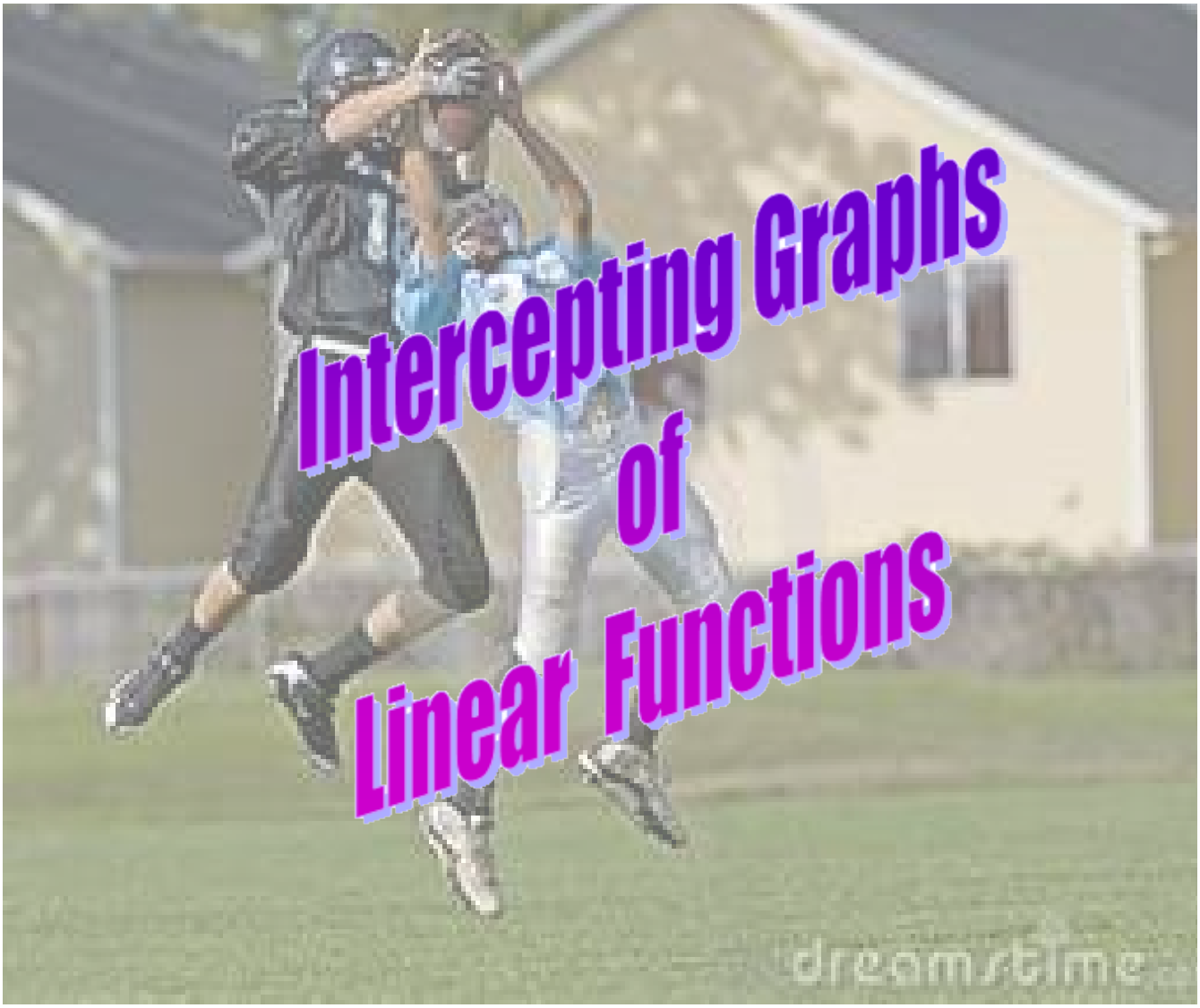

Intercepting Graphs
of
Linear Functions
dreamstime

Intercepts

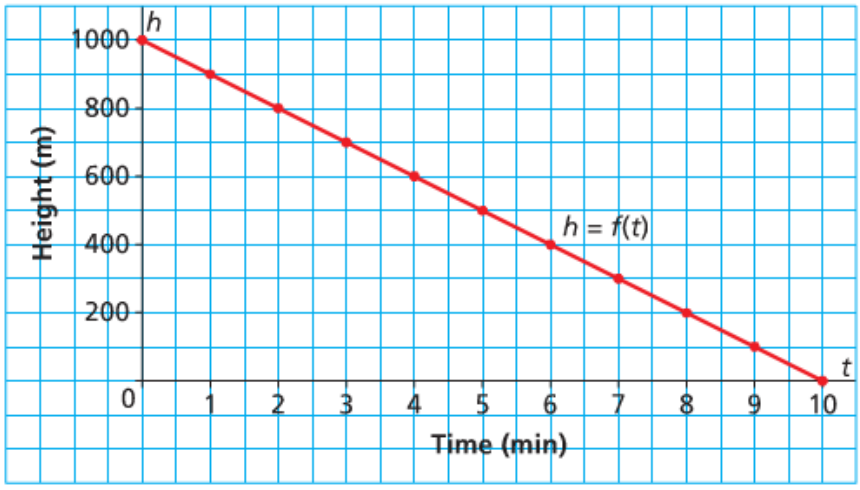
Horizontal intercept -

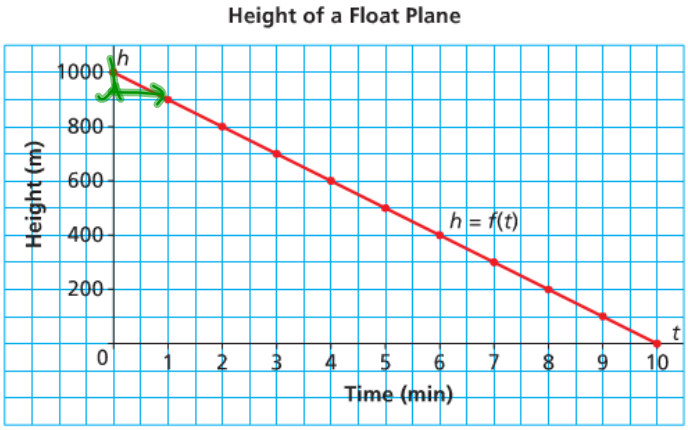
The point where the graph intersects (crosses) the horizontal axis (x-axis)

Vertical Intercept -

The point where the graph intersects (crosses) the vertical axis (y-axis)

Float planes fly into remote lakes in Canada's Northern wilderness areas for ecotourism. This graph shows the height of a float plane above a lake as the plane descends to land.





a) What is the vertical intercept? (y - intercept)
What does this represent?

vertical int = 1000 or y-int = 1000

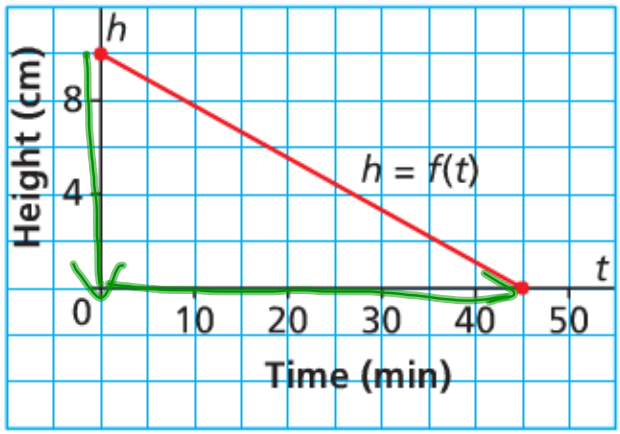
b) What is the horizontal intercept? (x - intercept)
What does this represent?

hor. int = 10 min X-int = 10

c) What is the rate of change? What does this represent?

$\frac{\text{rise}}{\text{run}}$ $\frac{-100}{1} = -100$ m/min

This graph shows how the height of a burning candle changes with time.



a) What is the horizontal intercept? What does this represent?

horint = 45

b) What is the point of the horizontal intercept?

(45, 0)

c) What is the vertical intercept? What does this represent?

vertical int = 10

d) What is the point of the vertical intercept?

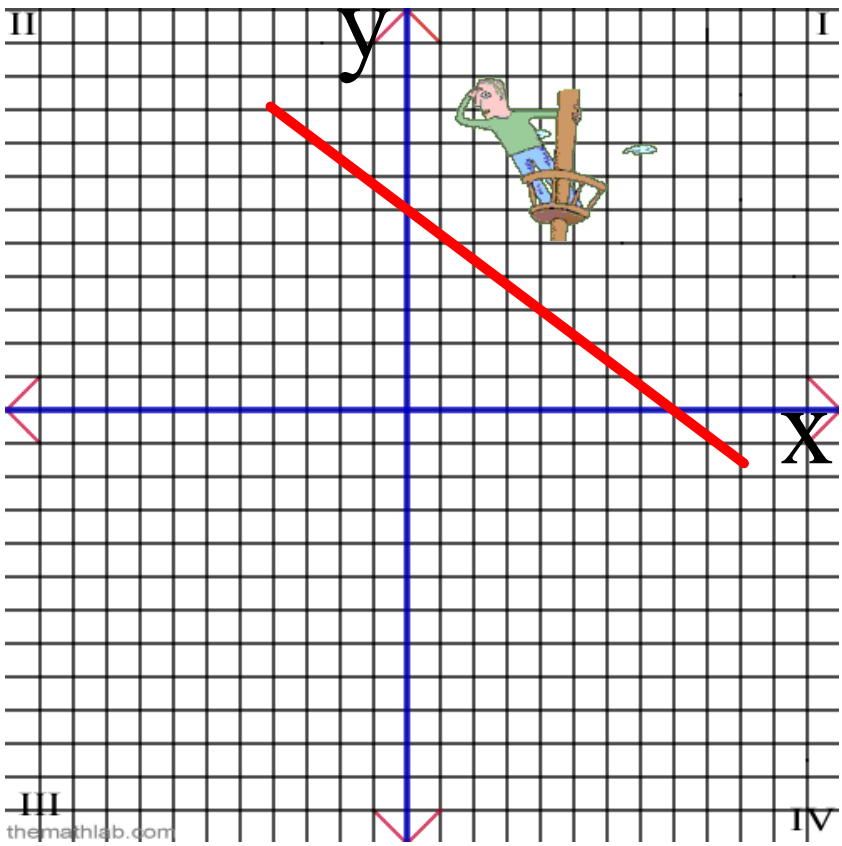
(0, 10)

e) What is the rate of change?

$\frac{-10}{45}$ -0.22 cm/min

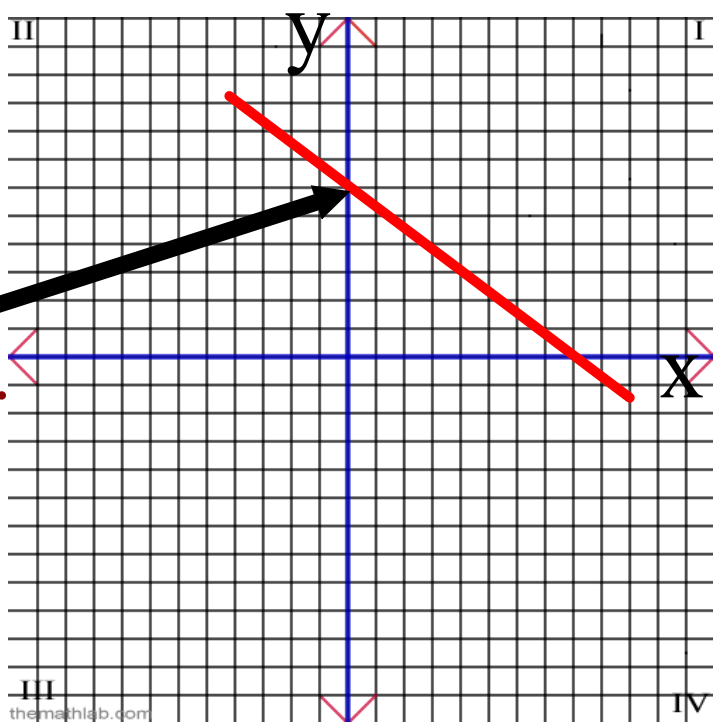
Intercepts

Can you see any intercepts?



Intercepts

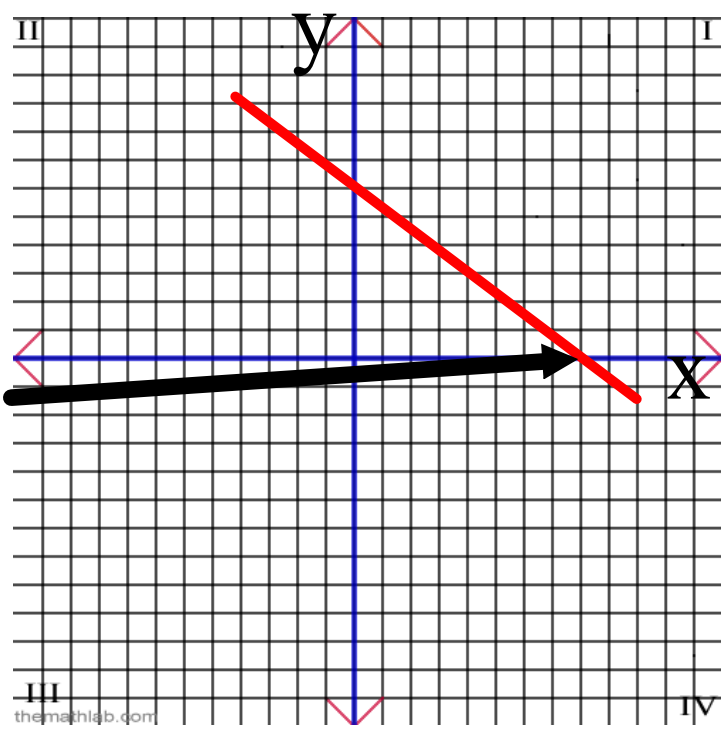
The "y-intercept" is the point on the line that crosses the"y" axis. (vertical axis)



y-intercept = _____

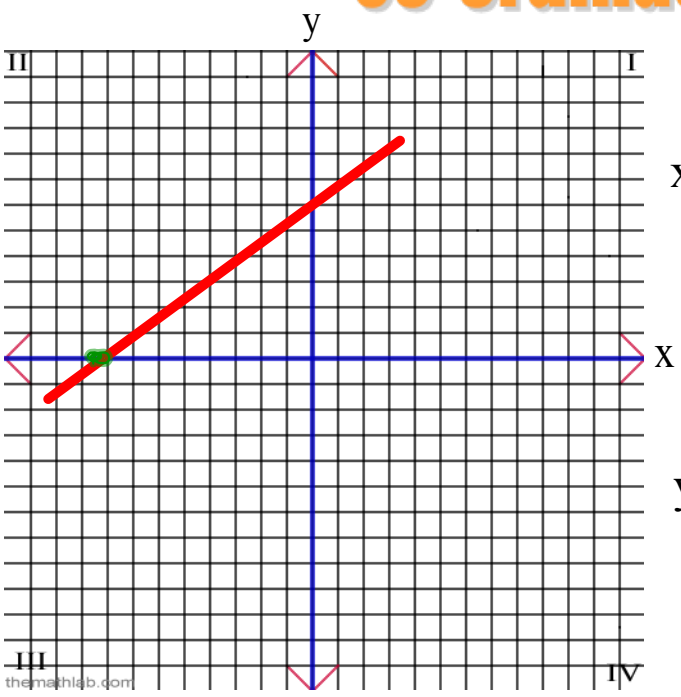
Intercepts

The "x-intercept" is the point on the line that crosses the"x" axis. (horizontal axis)



x-intercept = _____

How do you write the co-ordinates?



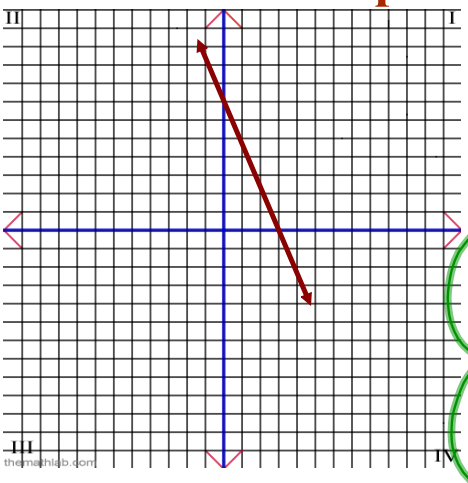
x-intercept = -8

$(-8, 0)$

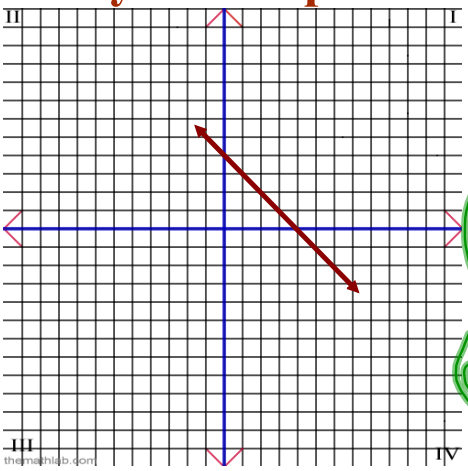
y-intercept = 6

$(0, 6)$

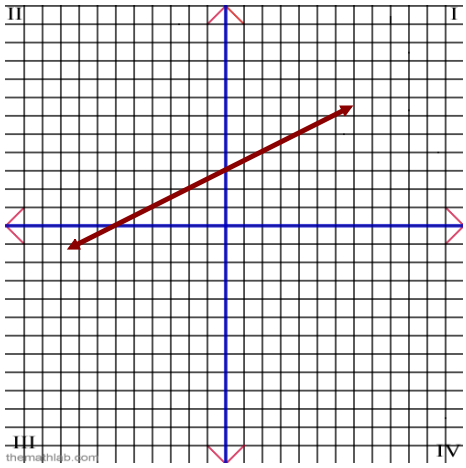
State the points of the x & y intercepts

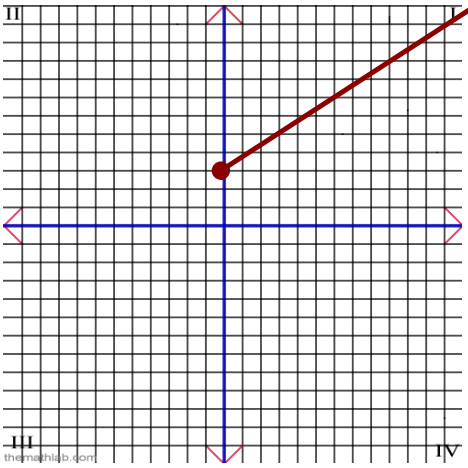


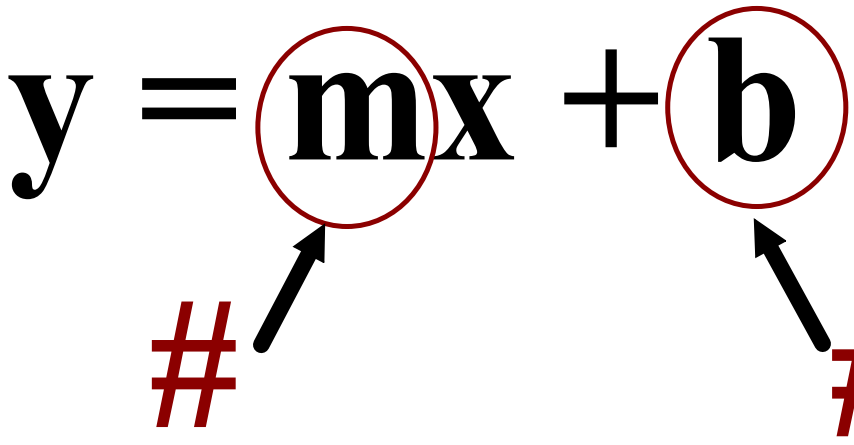
(3, 0)
(0, 7)



(4, 0)
(0, 4)





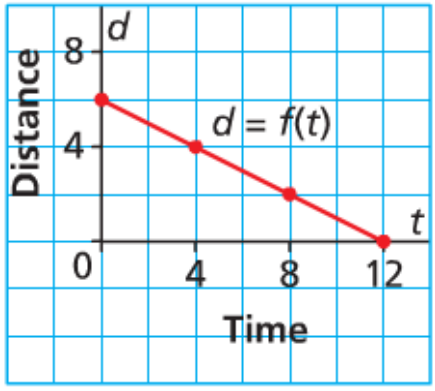


m = Rate of Change (Slope)

b = initial cost (vertical intercept or y-int.)

Which graph has a rate of change of 1/2 and a vertical intercept of 6? Write the equation for each.

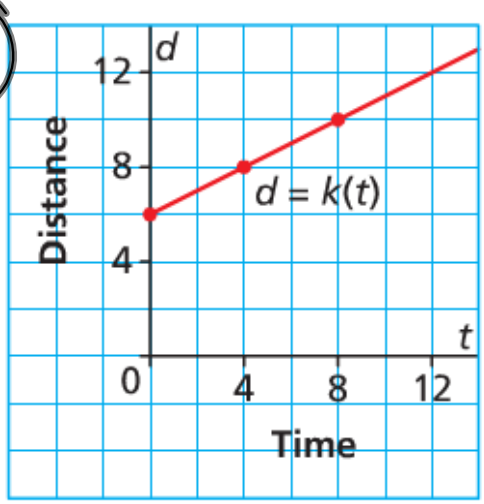
a)



Slope = $\frac{1}{2}$ $\frac{\text{rise}}{\text{run}}$

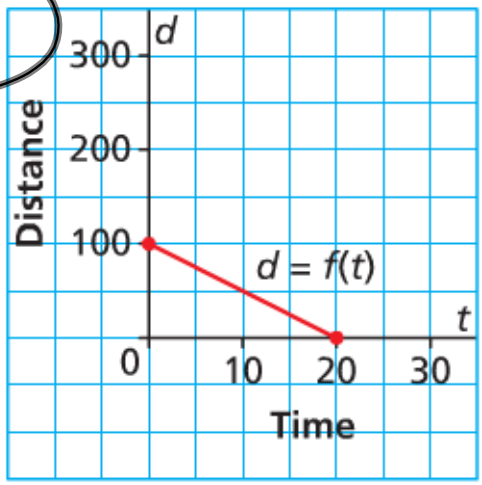
y-int = 6

b)



Which graph has a rate of change of -5 and a vertical intercept of 100? Write the equation for each.

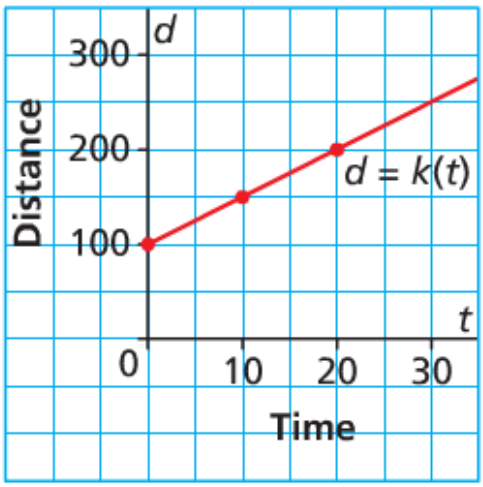
a)



Slope: $\frac{-5}{1}$

y-int: 100

b)



State the Y-Intercept & the Rate of Change

Hint y-int = initial amount

a) $y = 5x - 4$

$m = 5$

$b = -4$

b) $C = 10 + 0.56t$

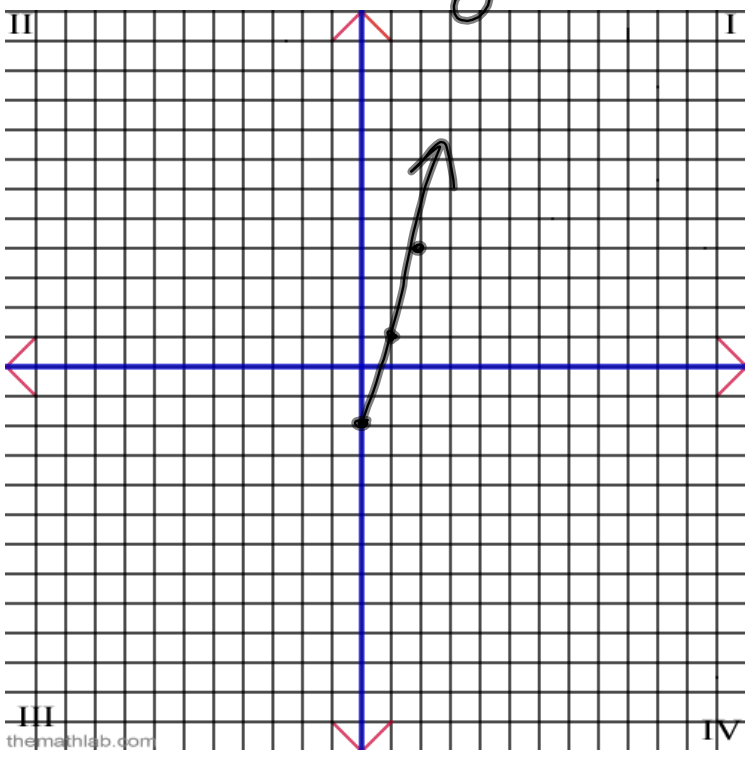
$m = 0.56$

$b = 10$

c) $D = -4h + 200$

Graph the equation y = 3x - 2

$y = mx + b$



Slope: 3/1

y-int: −2

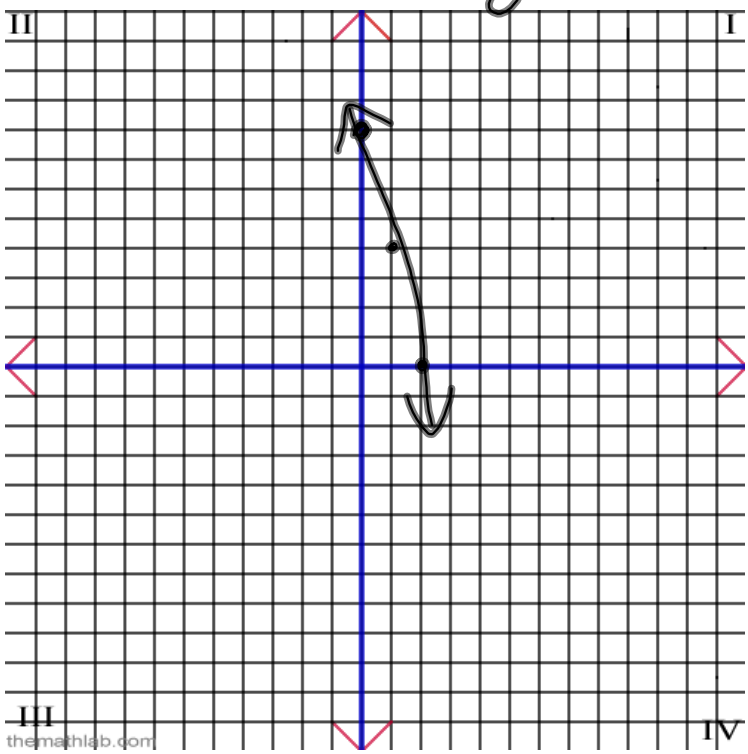
initial amount

Graph the equation y = -4x +8

$y = mx + b$

Slope: $\frac{-4}{1}$

y-int: 8



Graph the equation c = 5t - 3

Slope: $\frac{5}{1}$

y-int: -3