

## ! DAILY QUEST

1) Jimbo paid \$12.50 for a shirt with a sales tax of 7% included, but he doesn't remember the price without tax. What was the price of the shirt? Write an equation to model the situation. Then solve the equation.

0.07%

$$\begin{array}{l} \text{original} \\ \text{cost} \\ \text{shirt} \\ X \end{array} + \text{Tax} = \text{Total}$$

$$X + .07X = 12.50$$

2) Solve.  $6x + 3 = 2(3x + 3)$

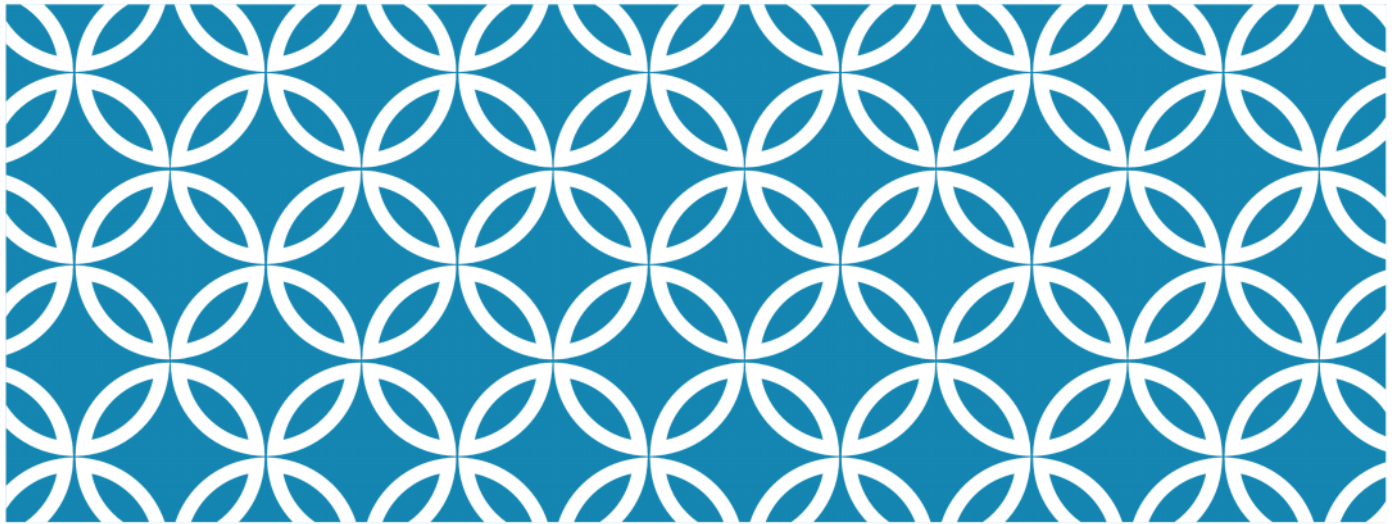
$$\begin{array}{r} \cancel{6x} + 3 = \cancel{6x} + 6 \\ -\cancel{6x} \quad -\cancel{6x} \end{array}$$

$$3 = 6$$

→ No Solution

$$\frac{1.07x = 12.50}{1.07} \quad \frac{12.50}{1.07}$$

$$x = 11.68$$



## LESSON 5.1

# 6. DETERMINE IF A POINT IS A SOLUTION 7. TABLE TO GRAPH

**Goal:** To solve equations/inequalities in math and real world context and to write rules for arithmetic sequence.

**Obj:** SWBAT determine if a coordinate is a solution to a equation.

**Obj:** SWBAT graph points.

## EXPLORING SOLUTIONS

What two values will make this equation make sense?

→  $x + y = 10$

x	y
1	9
2	8
3	7
4	6
5	5
etc	

x	y
-1	11
-2	12
13	-3
etc	

Solutions  
Points

x	y
5	6

Not a solution (Not on the line)

## EXPLORING SOLUTIONS

What two values will make this equation make sense?

$$x - y = 5$$

## ODD ONE OUT ACTIVITY

Each group is given an equation.

Each person is given an order pair.

Each student **thinks/works quietly** to determine if there order pair is a solution to the equation.

Then they do a Round Robin to share there answer and work. Students must **prove** they do or do not have the solution.

$$2x + 3y = 24$$

 $(6, 4)$  $(-2, 10)$ 

$$\begin{array}{l} 2(-2) + 3(10) = 24 \\ -4 + 30 \\ 26 \neq 24 \end{array} \quad \begin{array}{l} \text{Not a} \\ \text{Solution} \end{array}$$

 $(12, 0)$  $(-6, 12)$

**PROBLEM 1:**

Determine if the order pair is a solution to the equation? What does it mean graphically?

$$x - 3y = 8$$

$$\begin{matrix} (-10, -6) \\ x \quad y \end{matrix}$$

$$\begin{aligned} -10 - 3(-6) &= 8 \\ -10 + 18 &= 8 \\ 8 &= 8 \checkmark \end{aligned}$$

Solution

The point is on  
the line

$$\begin{matrix} (-2, -4) \\ x \quad y \end{matrix}$$

$$\begin{aligned} -2 - 3(-4) &= 8 \\ -2 + 12 &= 8 \\ 10 &\neq 8 \end{aligned}$$

Not a solution

The point is not on  
the line.

**PROBLEM 1A:**

Determine if the order pair is a solution to the equation? What does it mean graphically?

$$2(x + 1)^2 + 3y = 15$$

$(1, -1)$

$(-1, 5)$



## PROBLEM 2:

Complete the table and graph the line.

$$x - 2y = 8$$

$x$	$y$
-4	-6
-2	-5
0	-4
2	-3
4	-2
8	0

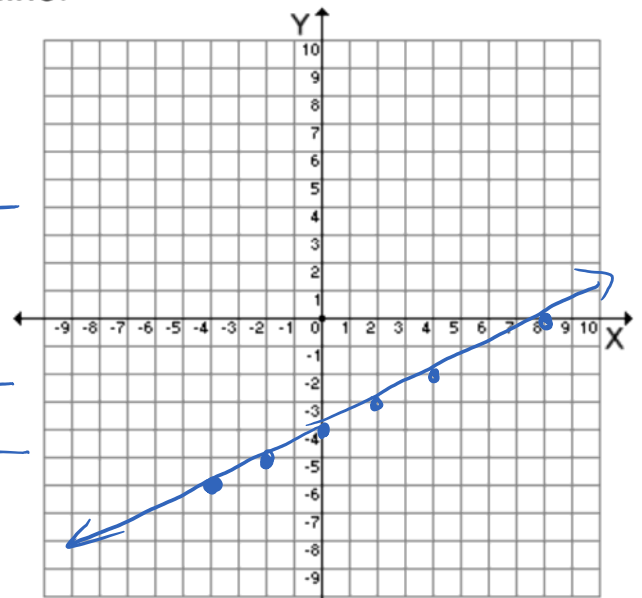
$$\begin{array}{r} -4 - 2y = 8 \\ +4 \quad \quad +4 \\ \hline -2y = 12 \end{array}$$

$$\begin{array}{r} -2 - 2y = 8 \\ +2 \quad \quad +2 \\ \hline -2y = 10 \end{array}$$

$$\begin{array}{r} -2y = 8 \end{array}$$

$$\begin{array}{r} 2 - 2y = 8 \\ -2 \quad \quad -2 \\ \hline -2y = 6 \end{array}$$

$$\begin{array}{r} 4 - 2y = 8 \\ -4 \quad \quad -4 \\ \hline -2y = 4 \end{array}$$

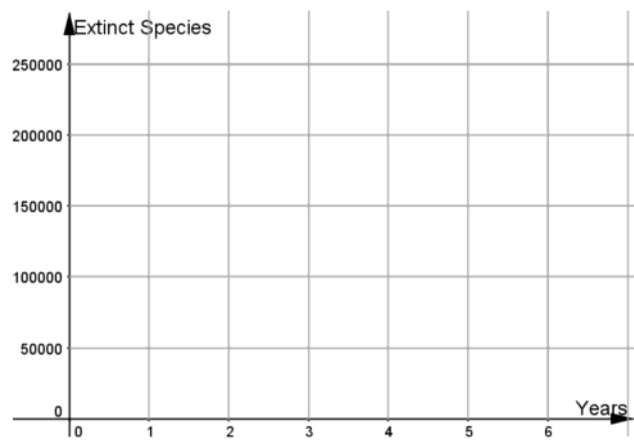


$$\begin{array}{r} 8 - 2y = 8 \\ -8 \quad \quad -8 \\ \hline -2y = 0 \end{array}$$

## PROBLEM 2A:

The equation  $y = 25,000x$  describes the average number of a species  $y$  that become extinct in  $x$  years. Graph the equation.

$x$ (years)	$y$ (extinct species)
0	
2	
4	
6	

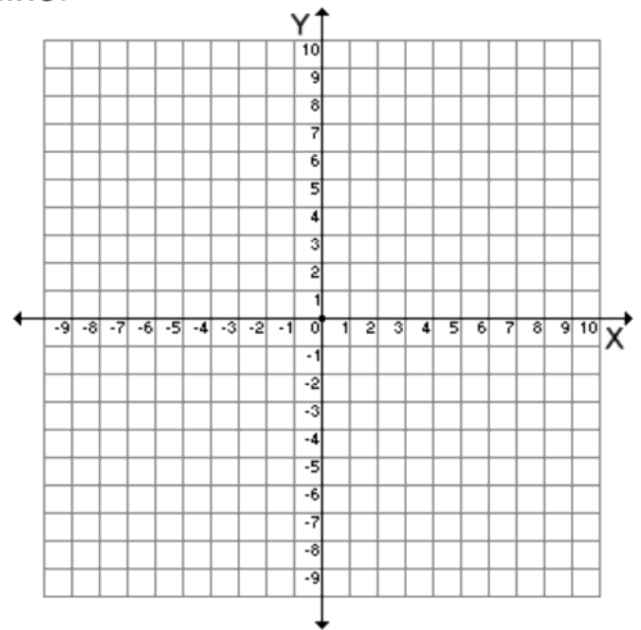


**PROBLEM 2B:**

Complete the table and graph the line.

$$y = 3x - 7$$

$x$	$y$
-1	
0	
1	
2	
3	
4	



## ASSIGNMENT

Pg 122; 3-7, 12-14, 16, 18

use these points for Problem 6  
 $x = -1, -0.5, 0, 2, 4$