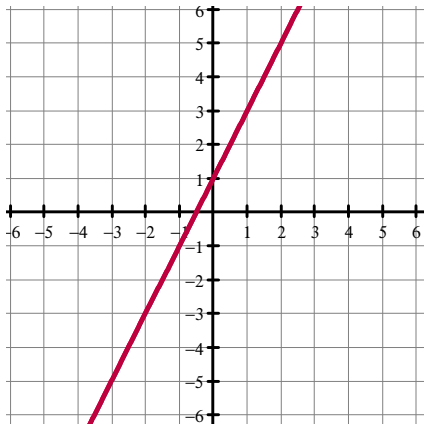
4 Determine the equation of each of the following lines.

a) Slope = 3
Y-Intercept = 10

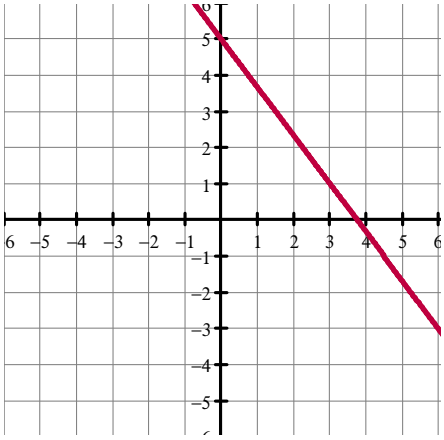
b) Slope = $\frac{2}{3}$
Y-Intercept = –4

c) m = –7
b = –11

d)



e)



5 Write the equation of the line using the given information.

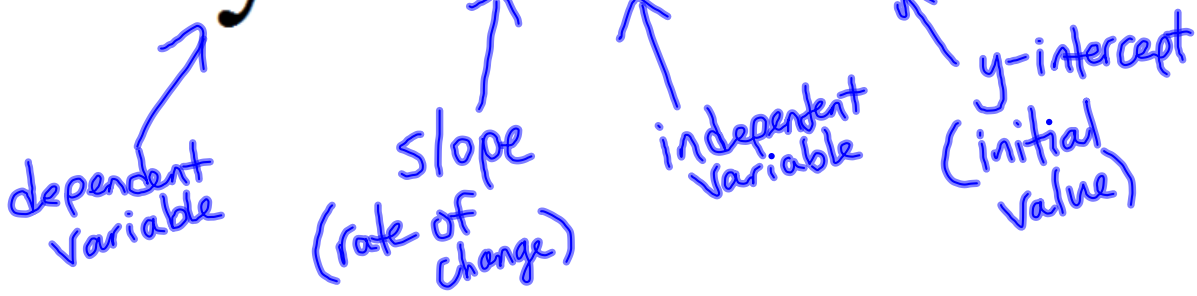
	Slope (m)	Y-intercept (b)	Equation
a)	–3	6	
b)	$\frac{1}{4}$	–1	
c)	9	(0, –4)	

6 Identify the slope and y-intercept.

	Slope (m)	Y-intercept (b)	Equation
a)			y = ½x – 9
b)			y = –5x + ¾

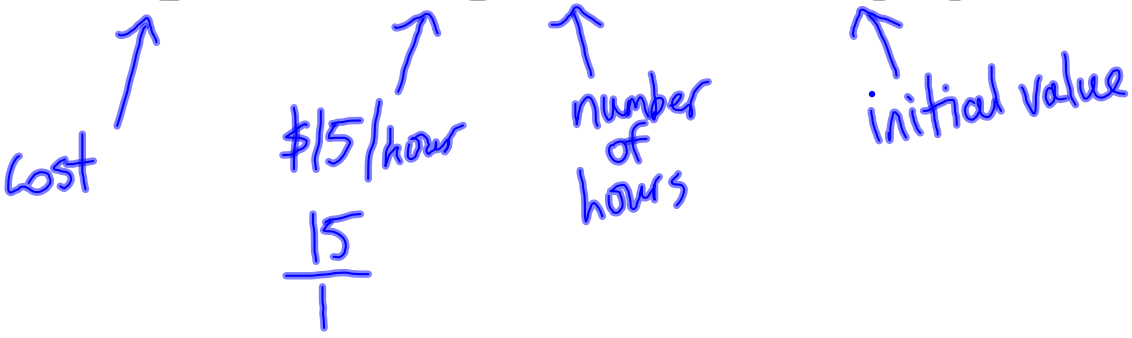
The equation of a Line in "***slope y-intercept***" form is written:

$$y = mx + b$$



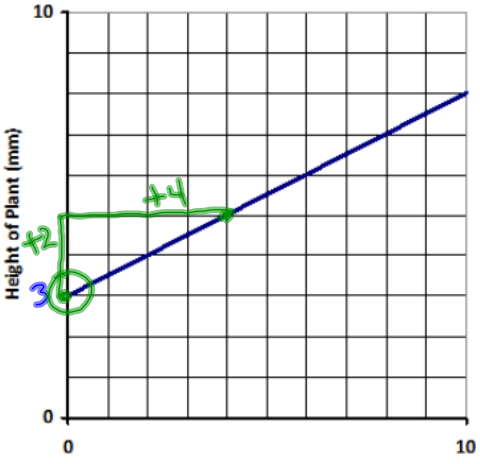
For example, explain what each of the different parts in the following cost equation might represent (follow the pattern above!)

$$C = 15n + 100$$



Lines on a Cartesian Plane

2



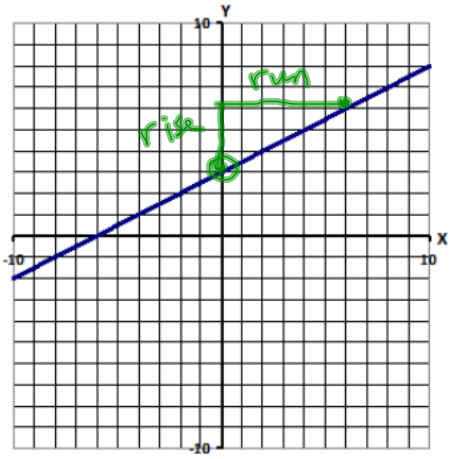
Initial Value: 3mm

Rate of Change: $\frac{2}{4}=\frac{1}{2}=0.5\text{mm/day}$

Equation: $H=3+0.5d$

$y=0.5x+3$

3



y-intercept (b) 3
(Initial Value)

slope $\frac{3}{6}=\frac{1}{2}$
(Rate of Change)

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

Equation of a Line

4 Determine the equation of each line using their slope and y-intercept.

a) Slope = 3
y-intercept = 10

$y = mx + b$

$y = 3x + 10$

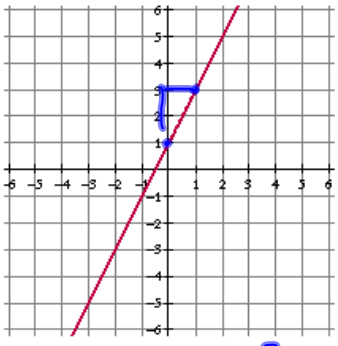
b) Slope = $\frac{2}{3}$
y-intercept = –4

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

c) m = –7
b = –11

$y = -7x - 11$

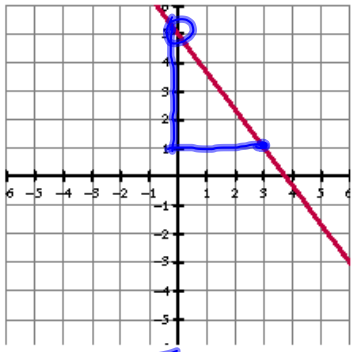
d)



$b=1 \quad m=\frac{2}{1}$

$y=2x+1$

e)



$b=5 \quad m=\frac{-4}{3}$

$y=-\frac{4}{3}x+5$

5 Write the equation of each line given the following information.

	Slope (m)	y-intercept (b)	Equation
a)	-3	6	$y=-3x+6$
b)	$\frac{1}{4}$	-1	$y=\frac{1}{4}x-1$
c)	9	$(0,-4)$ -4	$y=9x-4$

6 Identify the slope and y-intercept for each equation below.

	Slope (m)	y-intercept (b)	Equation
a)	$m = \frac{1}{2}$	$b = -9$	$y = \frac{1}{2}x - 9$
b)	$m = -5$	$b = \frac{3}{4}$	$y = -5x + \frac{3}{4}$