Warmup 12/(# of E's in "Tennessee Titans")

Make sure there is a whiteboard, marker, & eraser in your desk.
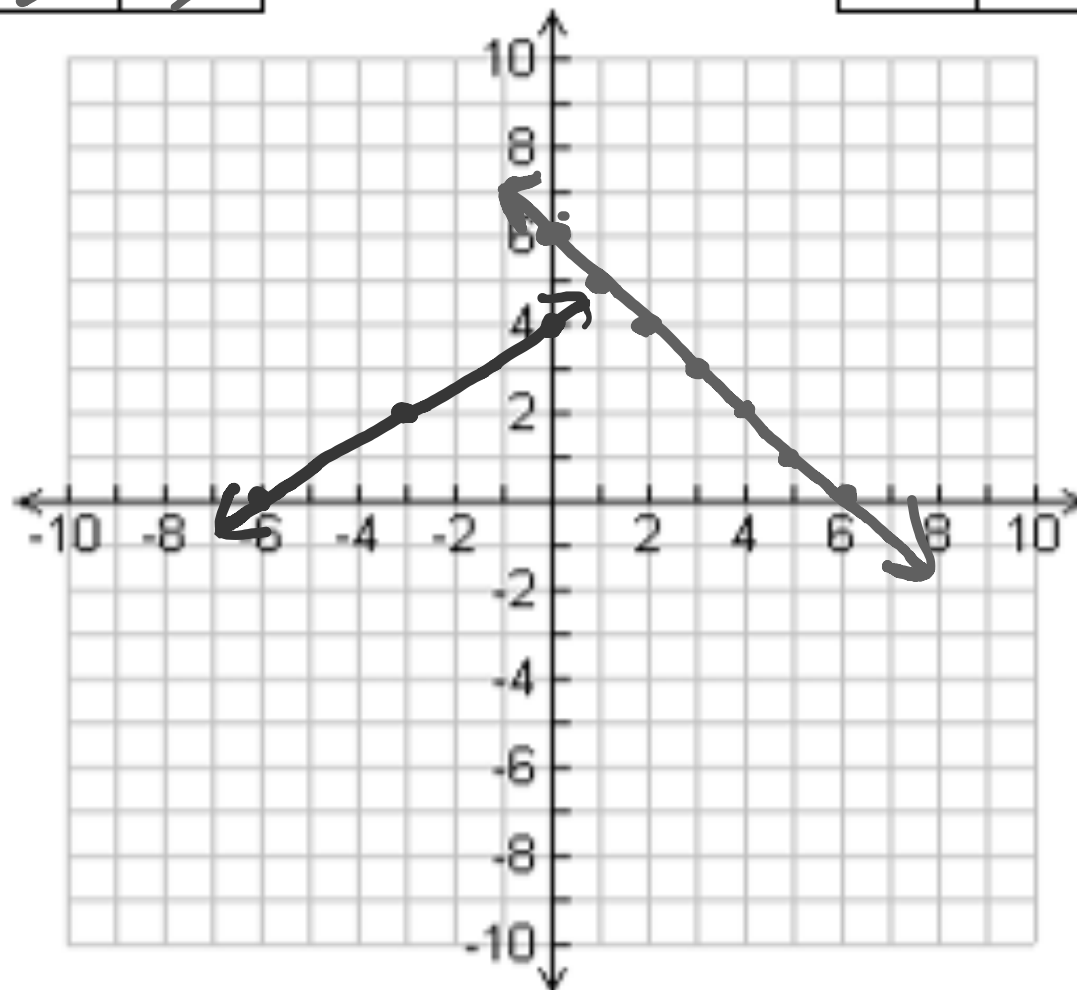
1. This warmup will be a Check for Understanding on a separate sheet of paper. On your warmup sheet, you can just write "CFU."

1) $x + y = 6$

x	y
0	6
2	4
3	3

2) $-2x + 3y = 12$

x	y
0	4
-6	0
-3	2

3) $6 + y = 2x$

$-6 \qquad\quad -6$

$\qquad\qquad y = 2x - 6$

4) $-3x + 4y = 16$

$+3x \qquad\qquad +3x$

$\qquad \dfrac{4y}{4} = \dfrac{16 + 3x}{4}$

$\qquad\qquad y = 4 + \dfrac{3}{4}x$
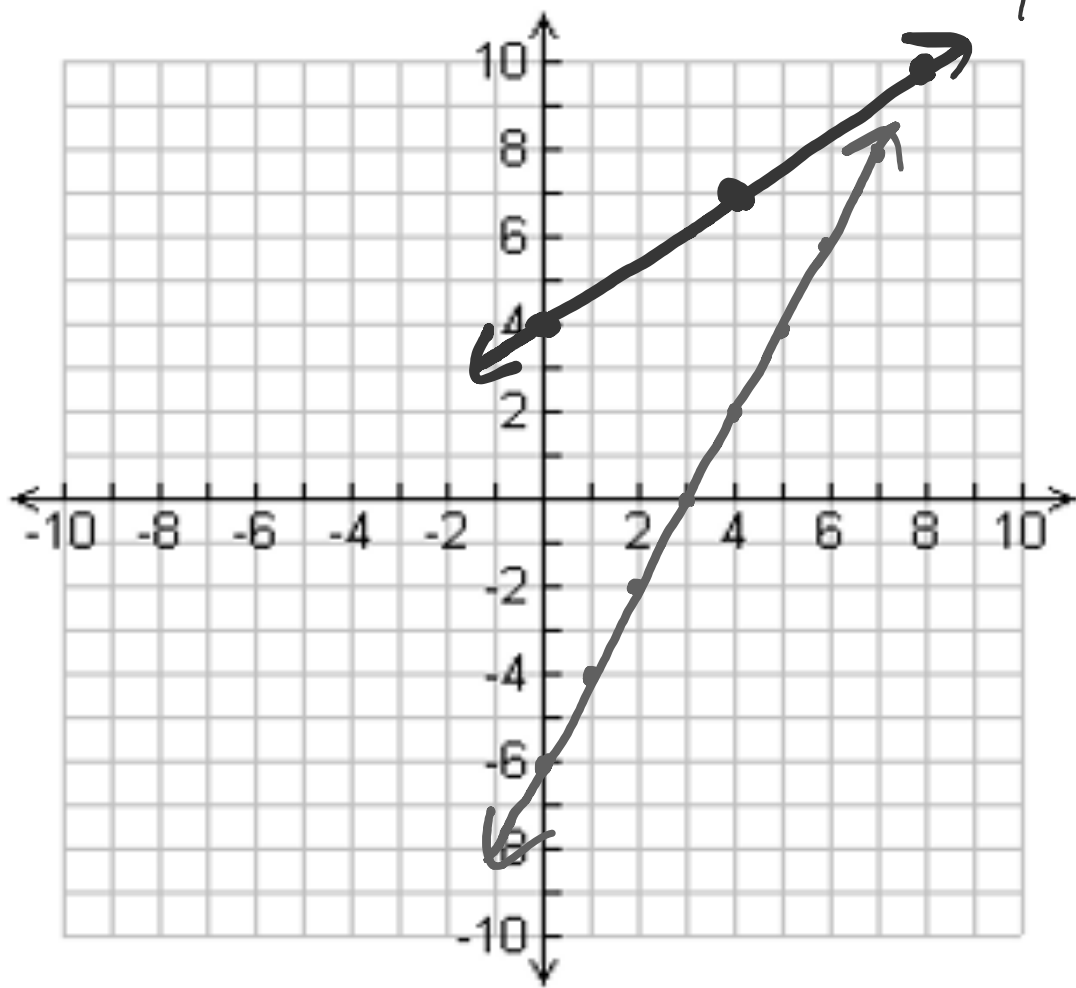
Check HW

Another way to solve systems…

- Look at #2 on your homework.

$$\begin{cases} y = 2x - 8 \\ y = -3x + 7 \end{cases}$$

Since y = both, you can set them equal to each other

$$2x - 8 = -3x + 7$$

Then solve…

- $x = 3$ **(Does this match your original answer?)**
- **How can we get y?**

Due on Friday, 12/13

- **Midterm Review Packet**
- **Worth a small summative grade! (0.5 or 0.25)**
- **39 problems total**
- **50% of the grade comes from completion (doing every problem)**
- **50% of the grade comes from me grading TEN of your problems for accuracy (same 10 problems for each student)**

- **IF YOU DON'T REMEMBER HOW TO DO ONE:**
  - **Look in your notes**
  - **Look up old lessons on the website**
  - **Have a friend help you**
  - **Find time to ask Mr. Lischwe**
  - **DO NOT JUST GUESS AND MOVE ON!!!**

Table of Contents

Solving Systems by Substitution

Objective:

-Use a new strategy (substitution) to solve systems of equations. (No graphs, just pencil/paper)

WHITEBOARDS

Solve the System of Equations using Substitution

$$x + y = 10$$

$$y = 2$$

(8, 2)

Solve the System of Equations using
Substitution

$$5x + 5y = 100$$

$$y = 5$$

$5x + 5(5) = 100$

$5x + 25 = 100$

$5x = 75$

$x = 15$

(15, 5)

Solve the System of Equations using Substitution

$$y = x + 100$$

$$y = 45$$

$45 = x + 100$

$\underline{-100 \qquad -100}$

$-55 = x$

(-55, 45)

Solve the System of Equations using
Substitution

$$3x + 10y = 20$$

$$x = \boxed{6}$$

$3(6) + 10y = 20$

$18 + 10y = 20$

$10y = 2$

$y = \dfrac{2}{10}$

(6, $\dfrac{1}{5}$)

Solve the System of Equations using Substitution

$$4x + y = 24$$

$$y = \boxed{2x}$$

Now find y:

$$4x + y = 24$$

$$4x + 2x = 24$$

$$6x = 24$$

$$x = 4$$

$$y = 2x$$

$$y = 2(4)$$

$$y = 8$$

$$(4, 8)$$

CHECK:

Solution: (4, 8)

4x + y = 24

4(4) + 8 = 24

16 + 8 = 24

24 = 24 ✓

Solve by Substitution:

$$2x - y = 15$$

$$x = 3y$$

$$2x - y = 15$$
$$2(3y) - y = 15$$
$$6y - y = 15$$
$$5y = 15$$
$$y = 3$$

Now find x:

$$x = 3y$$
$$x = 3(3)$$
$$x = 9$$

$$(9, 3)$$

CHECK:

Solution: (9, 3)

$2x - y = 15$

$2(9) - 3 = 15$

$18 - 3 = 15$

$15 = 15$ ✓

Substitution Strategy:

- If y = (stuff) you can **replace** the y from the other equation with the (stuff)
  - Same with x = (stuff)

Homework (Due ~~Monday~~) FRIDAY

- p.247 (1 – 10, 14, 15)