Homework

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

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

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

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

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

$$-k+7=-1$$

$$-k=-1-7$$

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

$$\boxed{k=8}$$

④ State the slope perpendicular to

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

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

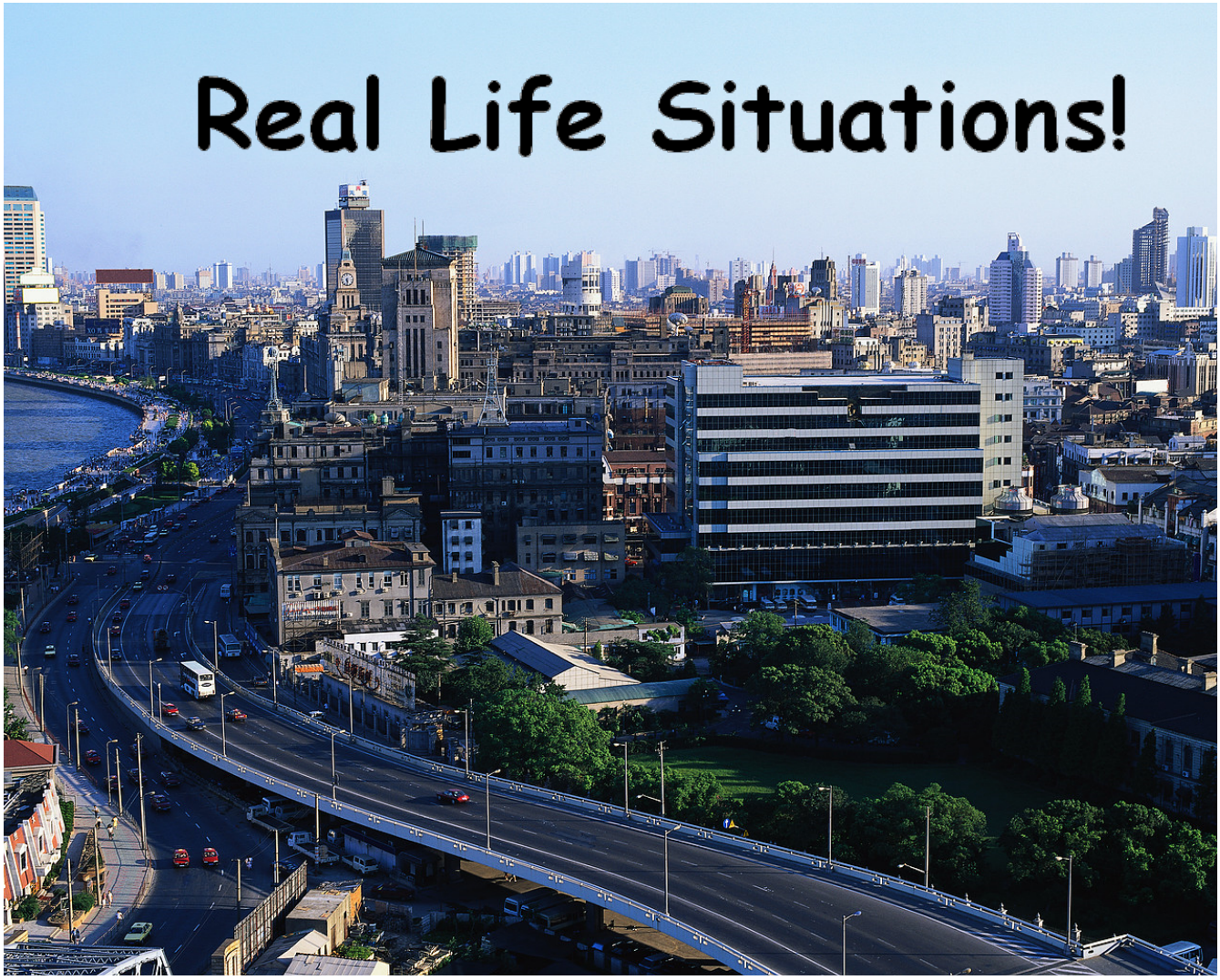
$$2y=3x+4+2$$

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

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

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

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


Real Life Situations!

$y = mx + b$

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.

$y = mx + b$

$y = 5x + 15$

$m = 5$

$b = 15$

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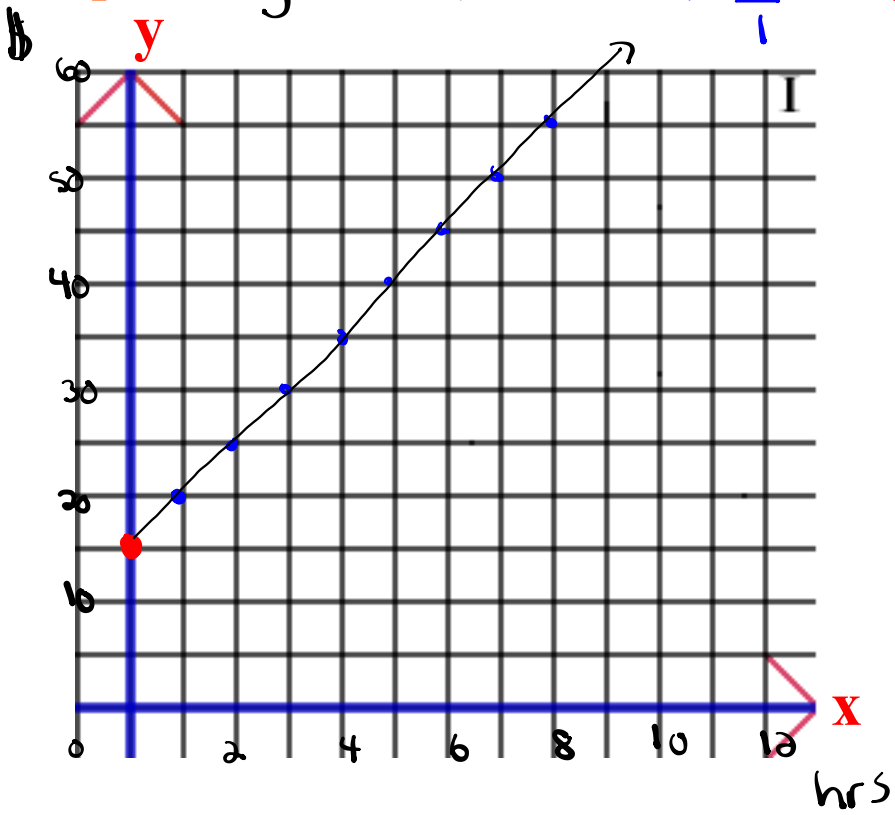
Graph

$y = 5x + 15$ $m = \frac{5}{1}$ $b = 15$ (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 = Total Cost $$

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

($x = 3$)

$y = 5x + 15$

$y = 5(3) + 15$

$y = 15 + 15$

$y = \$30$

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

($y = 45$)

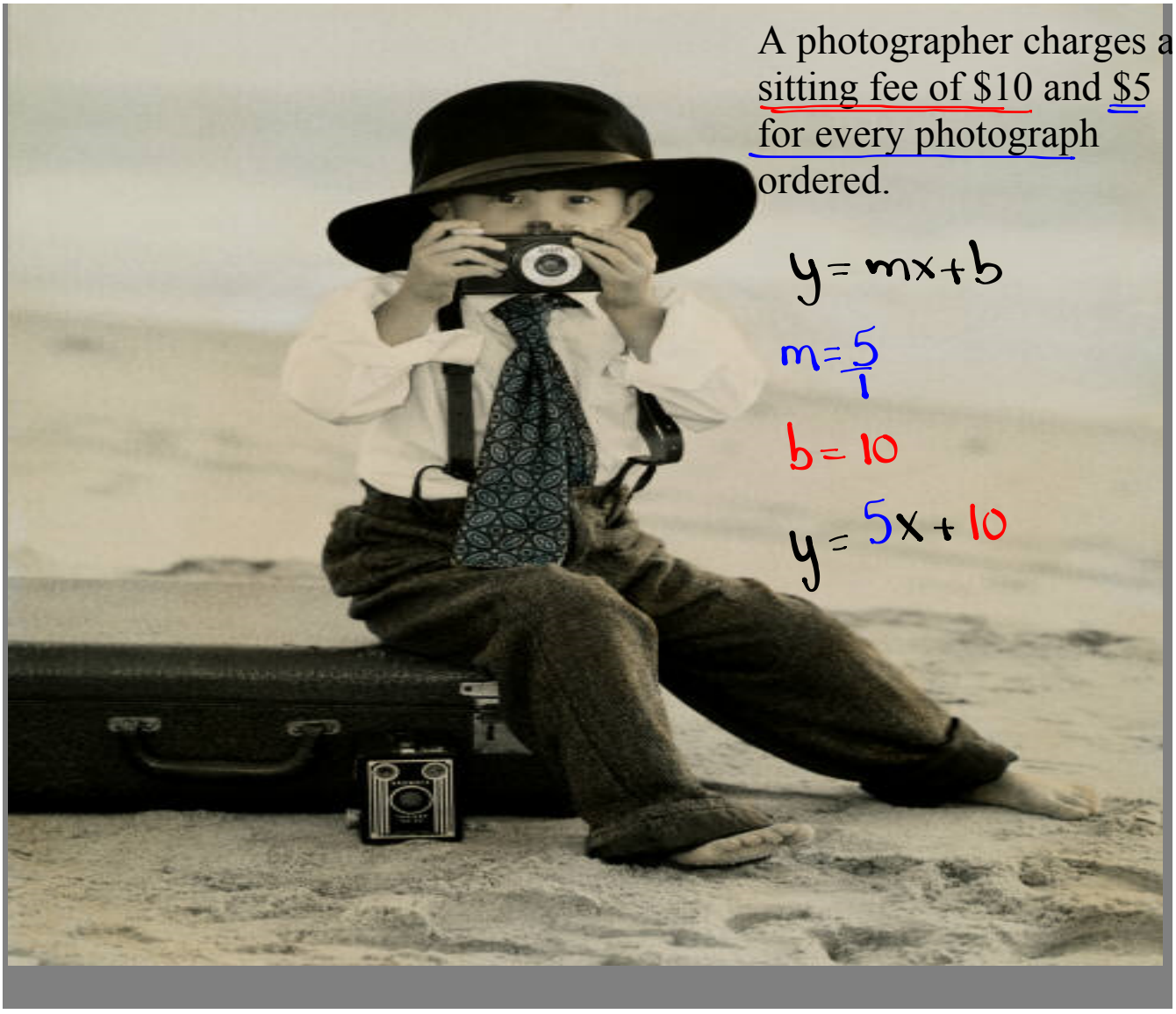
$y = 5x + 15$

$45 = 5x + 15$

$45 - 15 = 5x$

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

$6 \text{ hrs} = x$


A photographer charges a sitting fee of $10 and $5 for every photograph ordered.
y = mx + b
m = 5/1
b = 10
y = 5x + 10

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

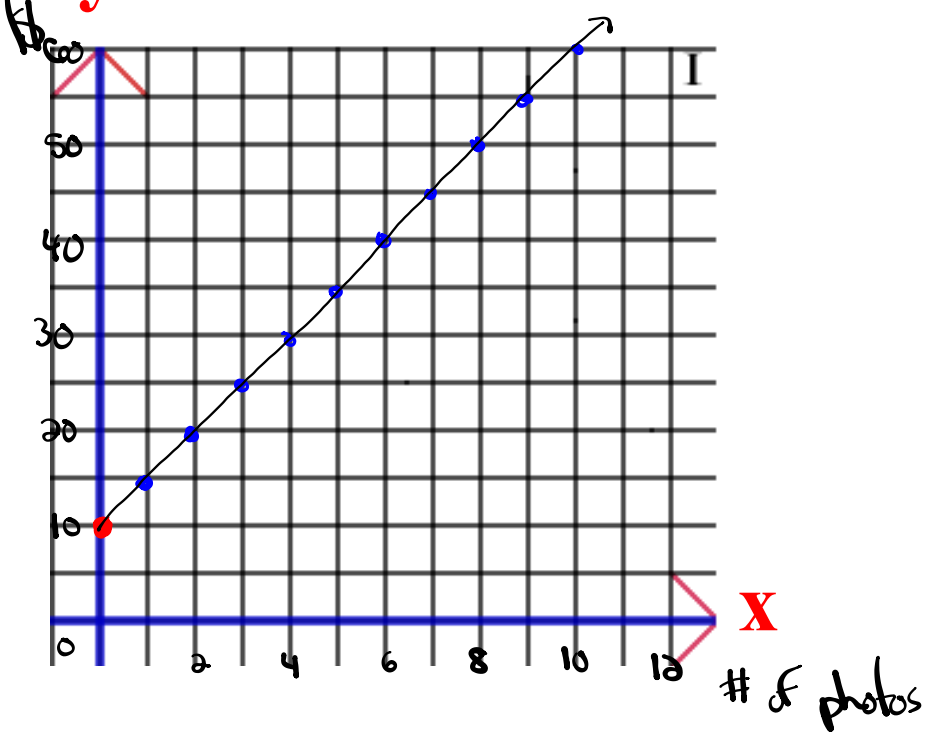
Graph

$y = 5x + 10$

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

$b = 10$ (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?

$(y = 35)$

$y = 5x + 10$

$35 = 5x + 10$

$35 - 10 = 5x$

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

$5 = x$

2. How much would it cost for 8 photographs?

$(x = 8)$

$y = 5x + 10$

$y = 5(8) + 10$

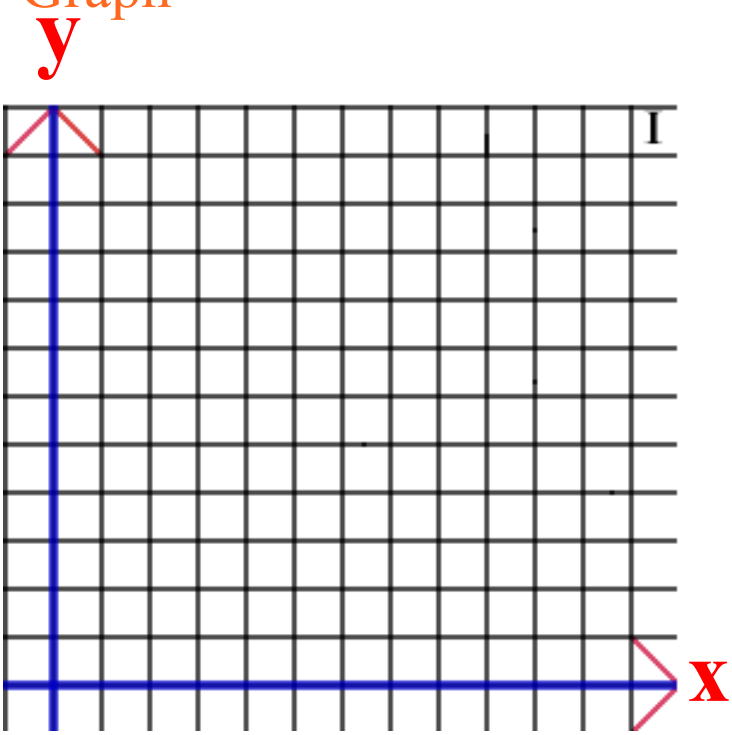
$y = 40 + 10$

$y = \$50$

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

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

Graph

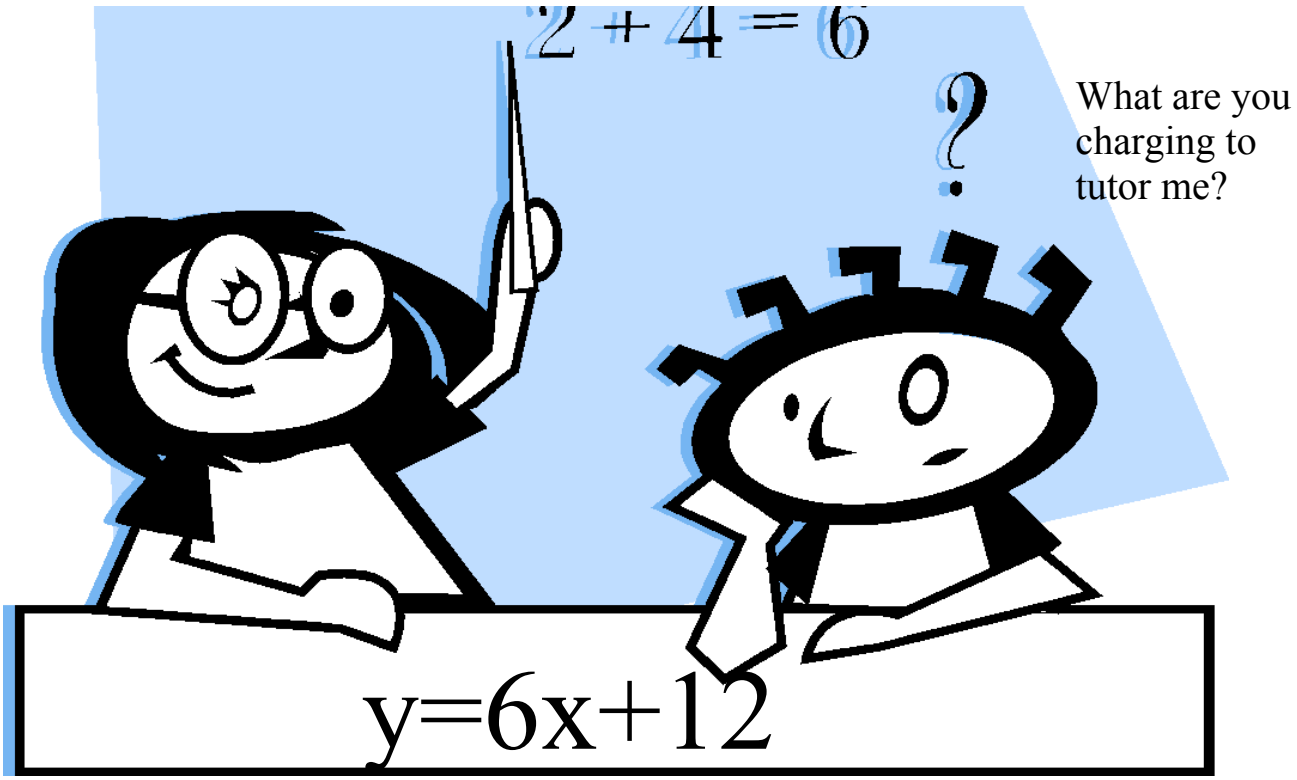


Equation

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

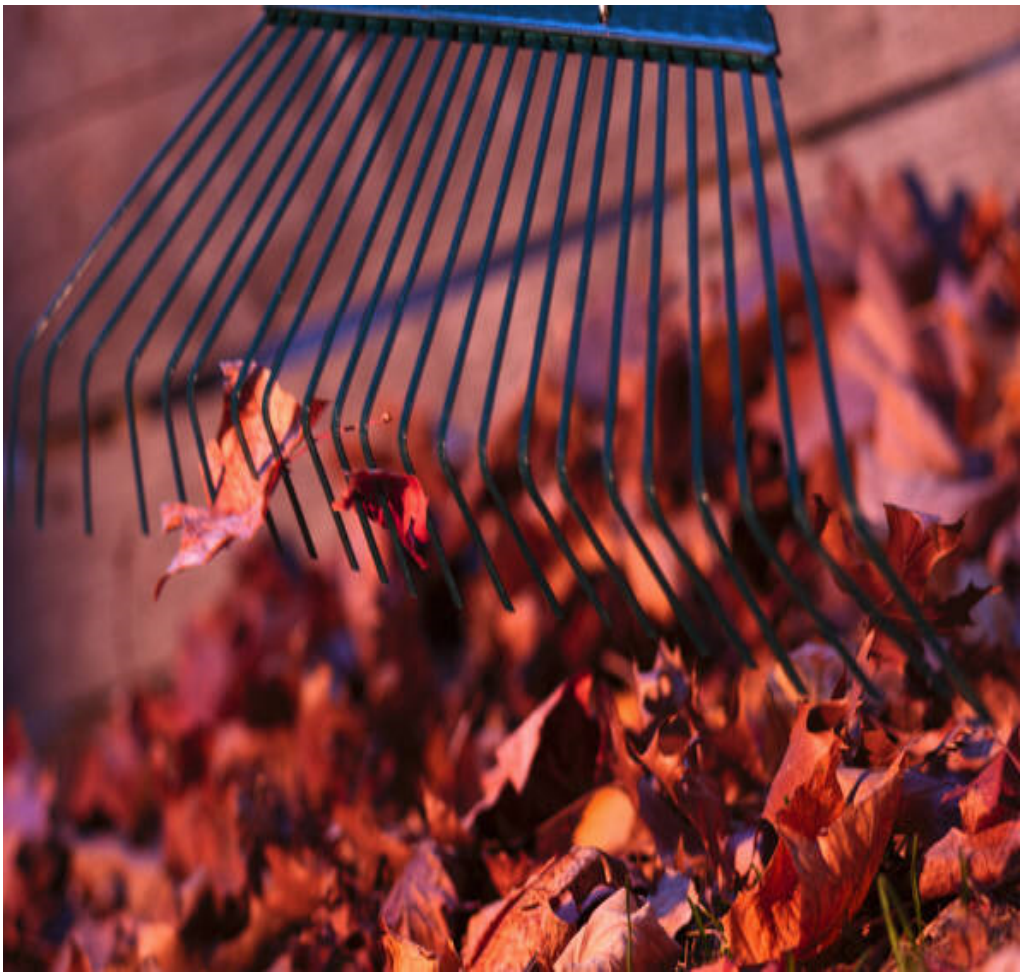
1. **How far can you travel for $75?**

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



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

① $y = 25x + 100$

② $y = 2.5x + 15$

③ $y = 5x + 20$

④ $y = 11x + 60$

a) $x = 41$

$y = 11x + 60$

$y = 11(41) + 60$

$y = 451 + 60$

$y = \$511$

$$y = mx + b$$

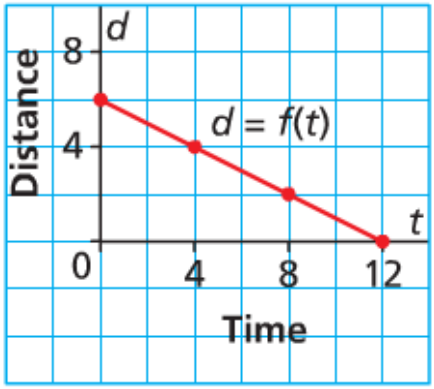
\# \#

m = Rate of Change (Slope)

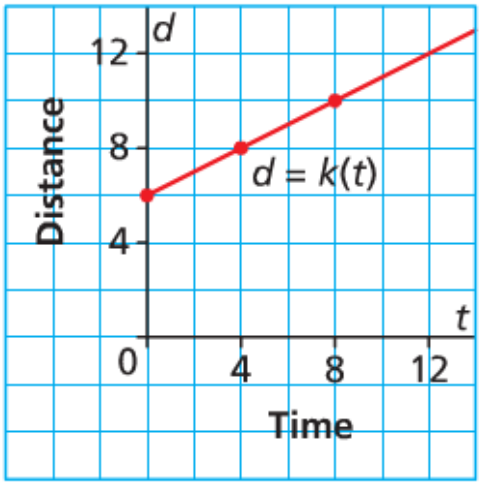
b = initial amount (vertical intercept or y-int.)

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

a)

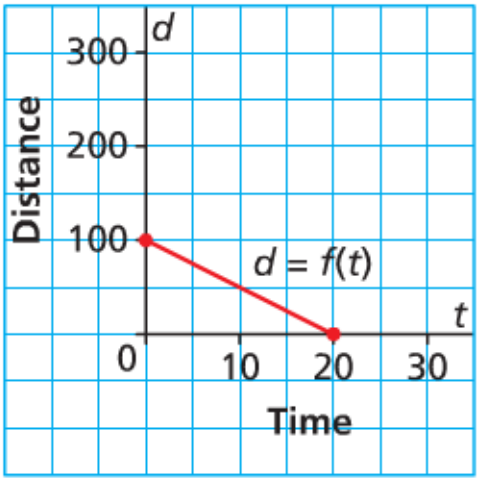


b)

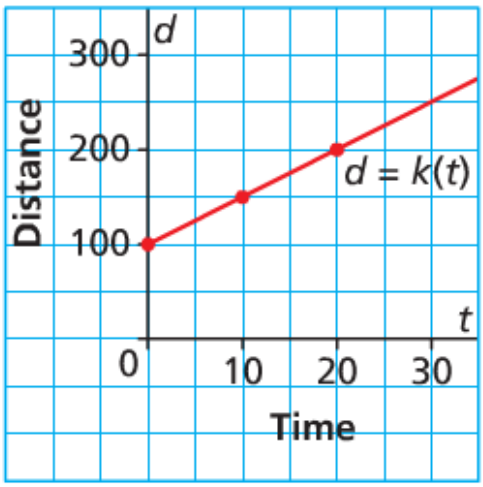


Which graph has a rate of change of -5 and a vertical intercept of 100? Write the equation for each.

a)



b)



State the Y-Intercept & the Rate of Change

Hint y-int = initial amount

a) $y = 5x - 4$

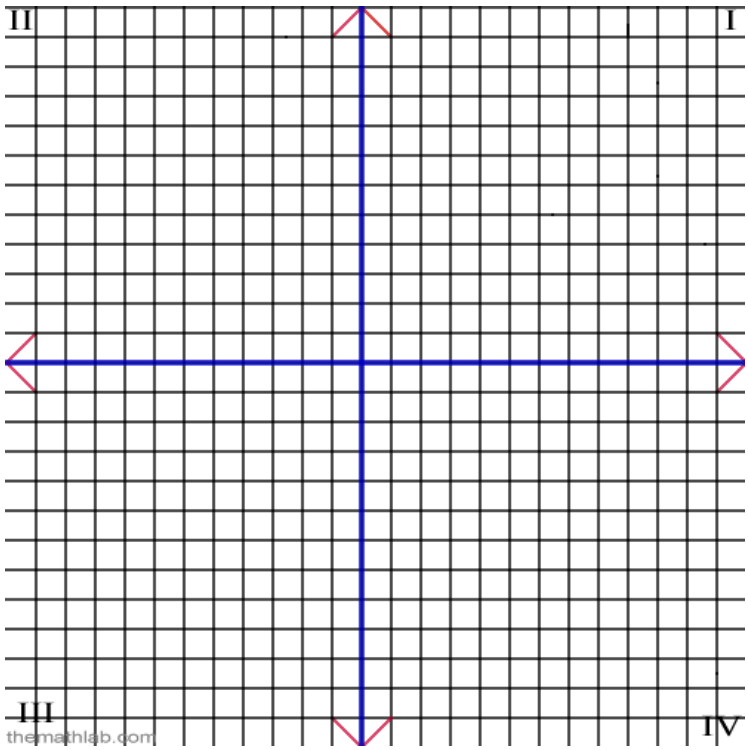
b) $C = 10 + 0.56t$

c) $D = -4h + 200$

Graph the equation y = 3x - 2

Slope: _____

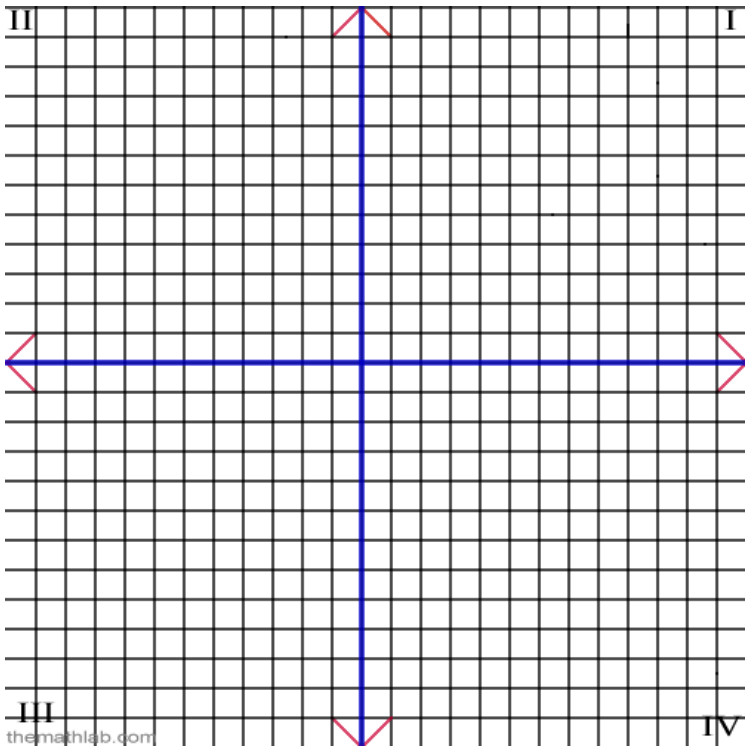
y-int: _____



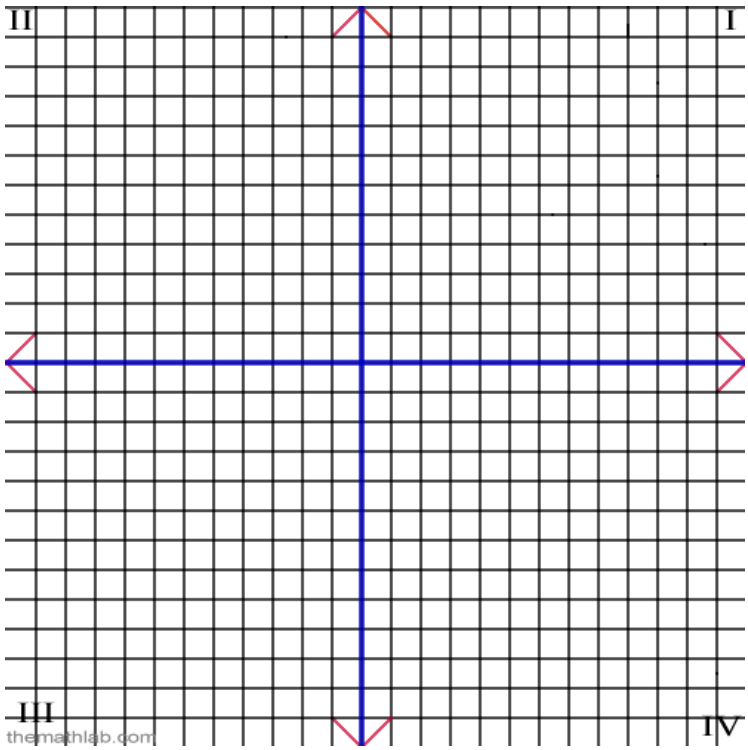
Graph the equation y = -4x +8

Slope: _____

y-int: _____



Graph the equation c = 5t - 3

Slope: _____

y-int: _____