

## Warm Up

3/24

If you have the following system of equations, what variable will be the easiest to eliminate?

$$\begin{cases} 3x - 5y = 14 \\ 2x + 5y = 25 \end{cases}$$

What operation would you use? *Addition*

Why do we want to eliminate a variable?

$$\begin{array}{r} 3x - 5y = 14 \\ + 2x + 5y = 25 \\ \hline \end{array} \quad \left( \frac{39}{5}, -10.6 \right)$$

$$\begin{array}{r} 5x = 39 \\ \frac{5x}{5} = \frac{39}{5} \\ x = \frac{39}{5} \end{array}$$

$$\begin{array}{r} 2x + 5y = 25 \\ 2\left(\frac{39}{5}\right) + 5y = 25 \end{array}$$

$$5 \left[ \frac{78}{5} + 5y = 25 \right]$$

$$\begin{array}{r} 78 + 25y = 125 \\ -78 \quad -78 \\ \hline \end{array}$$

$$\begin{array}{r} 25y = 47 \\ \frac{25y}{25} = \frac{47}{25} \\ y = \frac{47}{25} \end{array}$$

$$\begin{array}{r} 3x - 5y = 14 \\ 3\left(\frac{39}{5}\right) - 5\left(\frac{47}{25}\right) = 14 \end{array}$$

$$5 \left[ \frac{117}{5} - \frac{47}{5} = 14 \right]$$

$$\begin{array}{r} 117 - 47 = 70 \\ 70 = 70 \checkmark \end{array}$$

$$\left( \frac{39}{5}, \frac{47}{25} \right)$$

**Retakes this  
afternoon!**

## Homework Questions?

Make sure you check the answer keys.

#11 Purple sheet

$$\begin{array}{l} -4x - 9y = 1 \\ 4[-x + 2y = -4] \end{array} \Rightarrow \begin{array}{l} -4x - 9y = 1 \\ -4x + 8y = -16 \end{array}$$

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

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

$$\begin{array}{r} -x - 2 = -4 \\ +2 \quad +2 \end{array}$$

$$\hline -x = -2$$

$$\hline -1 \quad -1$$

$$x = 2$$

$$\hline -17y = 17$$

$$\hline -17 \quad -17$$

$$y = -1$$

Lets solve some  
real life problems

Don't forget ...

**LET**

**STATEMENTS**

For each problem, your set up should look like this:

Let  $x =$

Let  $y =$

{

## Use 3 Reads

The sum of two numbers is 36. Their difference is 6. Find the numbers.

## 2nd Read

What are our variables?

The sum of two numbers is 36. Their difference is 6. Find the numbers.

Let  $x$  = first #

Let  $y$  = 2<sup>nd</sup> #

## 3rd Read

What are our equations?

The sum of two numbers is 36. Their difference is 6. Find the numbers.

$$x + y = 36$$

$$x - y = 6$$

# First Read

A theater sold 900 tickets to a play. Floor seats cost \$12 each and balcony seats \$10 each. Total receipts were \$9,780. How many of each type of ticket were sold?

## 2nd Read

What are our variables?

A theater sold 900 tickets to a play. Floor seats cost \$12 each and balcony seats \$10 each. Total receipts were \$9,780. How many of each type of ticket were sold?

$x = \#$  of floor seats

$y = \#$  of balcony seats

## 3rd Read

What are our equations?

A theater sold 900 tickets to a play. Floor seats cost \$12 each and balcony seats \$10 each. Total receipts were \$9,780. How many of each type of ticket were sold?

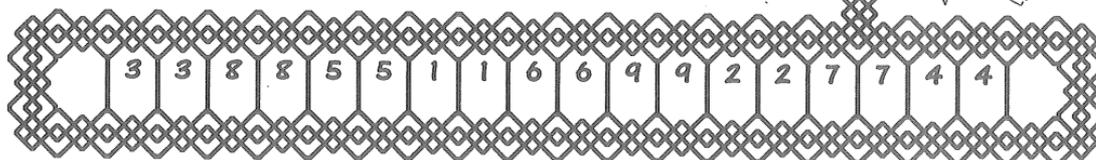
$$\begin{cases} 12x + 10y = 9780 \\ x + y = 900 \end{cases}$$

# What Do You Get When You Cross a Monastery With a Lion?

Write the two letters for each correct answer in the two boxes with the exercise number.

- The sum of two numbers is 92. Their difference is 20. Find the numbers.
- The difference of two numbers is 16. The greater number is 5 less than 4 times the smaller number. Find the numbers.
- A 100-foot cable is cut into two pieces. The first piece is 18 ft longer than the second. How long is each piece?
- Three apples and four bananas cost \$4.85. Three apples and ten bananas cost \$8.75. Find the cost of an apple.
- Stilt scored 5 points less than twice the number scored by Dunk. Together they scored a total of 43 points. How many points were scored by each player?
- Bert's age plus twice Ernie's age is 30. Three times Bert's age plus 8 times Ernie's age is 108. How old are Bert and Ernie?
- The Rocket Coaster has 15 cars, some that hold 4 people and some that hold 6 people. There is room for 72 people altogether. How many 4-passenger cars are there? How many 6-passenger cars are there?
- Tickets to the Valentine Dance cost \$3 per person or \$5 per couple. If \$475 worth of tickets were sold and 180 people attended the dance, how many couples were there?
- Pi High School ordered 40 science books. The next week, the school ordered 30 algebra books. The bill for the first order was \$360 greater than the bill for the second order. The two bills together totaled \$3960. Find the price of an algebra book.

OF	14, 10
LA	9, 6
AR	59 ft, 41 ft
EN	\$0.82
IA	\$60
NG	56, 36
SO	25, 18
FR	12, 9
ED	62
TH	57 ft, 43 ft
RP	23, 7
EE	\$57
OA	65
RI	27, 16
ST	58, 38
CE	\$0.75
EA	8, 7



# Homework

Finish classwork