

Homework

② (x_1, y_1) and (x_2, y_2) . Find k if slope is $m = -\frac{1}{1}$
 $(7, 4)$ and $(k, 3)$.

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$-\frac{1}{1} = \frac{3 - 4}{k - 7}$$

$$\cancel{-\frac{1}{1}} = \cancel{-\frac{1}{k-7}}$$

$$-1(k-7) = 1(-1)$$

$$-k + 7 = -1$$

$$-k = -1 - 7$$

$$\frac{-k}{-1} = \frac{-8}{-1}$$

$$\boxed{k = 8}$$

④ State the slope perpendicular to

$$2(y-1) = 3x+4$$

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

$$2y = 3x + 4 + 2$$

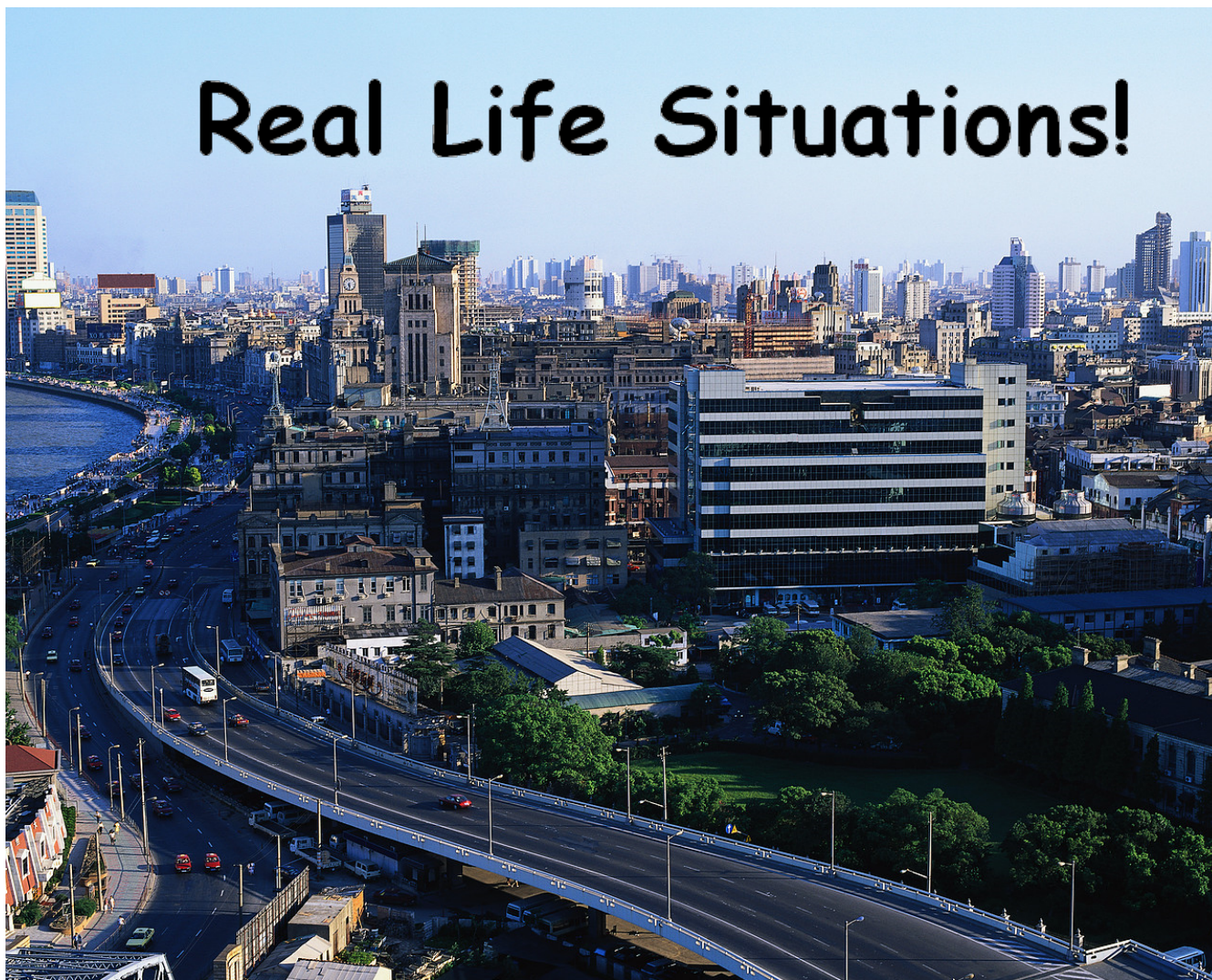
$$\frac{2y}{2} = \frac{3x+6}{2}$$


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


$$m = \frac{3}{2}$$


$$\boxed{m_{\perp} = -\frac{2}{3}}$$

Real Life Situations!




 $y = \underline{m}x + \underline{b}$
 = Cost per hour, Cost per Km, Cost per picture, etc....


 = Initial cost, base rate, initial fee, flat rate, sitting fee, starting cost etc.....


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


 = 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.

$$m = 5$$

$$b = 15$$

$$y = mx + b$$

$$y = 5x + 15$$

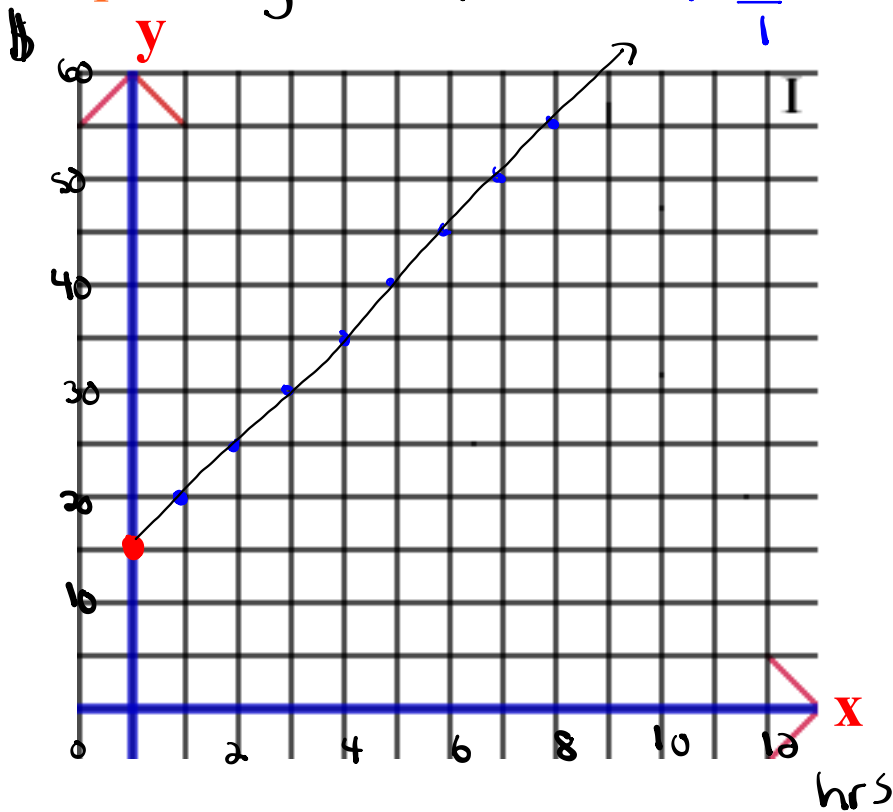
Laura babysits on the weekend to make extra money. She charges \$15 as a flat rate and then \$5 every hour.

Graph

$$y = 5x + 15$$

$$m = \frac{5}{1}$$

$b = 15$ (y-intercept)
Equation



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

$$y = 5x + 15$$

$$b = 15$$

$$m = 5$$

$x = \#$ of hours

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

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

$$y = 5x + 15$$

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

$$y = 15 + 15$$

$$y = \$30$$

$$(x = 3)$$

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

$$y = 5x + 15$$

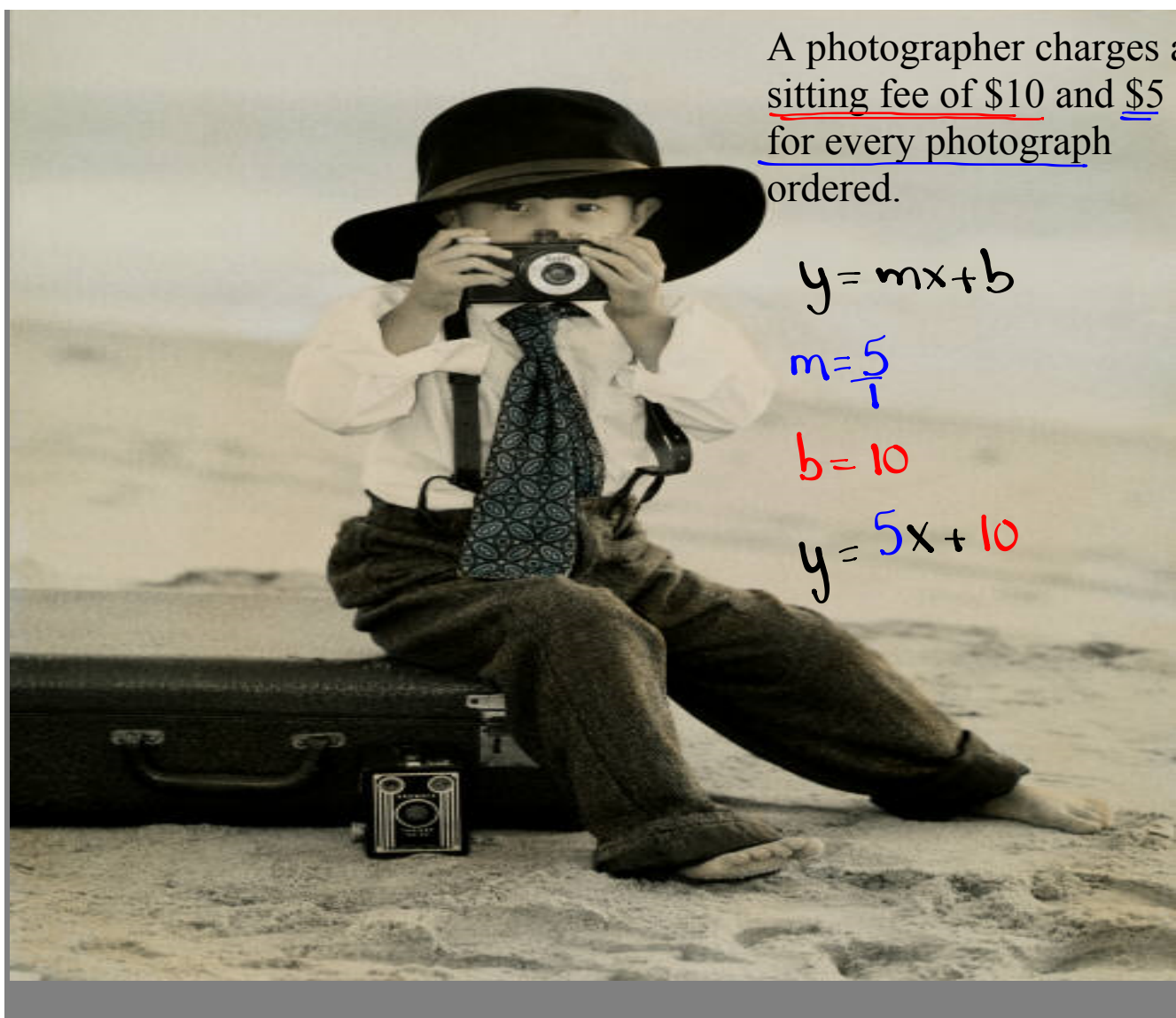
$$45 = 5x + 15$$

$$(y = 45)$$

$$45 - 15 = 5x$$

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

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



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

$$y = mx + b$$
$$m = \underline{5}$$
$$b = 10$$
$$y = 5x + 10$$

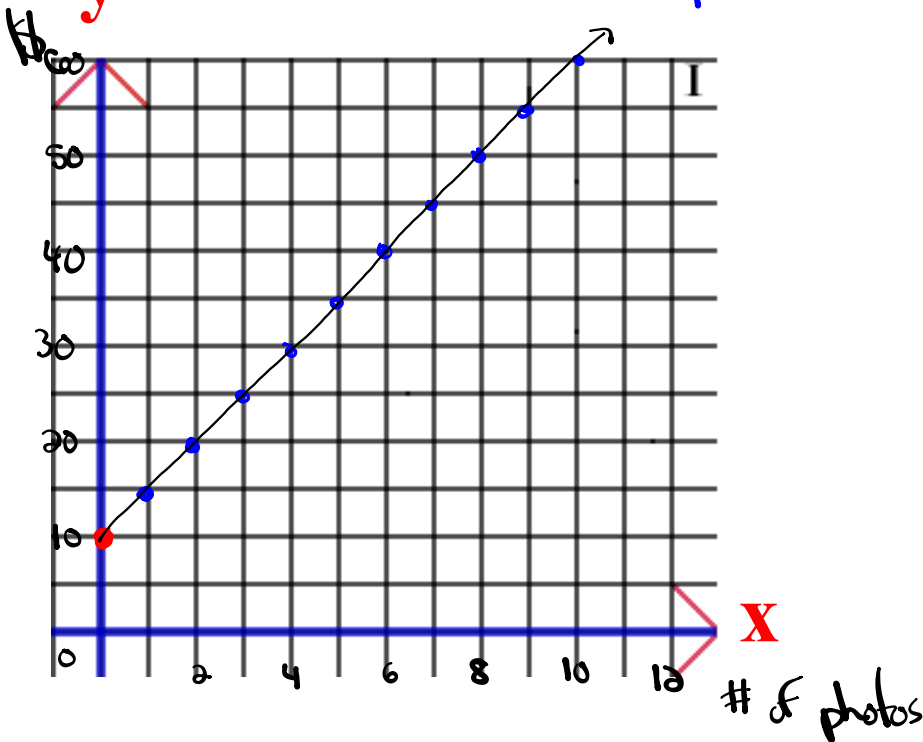
A photographer charges a sitting fee of \$10 and \$5 for every photograph ordered.

Graph
y

$$y = 5x + 10$$

$$m = \frac{5}{1}$$

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?

$$y = 5x + 10$$

$$(y = 35)$$

$$35 = 5x + 10$$

$$35 - 10 = 5x$$

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

$$5 = x$$

2. How much would it cost for 8 photographs?

$$y = 5x + 10$$

$$(x = 8)$$

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

$$y = 40 + 10$$

$$y = \$50$$

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.

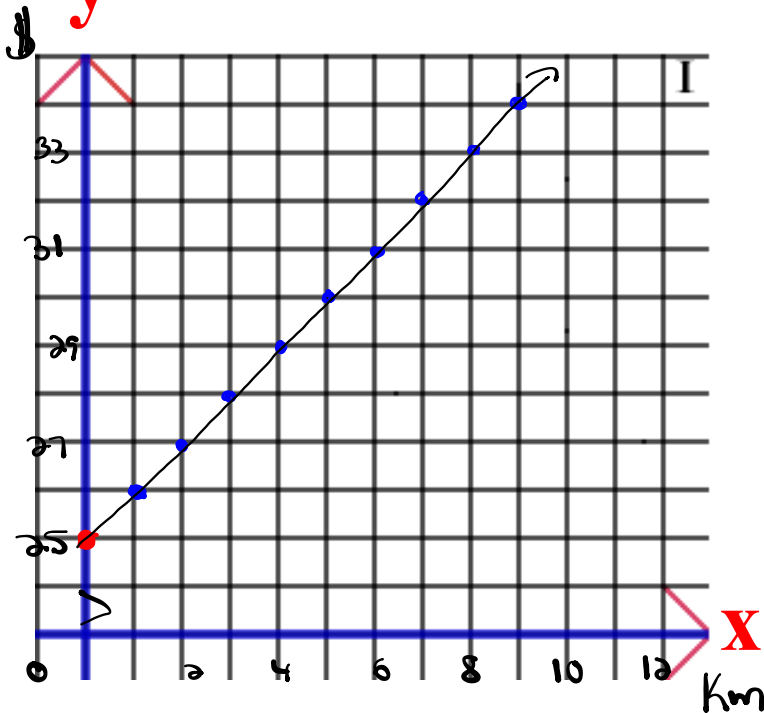
Graph

$$y = mx + b$$

$$y = 1x + 25$$

$b = 25$ (y-intercept)

$m = \frac{1}{1}$ Equation
rise over run



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? ($y = 75$)

$$y = 1x + 25$$

$$75 = 1x + 25$$

$$75 - 25 = 1x$$

$$\boxed{50 \text{ km} = x}$$

2. How much would it cost to travel 50 km?

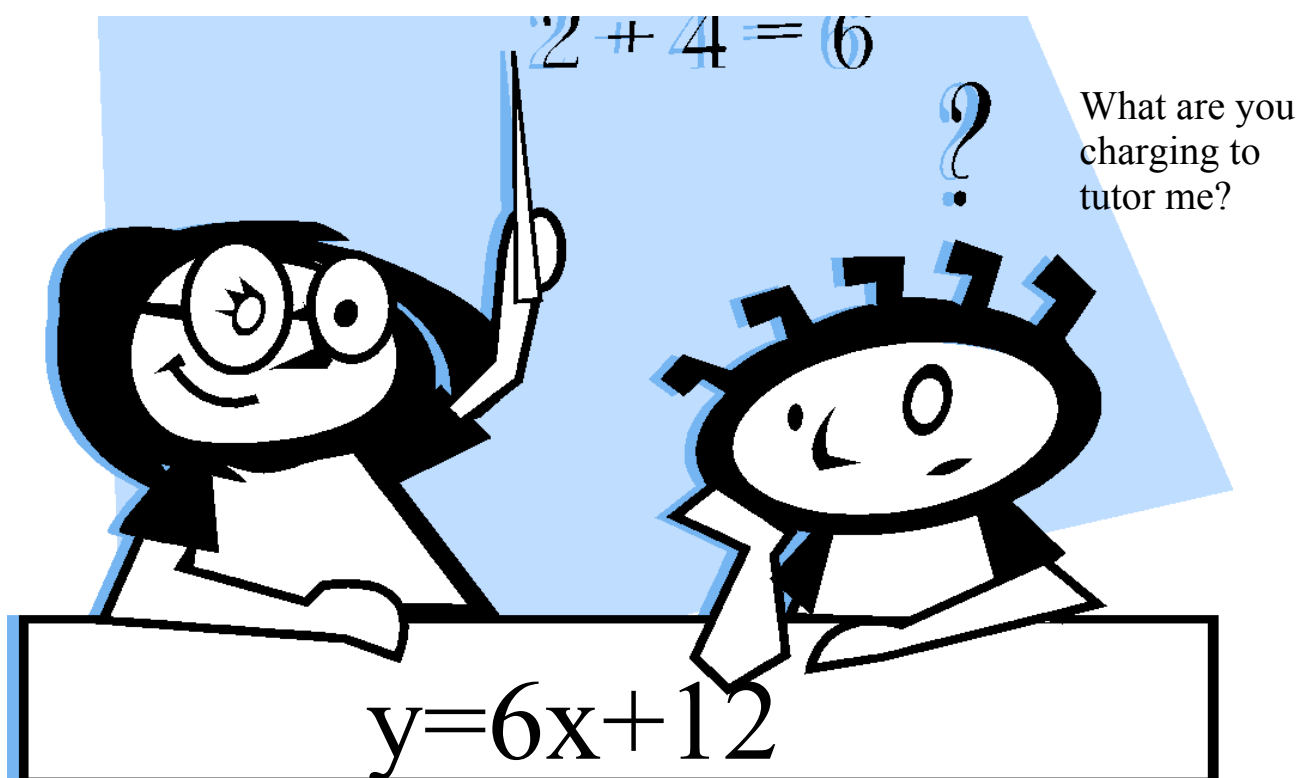
$$y = 1x + 25$$

$$(x = 50)$$

$$y = 1(50) + 25$$

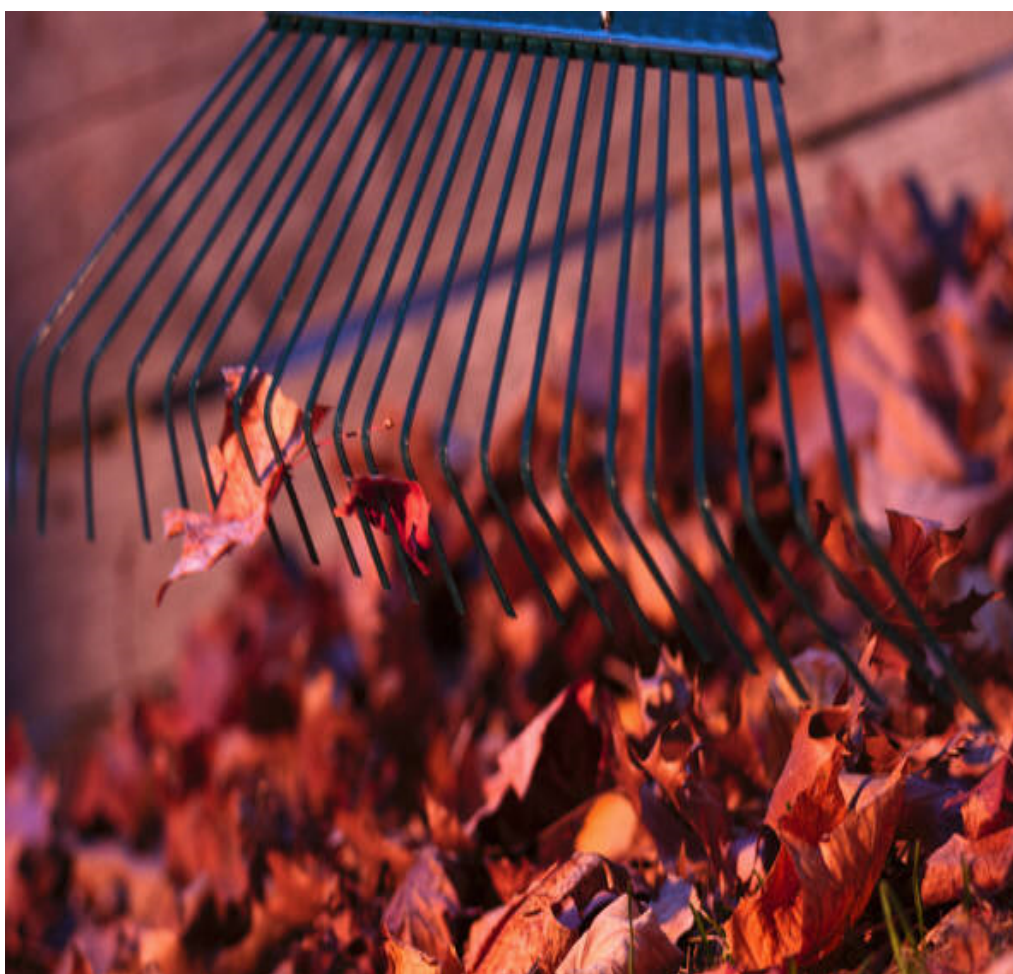
$$y = 50 + 25$$

$$\boxed{y = \$75}$$



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

$$\textcircled{1} \quad y = 25x + 100$$

$$\textcircled{2} \quad y = 2.5x + 15$$

$$\textcircled{3} \quad y = 5x + 20$$

$$\textcircled{4} \quad y = 11x + 60$$

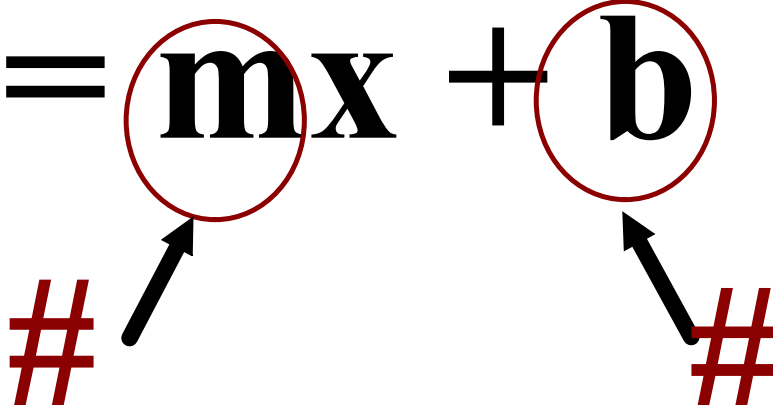
$$\Rightarrow x = 41$$

$$y = 11x + 60$$

$$y = 11(41) + 60$$

$$y = 451 + 60$$

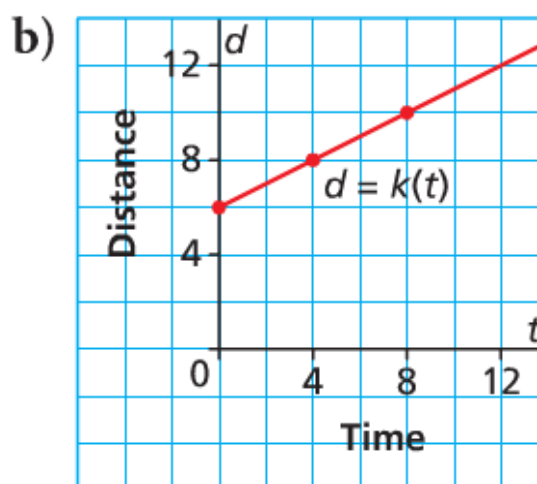
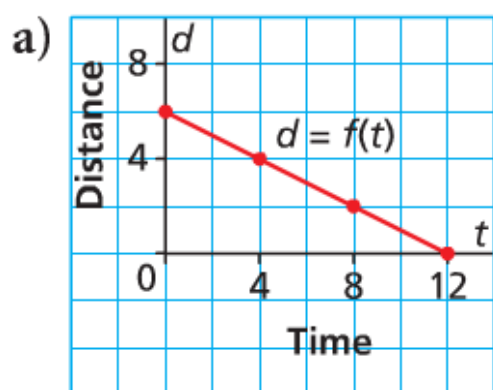
$$y = \#511$$

$$y = mx + b$$


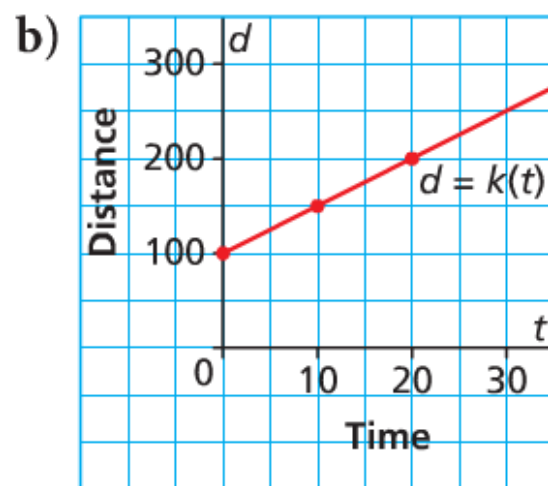
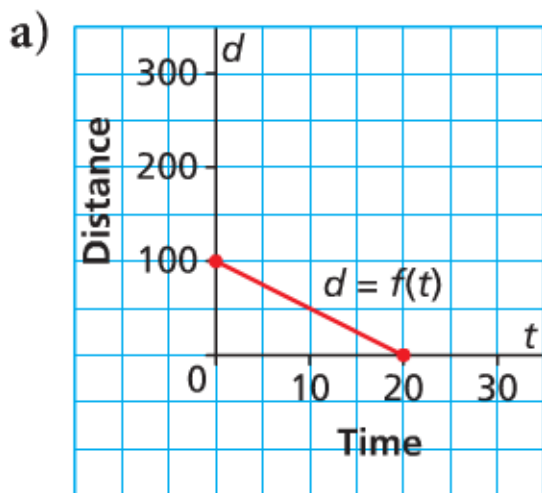
m = Rate of Change (Slope)

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) $y = 5x - 4$

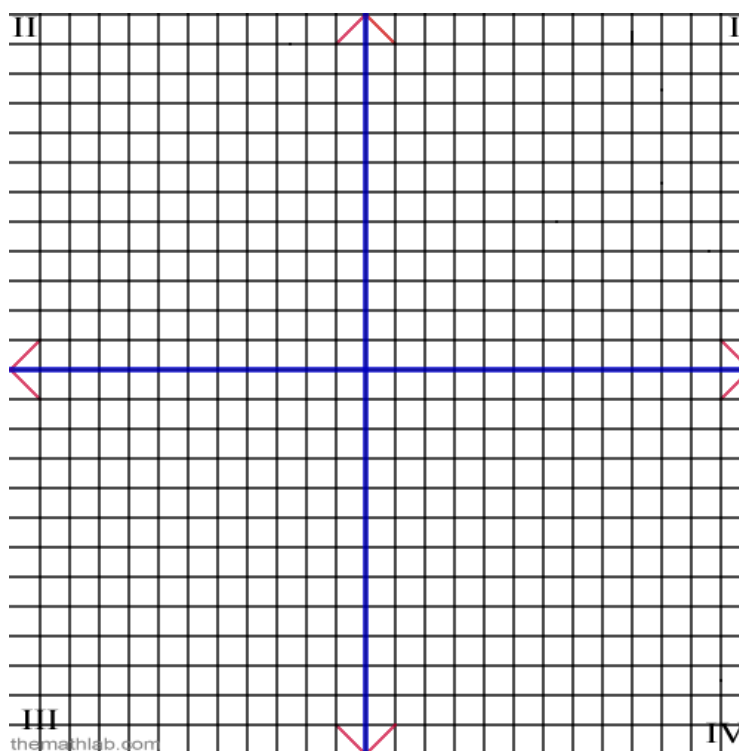
b) $C = 10 + 0.56t$

c) $D = -4h + 200$

Graph the equation $y = 3x - 2$

Slope: _____

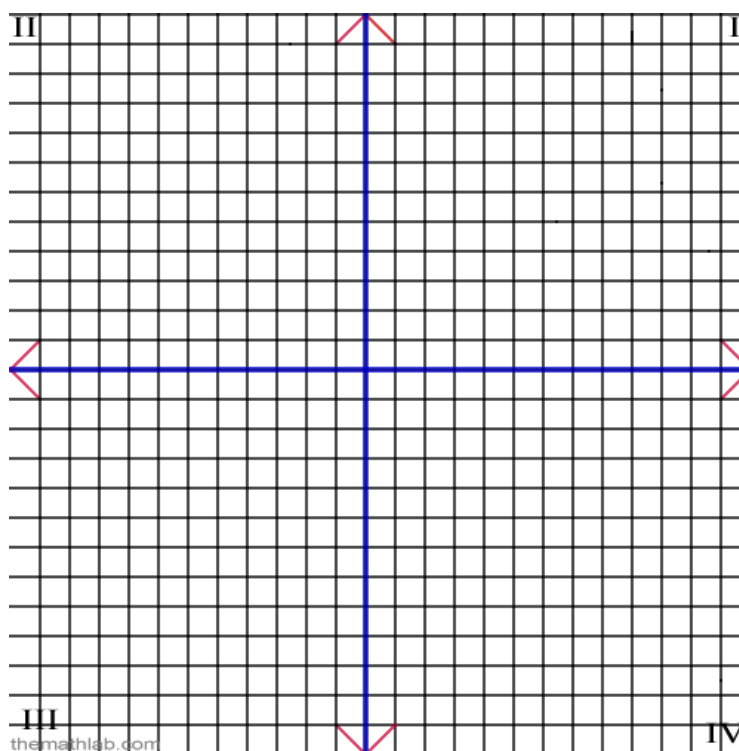
y-int: _____



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

Slope: _____

y-int: _____



Graph the equation $c = 5t - 3$

Slope: _____

y-int: _____

