

# Thursday, April 11, 2019

when  $x=2$  both  $y=0$   
 when  $x=5$  both  $y=3$

- Warm-up

- The screen at the right shows the y- and x-values for the system  $y1 = x^2 - 6x + 8$  and  $y2 = x - 2$ .

- Explain how to use the table to find solutions to the system.

- State the solutions.  $(2, 0)$   $(5, 3)$

- Check the solutions.

X	Y1	Y2
-1	15	-3
0	8	-2
1	3	-1
2	0	0
3	-1	1
4	0	2
5	3	3

X = -1

- Review

$$0 = 2^2 - 6(2) + 8 \quad 0 = 2 - 2$$

$$0 = 4 - 12 + 8 \quad 0 = 0$$

$$0 = -8 + 8$$

$$0 = 0$$

$$3 = 5^2 - 6(5) + 8 \quad 3 = 5 - 2$$

$$3 = 25 - 30 + 8 \quad 3 = 3$$

$$3 = 5 - 2$$

$$3 = 3$$

## Objectives

**Content:** I will review the process of solving **systems** of both **linear** and **quadratic** equations.

**Social:** I will not distract others from reviewing for the test.

**Language:** I will write clear notes using appropriate vocabulary such as **intersection**, **equivalent**, **sum** and **solution**.

# Review Graphing

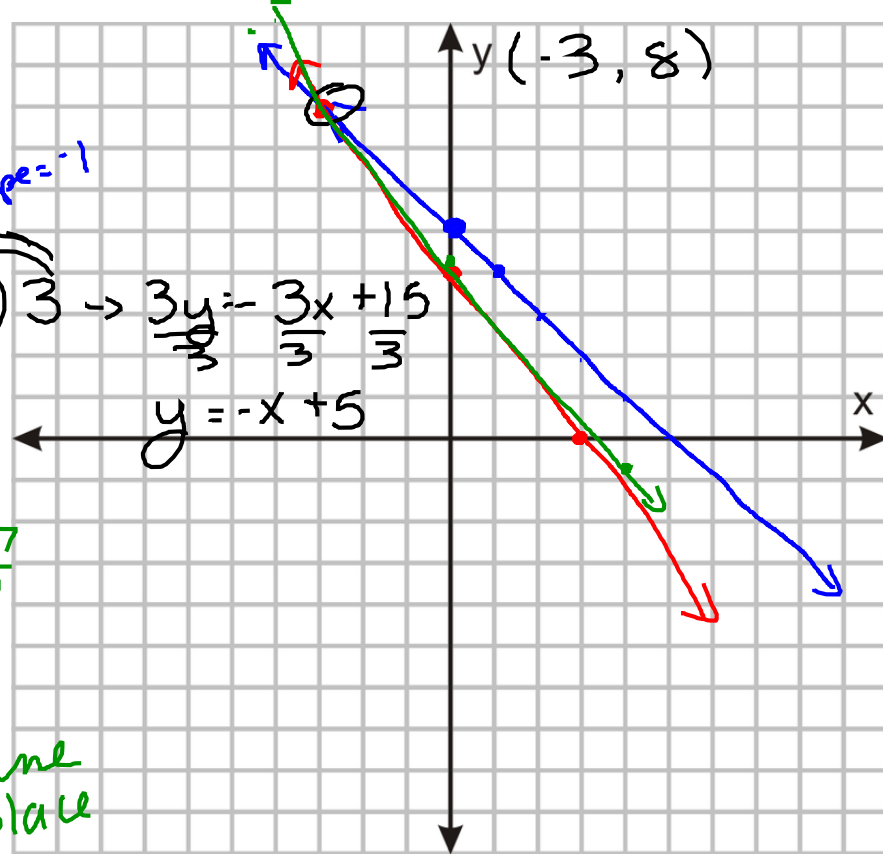
Solve for y

- Graph the following 2 lines

$$x + y = 5 \rightarrow (y = -x + 5) \quad \begin{matrix} \text{slope} = -1 \\ \text{intercept} = 5 \end{matrix}$$

$$+ \quad 4x + 3y = 12 \rightarrow y = -\frac{4}{3}x + 4$$

$$\underline{5x + 4y = 17} \rightarrow y = -\frac{5}{4}x + \frac{17}{4}$$



- Add them together

Graph the sum  $\rightarrow$  intersects at the same place

- Multiply the first by 3 and divide the 2<sup>nd</sup> by 2

- Graph them

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# Monday's Exit Slip

$$3(3x + 4y = 12) \rightarrow 9x + 12y = 36$$

$$-4(4x + 3y = -5) \rightarrow -16x - 12y = -20$$

$$\frac{-7x}{-7} = \frac{56}{-7}$$

$$x = -8$$

What is the value of  $x + y$  in the system of equations shown above?

$$\begin{array}{r} -8 + 9 \\ 1 \end{array}$$

$$3(-8) + 4y = 12$$

$$\begin{array}{r} -24 + 4y = 12 \\ +24 \quad +24 \end{array}$$

$$\frac{4y}{4} = \frac{36}{4}$$

$$y = 9$$

1			
.	1	1	.
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

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# Another Word Problem

$$\times 10 = 68.70$$

Ten pounds of mixed nuts sells for \$6.87 per pound. The mixture is obtained from two kinds of nuts, peanuts priced at \$5.70 per pound and cashews at \$8.70 per pound. How many pounds of each variety of nut are used in the

Equation s

mixture?  $\rightarrow$

$P = 10 - 3.897$  peanuts 5.70

$C = 6.103$  cashews 8.70

$$P = 10 - C$$

$$\begin{aligned} P + C &= 10 \\ 5.70P + 8.70C &= 68.70 \\ &\quad - 8.70C \quad - 8.70C \end{aligned}$$

$$\begin{aligned} 10 - C &= 12.05 - 1.526C \\ -10 + 1.526C &\quad -10 + 1.526C \end{aligned}$$

$$\frac{5.70P}{5.70} = \frac{68.70 - 8.70C}{5.70}$$

$$\frac{0.526C}{0.526} = \frac{2.05}{0.526}$$

$$P = 12.05 - 1.526C$$

$$C = 3.897$$

6.103 pounds of peanuts and 3.897 pounds of cashews are used.

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# Work a little more on review

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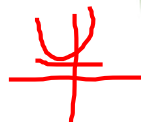
**Language:** I will write clear notes using appropriate vocabulary such as **intersection**, **equivalent**, **sum** and **solution**.

# One Page

Graphing Method  
Elimination  
Substitution

Check Your Answers!

One Solution



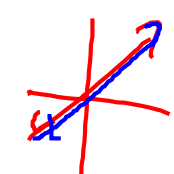
Two Solutions



No Solutions



Infinite Solutions



→ never true  $2=0$   
always true  $0=0$

Word Problems

→ Mixture Problems

$$\begin{array}{r} 4.3 = 12 \\ \frac{4}{4} \cdot \frac{3}{4} \\ \hline = 3 \end{array}$$

$$\begin{array}{r} \frac{3}{4} \cdot \frac{4}{3} x \\ \hline \frac{12}{12} x \\ \hline 1x \end{array}$$

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