DO NOW

A cab company charges a $4 boarding rate in addition to its meter which is $3 for every mile
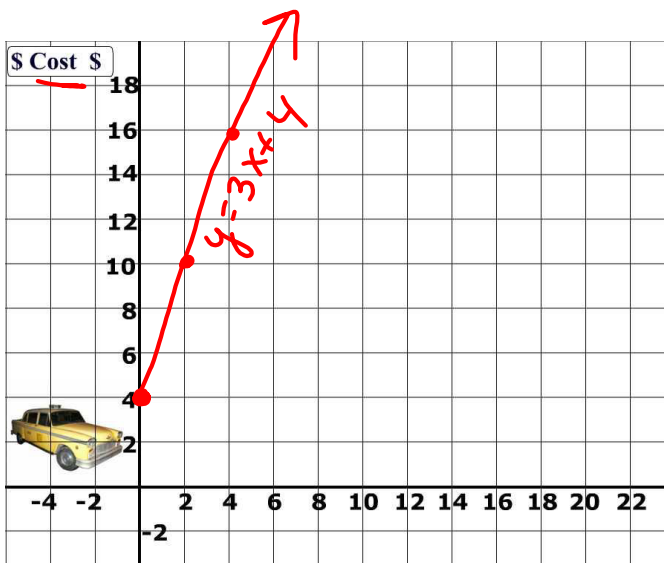
A) Write an equation to represent the company's rate

Let x = # of miles
y = cost

$$y = 3x + 4$$

$$ Cost $$

$y = 3x + y$

B) Graph the equation

$$m = \frac{3}{1} \quad b = 4$$

Dec 2-7:27 AM

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1) $8 Adult ticket

$4 Student ticket

2) Let x = student ticket

y = adult ticket

3x + 4y = 1740

x + y = 530

380 Student tickets

150 Adult tickets

3) Let x = cost of 1 muffin

y = cost of 1 coffee

2x + y = 3.30

3x + 2y = 5.35

Muffin $1.25

Coffee $0.80

4) Let x = tacos

y = juice

3x + y = 7

4x + 2y = 10

Taco $2

Juice $1

5) Let x = laptops

y = monitors

4x + 5y = 60

2x + 4y = 42

laptops = 5 lbs

monitors = 8 lbs

8) Let x = Water slide

y = Ferris Wheel

3x + 3y = 17.70

2x + 3y = 15.55

6) Let x = red

y = blue

12x + 8y = 70

20x + 12y = 110

Red $2\frac{1}{2}$ grams

Blue 5 grams

7) Let x = T/F

y = MC

x + y = 20

3x + 11y = 100

15 T/F

5 MC

$2.15 Water

$3.75 Ferris

Nov 8-9:38 AM

A charity is considering the possibility of having a benefit night at two different restaurants. The owner of the local Italian restaurant has offered to make a donation of $100 and $3 per diner that night. On the other hand, the owner of the Mexican restaurant has said he could contribute $50 plus $4 per diner. Based on the number of diners who have promised to participate in the event, it appears that each restaurant would donate the same total amount. How much would each restaurant donate?
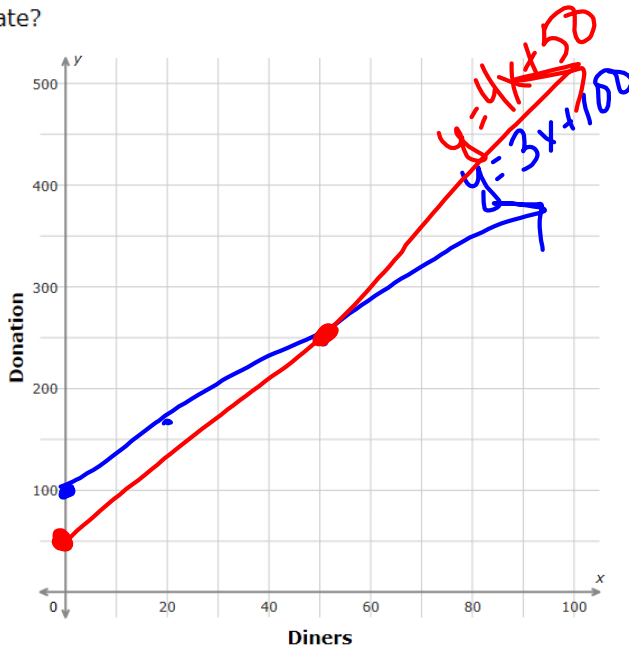
Let x = diners
y = donations

Italian
$$y = 3x + 100$$

Mexican
$$y = 4x + 50$$

$250

Graph labels: y-axis "Donation" (0 to 500), x-axis "Diners" (0 to 100)
$y = 4x + 50$
$y = 3x + 100$

Nov 25-8:28 AM

A new hospital in Lancaster starts out with 10 junior residents and 5 senior residents on its staff. Management plans to hire additional personnel at a rate of 2 junior residents per month and 3 senior residents per month. Eventually, there will be an equal number of each on the hospital staff. How long will that take?

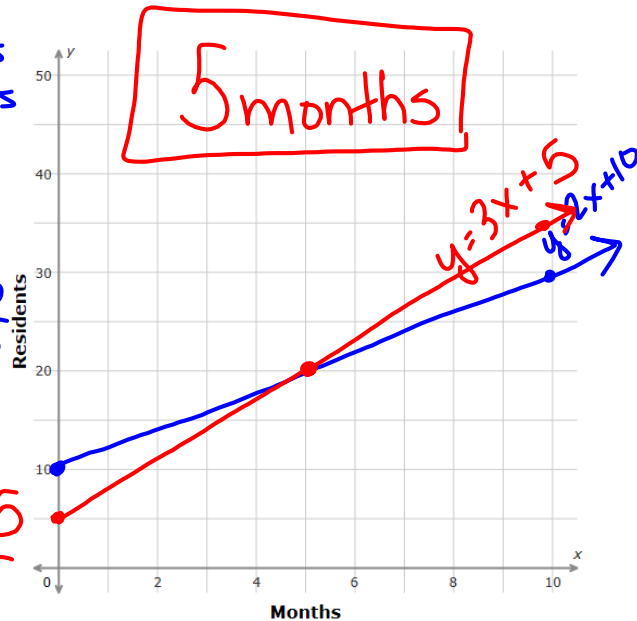Let x = # of months
y = # of residents

5 months

Junior
$$y = 2x + 10$$
$$m = 2 = \frac{10}{5}$$
$$b = 10$$

Senior
$$y = 3x + 5$$
$$m = \frac{3}{1} = \frac{15}{5}$$
$$b = 5$$

Graph labels: y-axis "Residents" (0 to 50), x-axis "Months" (0 to 10)
$y = 3x + 5$
$y = 2x + 10$

Nov 25-8:29 AM

Mia has a home-based business making and selling scented soaps. She initially spent $100 to purchase soap-making equipment, and the materials for each pound of soap cost $8. Mia sells the soap for $12 per pound. Eventually, she will sell enough soap to cover the cost of the equipment. What will be Mia's total sales and costs be?
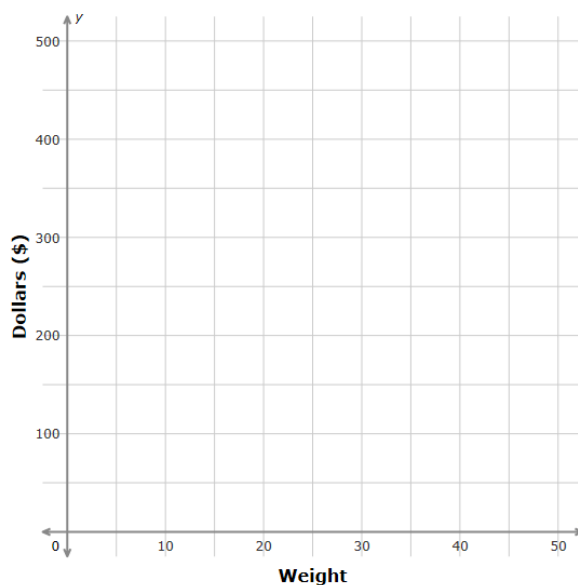
Let x = weight
    y = Money

Sales (Income)
    $y = 12x$

Cost (Expenses)
    $y = 8x + 100$

Graph with y-axis labeled "Dollars ($)" ranging from 100 to 500, and x-axis labeled "Weight" ranging from 0 to 50.

Nov 25-8:31 AM

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