

key

Mr. Belby got into a car accident while driving back from a Macklemore concert. He needs to get a rental car so that he can get to school on Monday. He's trying to choose between two companies, Mose's Mazda's and Holly's Hondas. Mose's charges a \$25 rental fee plus \$0.50 per mile driven. Holly's charges a \$30 rental fee plus \$0.30 per mile driven. After how many miles will the two companies cost the same amount? What will the cost be?

$x = \# \text{ miles}$
 $y = \text{total cost}$

$$\textcircled{1} \quad y_M = .50x + 25$$

$$\textcircled{2}$$

$$y_H = .30x + 30$$

solve by substitution, elimination, or graphing.

$$.50x + 25 = .30x + 30$$

$$.20x = 5$$

$$\boxed{x = 25 \quad y = 37.50}$$

③ Answer the question. The bill will be the same after 25 miles of driving. \$37.50

There are 13 animals in Mr. Tolle's barn. Some are chickens and some are pigs. There are 40 legs in all. How many of each animal are there?

animals
legs

$$\textcircled{1} \quad \begin{aligned} c + p &= 13 \\ 2c + 4p &= 40 \end{aligned}$$

$$\textcircled{2} \quad \begin{aligned} -2c - 2p &= -26 \\ 2c + 4p &= 40 \end{aligned}$$

$$2p = 14$$

$$\boxed{p = 7}$$

$$c + 7 = 13$$

③ There are 7 pigs and 6 chickens

$$\boxed{c = 6}$$

For dinner, Mrs. Wheeler had 10 chicken McNuggets and a medium fry for 840 calories. Mr. Hoffman had 6 chicken McNuggets and two medium fries for 1036 calories. How many calories are there in each item?

$m = \# \text{ cal in McNug}$
 $f = \# \text{ cal in fries}$

$$10m + 1f = 840$$

$$6m + 2f = 1036$$

$$-20m - 2f = -1680$$

$$6m + 2f = 1036$$

$$-14m = -644$$

$$m = 46$$

$$10(46) + f = 840$$

$$f = 380$$

There are 380 calories in med. fries and 46 calories in a McNugget.

Mrs. Pischke is thinking of two numbers. The second number is 8 less than 3 times the first number. Three times the first number minus twice the second number is 10. Find the two numbers.

$$x = 1^{\text{st}} \text{ number}$$

$$y = 2^{\text{nd}} \text{ number} = 3x - 8$$

$$3x - 2(3x - 8) = 10$$

$$3x - 6x + 16 = 10$$

$$-3x = -6$$

$$x = 2$$

$$y = 3(2) - 8 = -2$$

The numbers are ± 2