

Real Life Situations!



$$y = mx + b$$

Slope (m) = Cost per hour, Cost per Km, Cost per picture, etc.....

y-intercept (b) = Initial cost, base rate, initial fee, flat rate, sitting fee, starting cost etc.....

x =

Number of kilometers, Number of hours, Number of pictures, etc....

y =

Total Cost \$\$\$\$, Total Earned \$\$\$

Laura babysits on the weekend to make extra money. She charges \$15 as a flat rate and then \$5 every hour.

$$m = 5$$

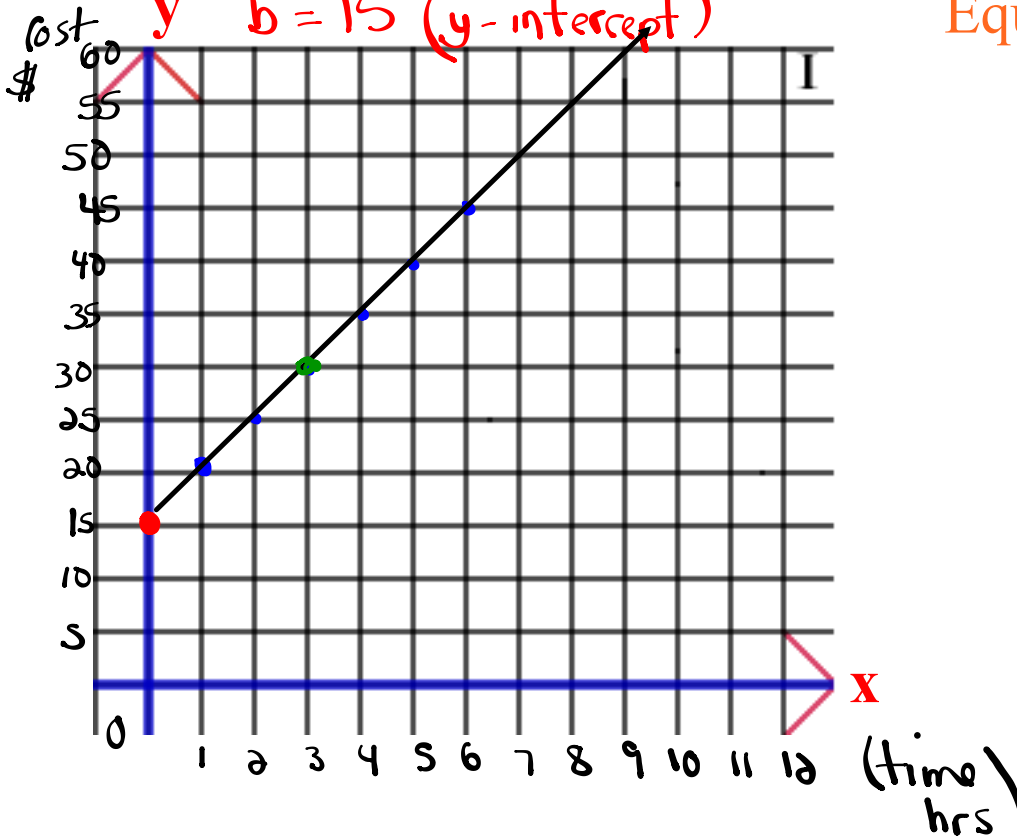
$$b = 15$$



Laura babysits on the weekend to make extra money. She charges \$15 as a flat rate and then \$5 every hour.

Graph $m = 5 = \left(\frac{\text{rise}}{\text{run}}\right)$
 $b = 15$ (y-intercept)

Equation



Laura babysits on the weekend to make extra money. She charges \$15 as a flat rate and then \$5 every hour.

$$b = 15$$

$$m = 5$$

$x = \# \text{ of hours}$

$y = \text{Total Cost } \$\$$

$$y = 5x + 15$$

1. How much would it cost to have Laura babysit for 3 hours?

$$y = 5(3) + 15$$

$$x = 3$$

$$y = 15 + 15$$

$$y = \$30$$

It would cost \$30 to have Laura babysit for 3 hours.

2. How many hours could you have Laura babysit for if you had \$45?

$$45 = 5x + 15$$

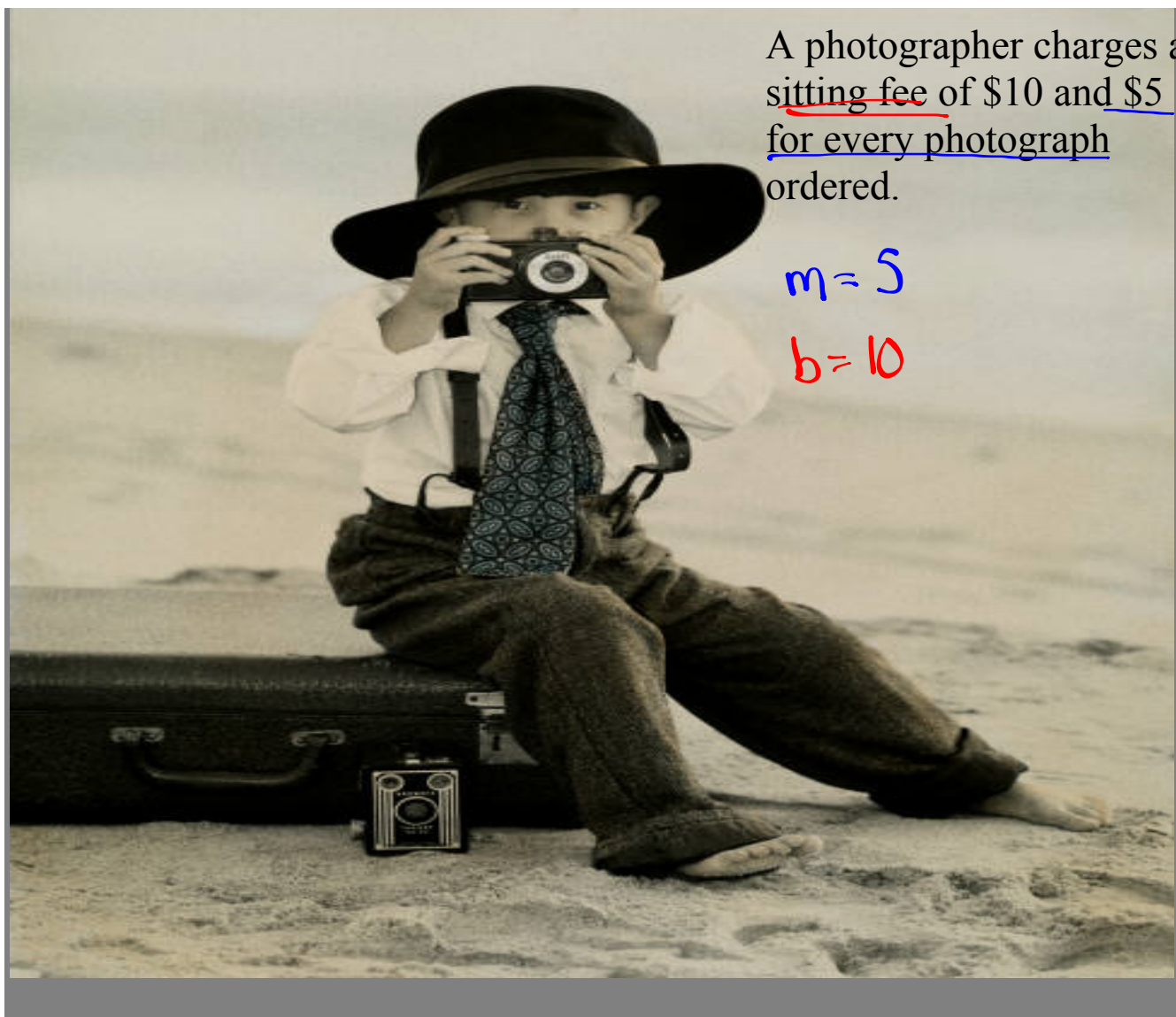
$$y = \$45$$

$$45 - 15 = 5x$$

Laura could babysit for 6 hrs.

$$\frac{30}{5} = \frac{5x}{5}$$

$$6 \text{ hrs} = x$$



A photographer charges a sitting fee of \$10 and \$5 for every photograph ordered.

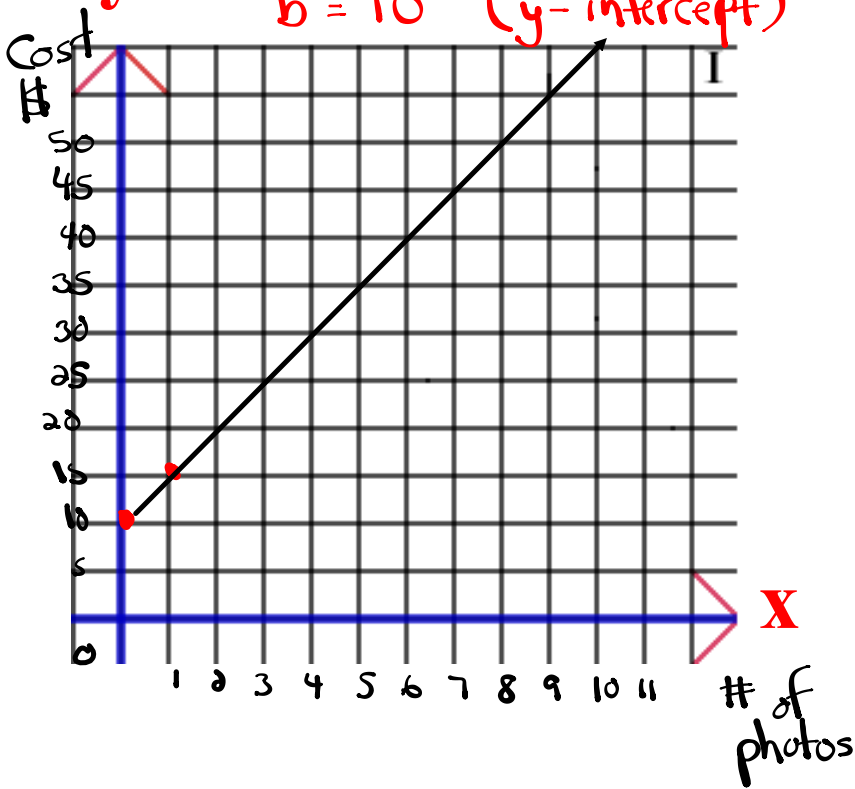
$$m = 5$$

$$b = 10$$

A photographer charges a sitting fee of \$10 and \$5 for every photograph ordered.

Graph $m = 5$ ($\frac{\text{rise}}{\text{run}}$)
 $b = 10$ (y-intercept)

Equation



A photographer charges a sitting fee of \$10 and \$5 for every photograph ordered.

$$y = 5x + 10$$

1. How many photographs could you get for \$35?

$$35 = 5x + 10$$

$$35 - 10 = 5x$$

$$\frac{25}{5} = \frac{5x}{5}$$

$$\boxed{5 = x}$$

$$y = \$35$$

you can get 5 photos for \$35

2. How much would it cost for 8 photographs?

$$y = 5(8) + 10$$

$$y = 40 + 10$$

$$\boxed{y = \$50}$$

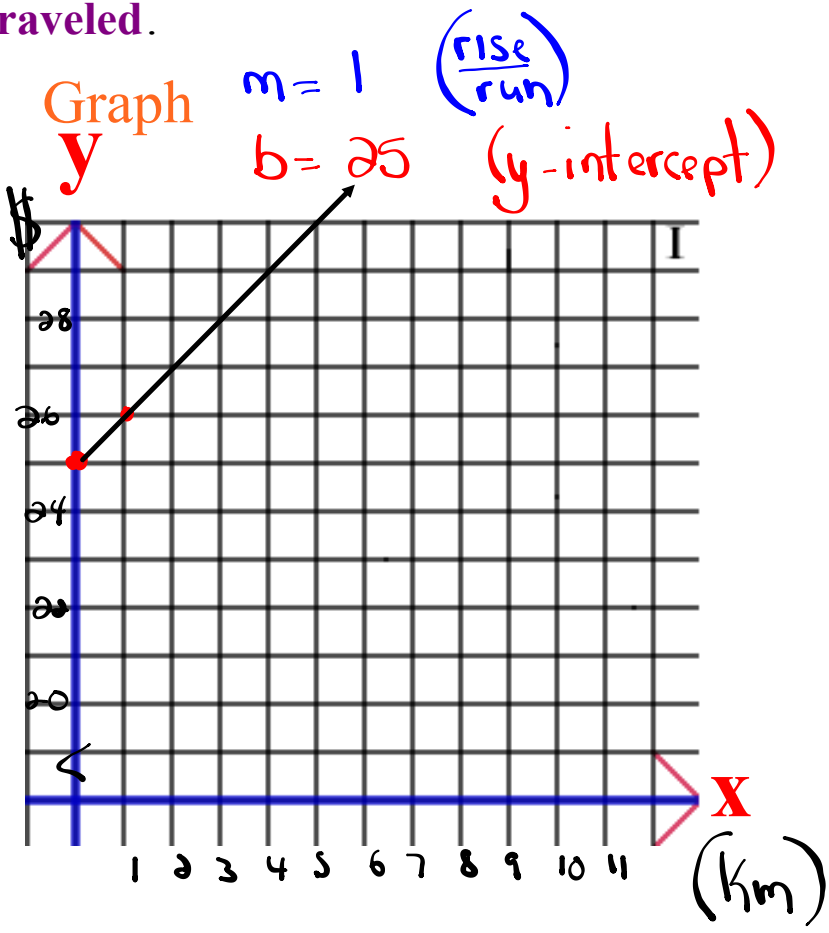
$$x = 8$$

It would cost \$50 for 8 photos.

A taxi driver charges a flat fee of \$25 and then \$1 for every km traveled



A taxi driver charges a flat fee of \$25 and then \$1 for every km traveled.



Equation

A taxi driver charges a flat fee of \$25
and then \$1 for every km traveled.

$$y = 1x + 25$$

1. How far can you travel for \$75? ($y = 75$)

$$y = x + 25$$

$$75 = x + 25$$

$$75 - 25 = x$$

$$\boxed{50 = x}$$

You can travel 50km.

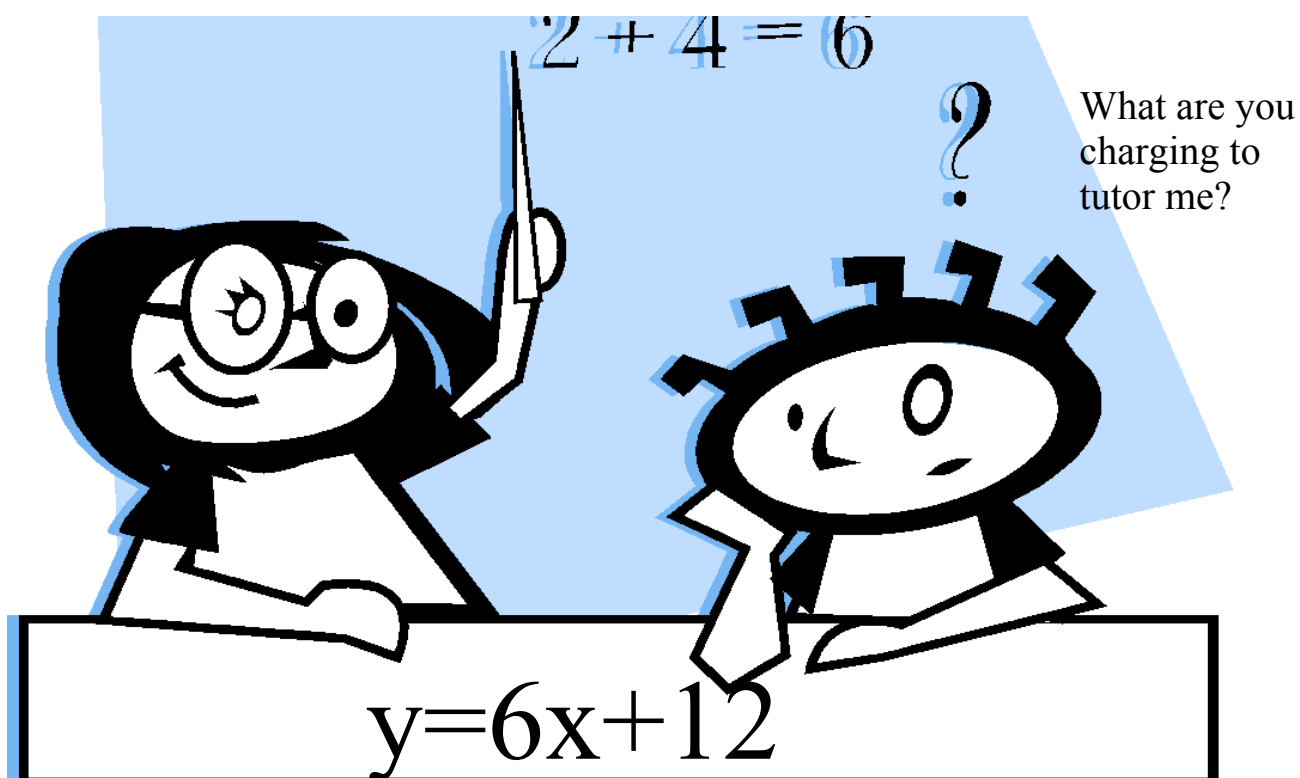
2. How much would it cost to travel 60 km? ($x = 60$)

$$y = x + 25$$

$$y = 60 + 25$$

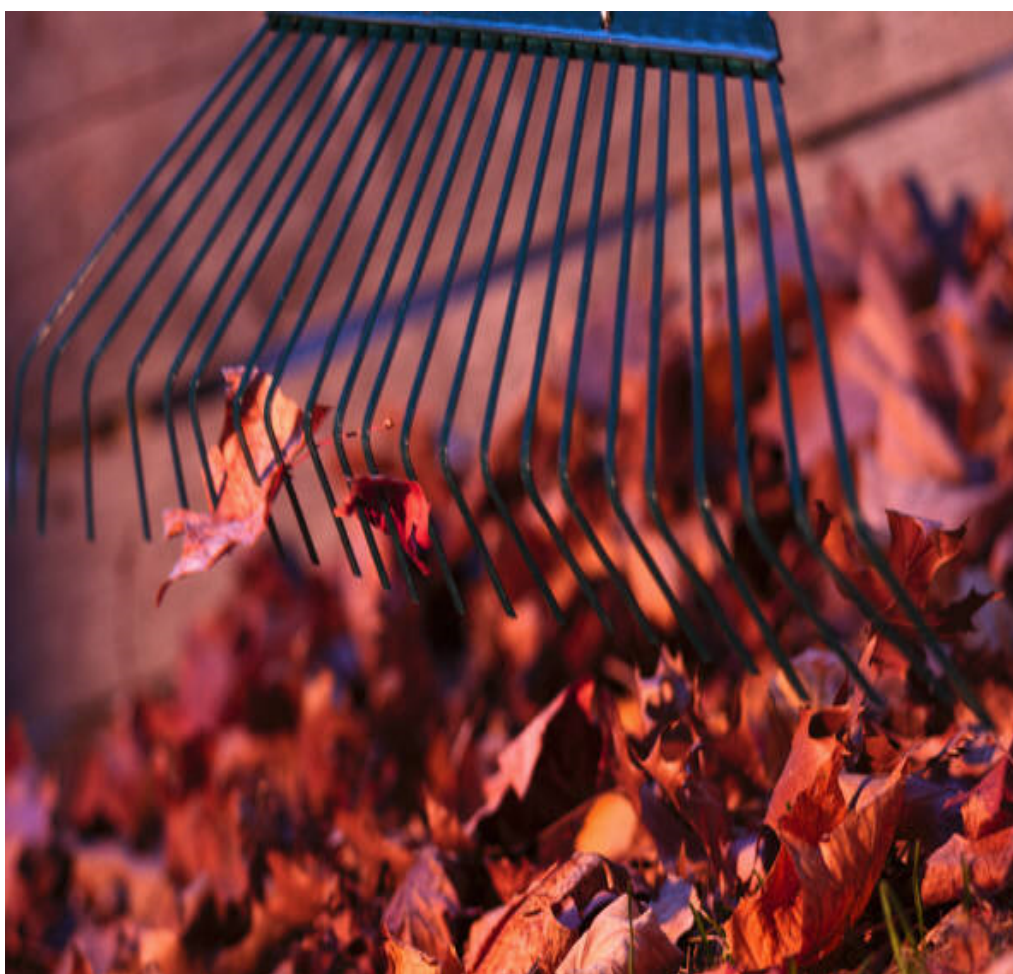
$$\boxed{y = \$85}$$

It would cost \$85.



Write the scenario that would represent the equation.


Which of the following equations is a reasonable representation of the cost of raking leaves.



$$y=20x+5$$

$$y=5x+20$$

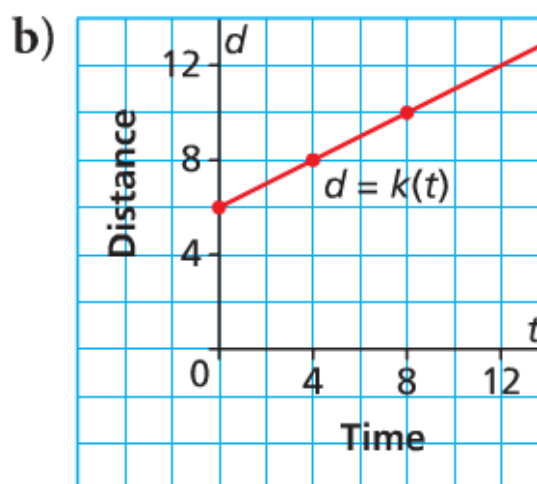
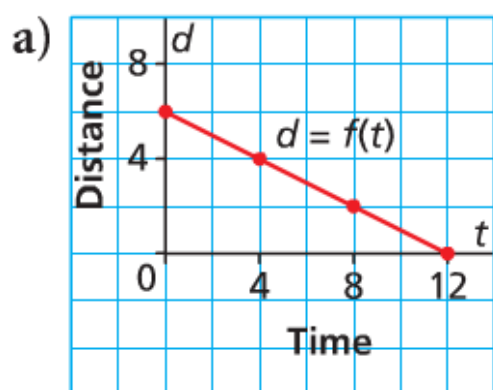
Homework

$$y = \textcircled{m}x + \textcircled{b}$$


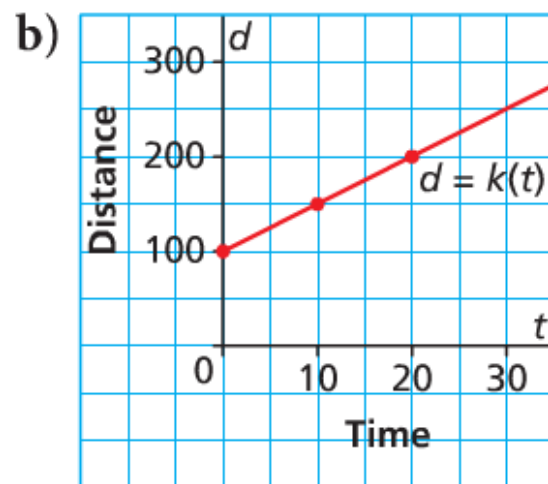
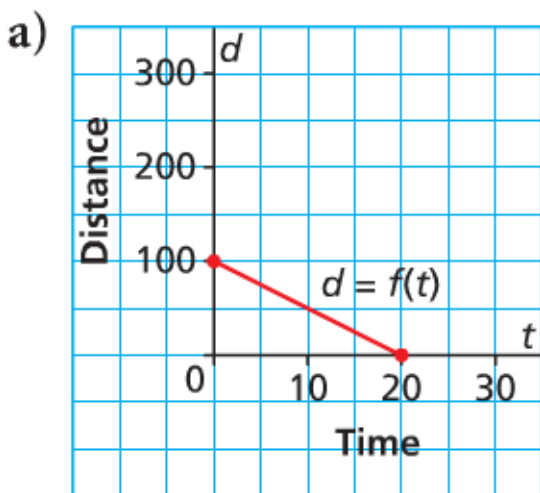
m = Rate of Change (Slope)

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

Which graph has a rate of change of $\frac{1}{2}$ and a vertical intercept of 6?
Write the equation for each.



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



State the Y-Intercept & the Rate of Change

Hint y-int = initial amount

a) $y = 5x - 4$

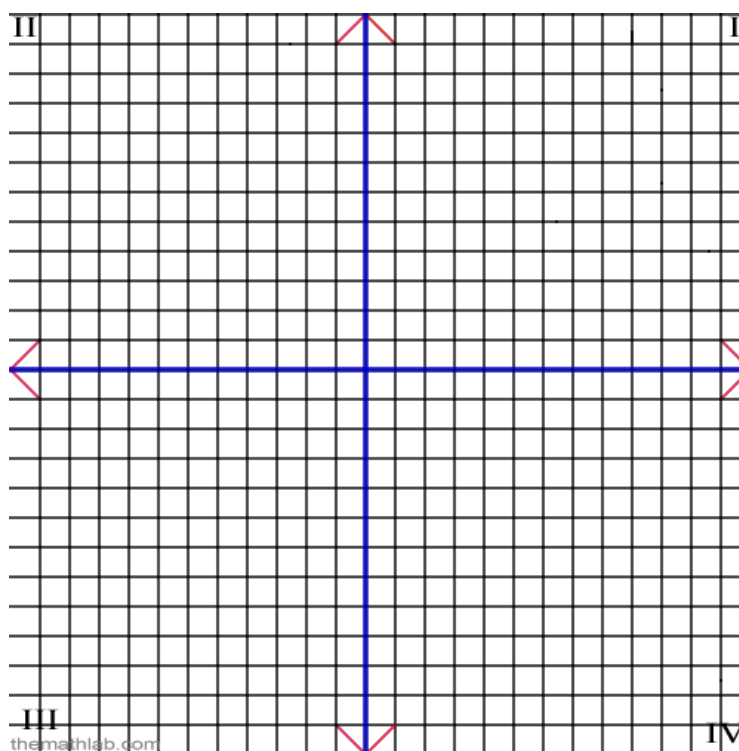
b) $C = 10 + 0.56t$

c) $D = -4h + 200$

Graph the equation $y = 3x - 2$

Slope: _____

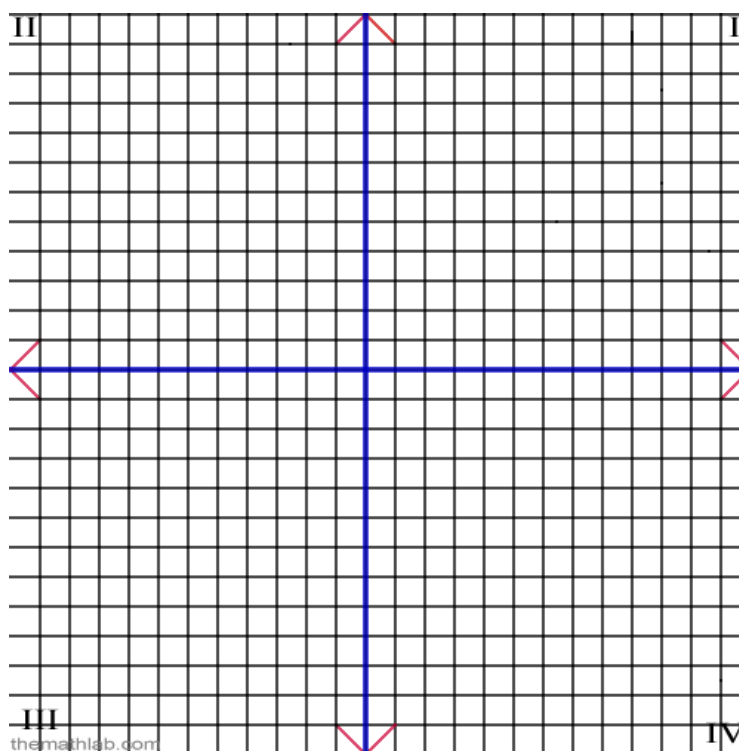
y-int: _____



Graph the equation $y = -4x + 8$

Slope: _____

y-int: _____



Graph the equation $c = 5t - 3$

Slope: _____

y-int: _____

