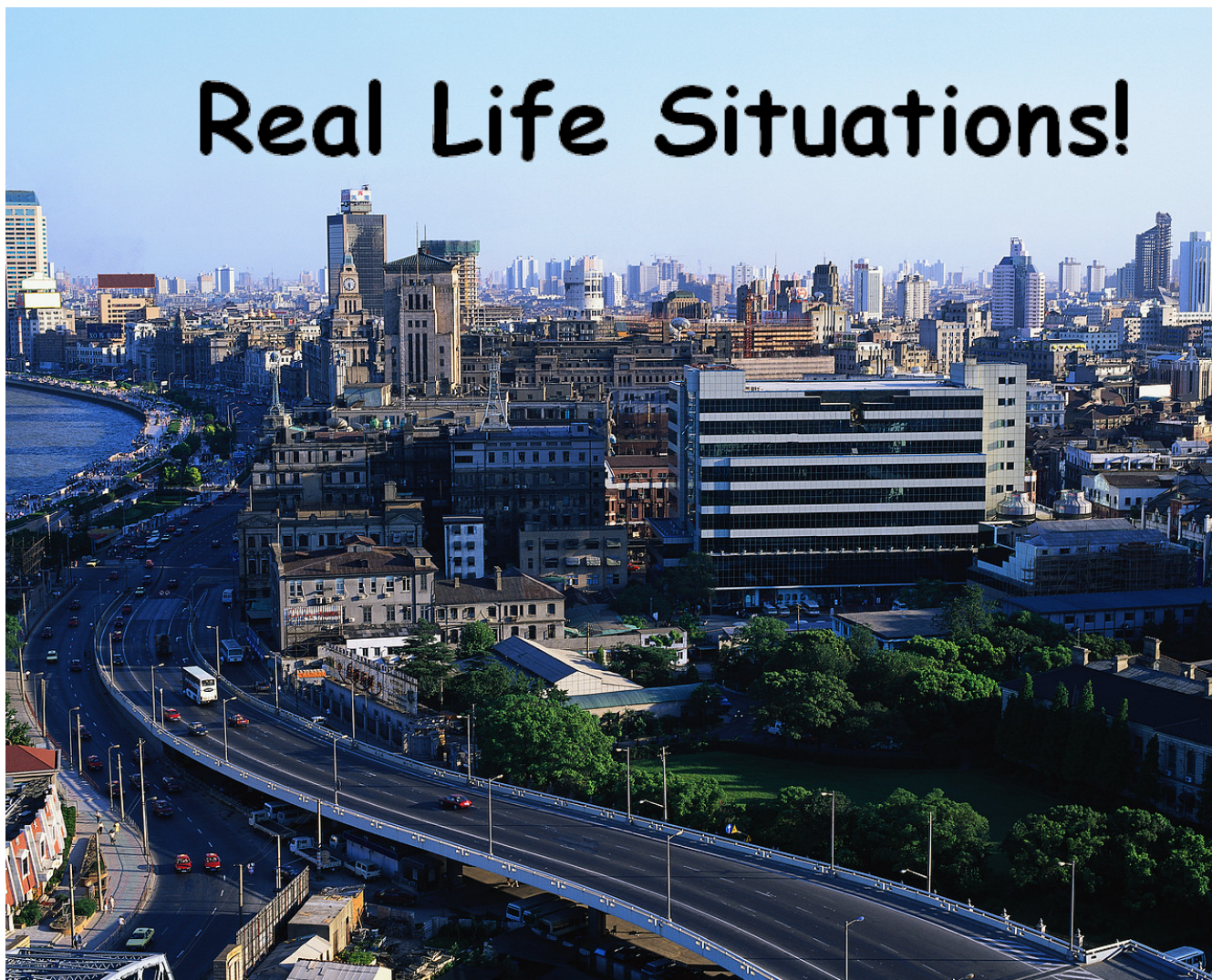


# Real Life Situations!



$$y = mx + b$$

**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.

$$m = 5$$

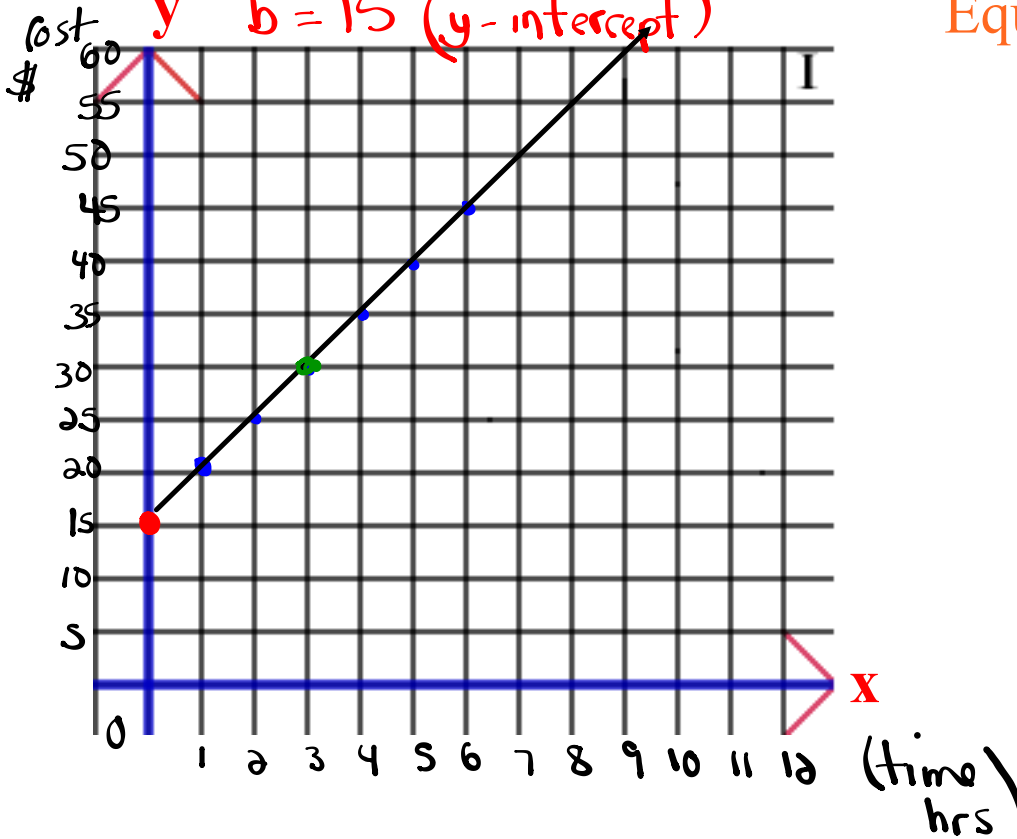
$$b = 15$$



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?

$$45 = 5x + 15$$

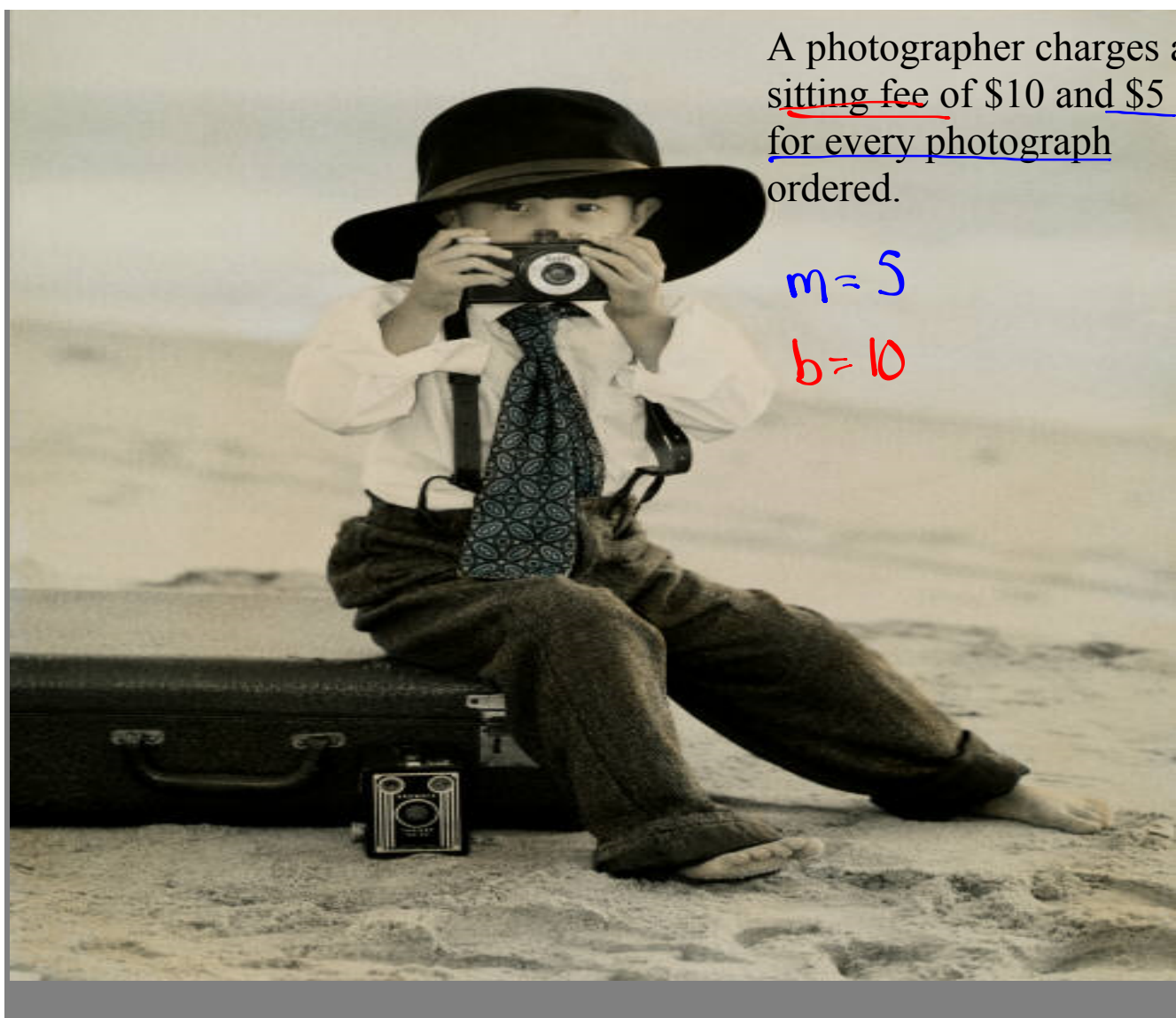
$$y = \$45$$

$$45 - 15 = 5x$$

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.

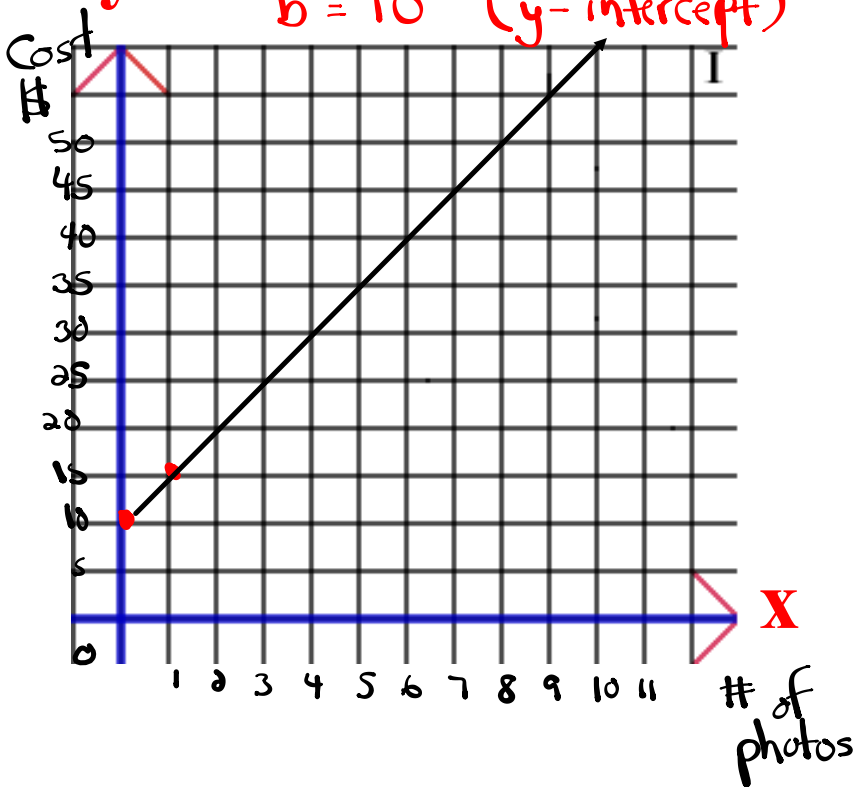
$$m = 5$$

$$b = 10$$

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?

$$35 = 5x + 10$$

$$35 - 10 = 5x$$

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

$$5 = x$$

$$y = \$35$$

you can get 5 photos for \$35

2. How much would it cost for 8 photographs?

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

$$y = 40 + 10$$

$$y = \$50$$

$$x = 8$$

It would cost \$50 for 8 photos.



## Homework

a) How much will Alicia make if she plays 41 songs. ( $x=41$ )

15.  $m=11$

$b=60$

$$y = mx + b$$

$$y = 11x + 60$$

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

$$y = 451 + 60$$

$$y = \$511$$

c) How many announcements will Amber put on for \$250? ( $y=250$ )

22.  $m=20$

$b=30$

$$y = mx + b$$

$$y = 20x + 30$$

$$250 = 20x + 30$$

$$250 - 30 = 20x$$

$$\frac{220}{20} = \frac{20x}{20}$$

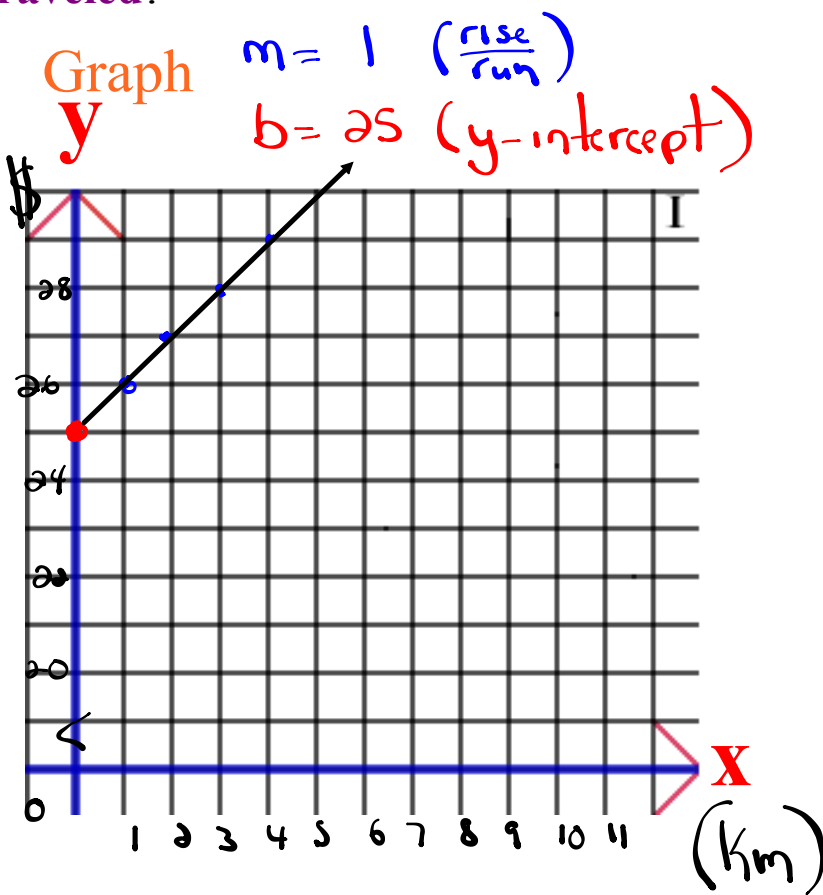
$$\boxed{11 = x}$$

She could do 11 announcements for \$250.

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.

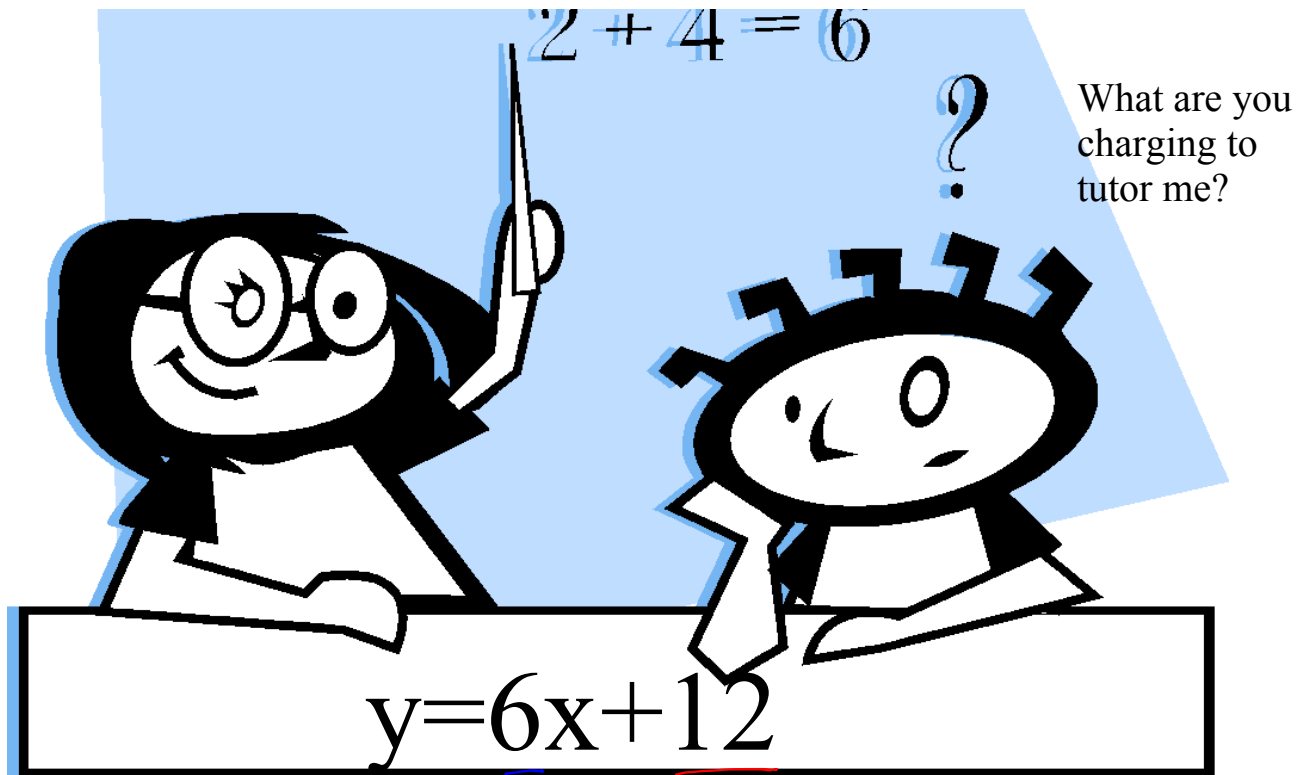
2. How much would it cost to travel 60 km? ( $x = 60$ )

$$y = x + 25$$

$$y = 60 + 25$$

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

It would cost \$85.

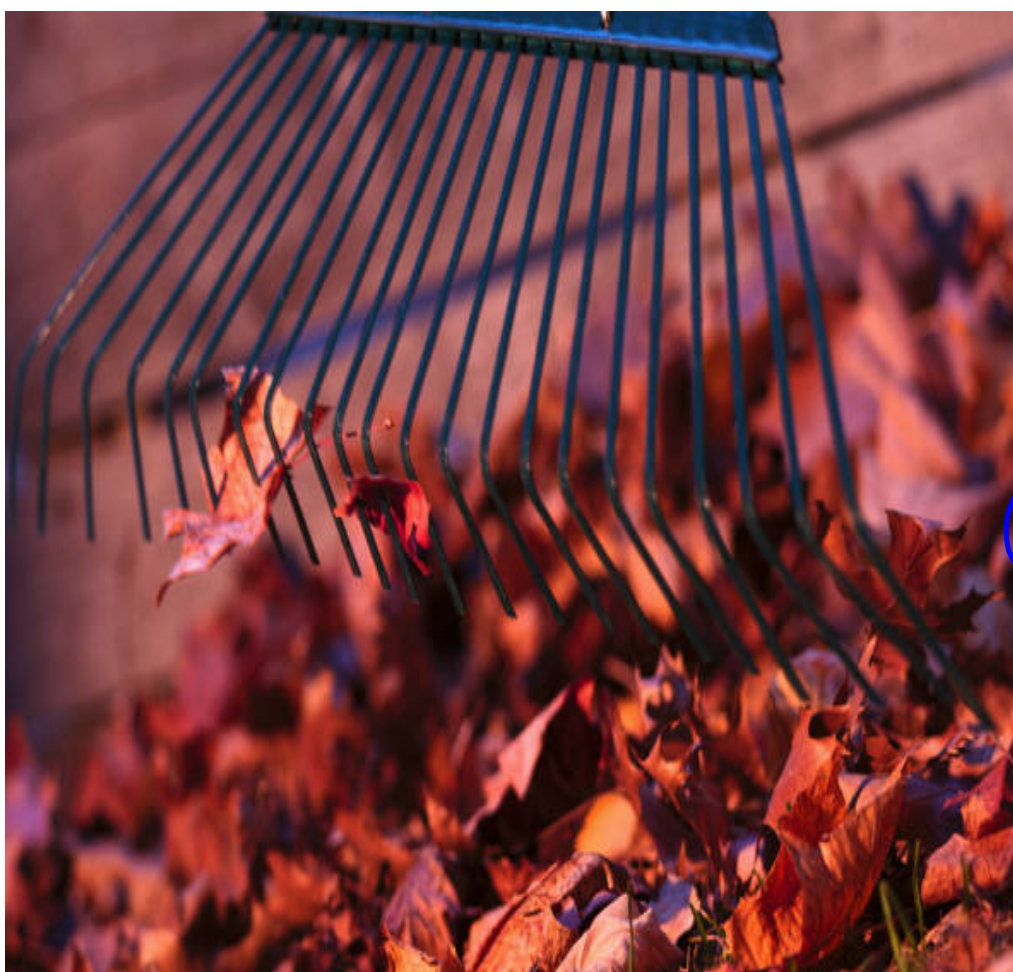


Write the scenario that would represent the equation.

flat rate = \$12 (b)

per hour rate = \$6 (m)

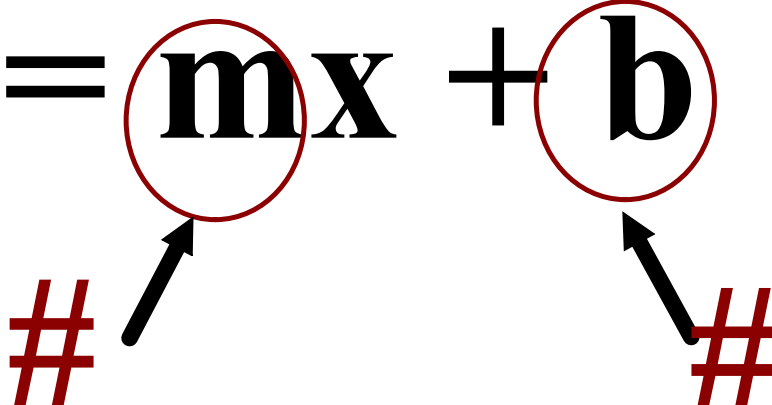
Which of the following equations is a reasonable representation of the cost of raking leaves.



$$y=50x+5$$

$$y=5x+20$$

# Homework

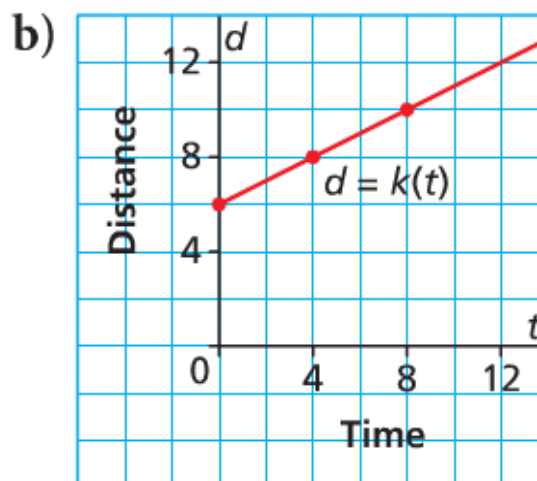
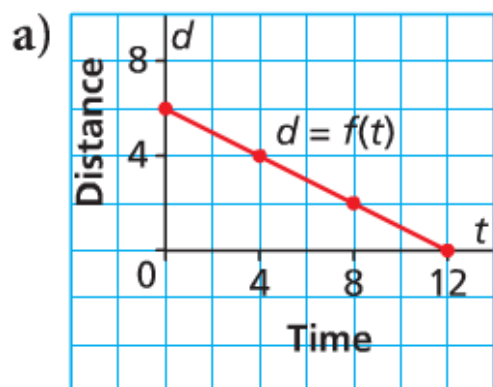
$$y = mx + b$$


**m = Rate of Change ( Slope )**

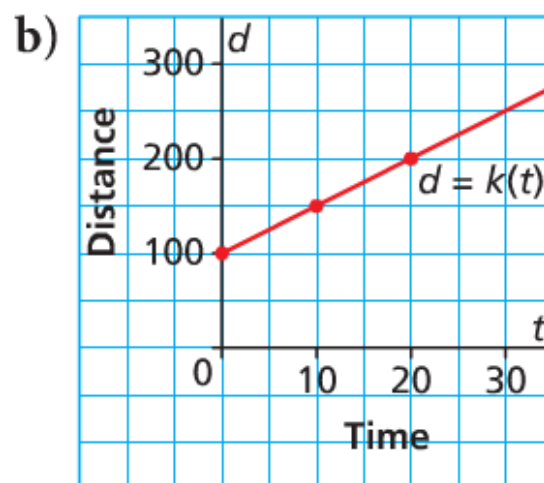
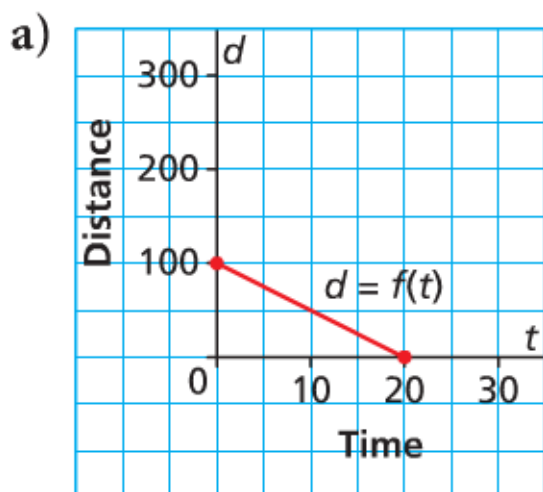
**b = initial amount ( vertical intercept or y-int.)**



**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 )  $y = 5x - 4$

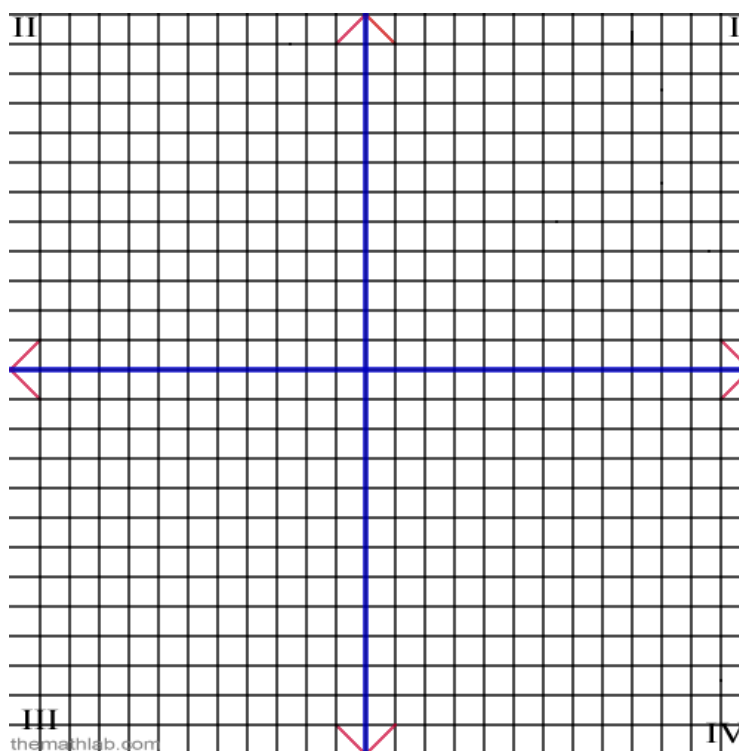
b)  $C = 10 + 0.56t$

c)  $D = -4h + 200$

# Graph the equation $y = 3x - 2$

Slope: \_\_\_\_\_

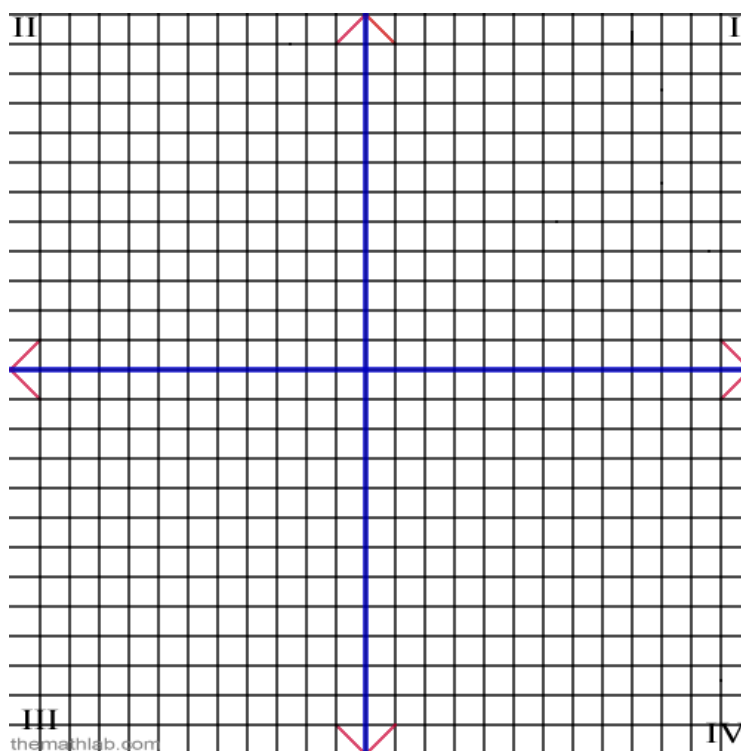
y-int: \_\_\_\_\_



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

Slope: \_\_\_\_\_

y-int: \_\_\_\_\_



# Graph the equation $c = 5t - 3$

Slope: \_\_\_\_\_

y-int: \_\_\_\_\_

