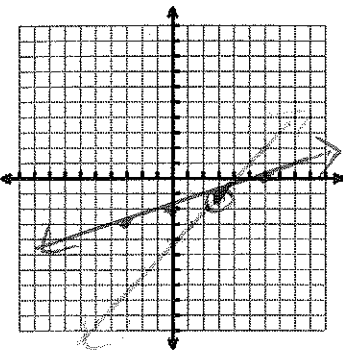
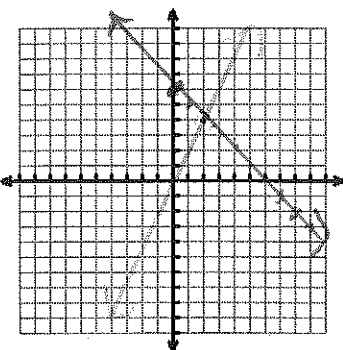
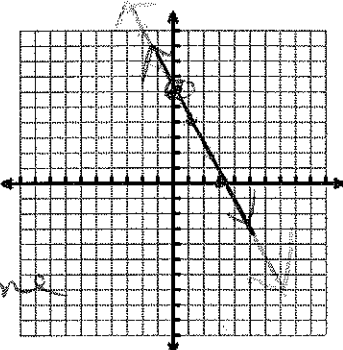
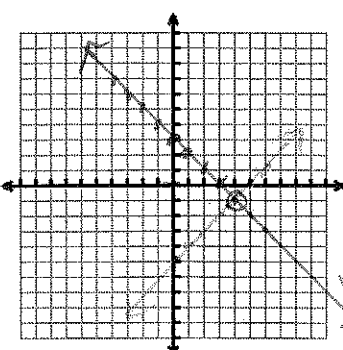


Writing and Solving Systems

Homework PreAP

Name Key
 Date _____ Period _____

Graph the systems of equations and determine the solution. Substitute the ordered pair into both equations to verify, or check, your solution. Show your work.

System	Graph	Point of Intersection/ Verify the point is a solution <i>FSS</i>
1. $\begin{cases} y = x - 4 \\ y = \frac{1}{3}x - 2 \end{cases}$		$(3, -1)$ $y = x - 4 \quad y = \frac{1}{3}x - 2$ $-1 = 3 - 4 \quad -1 = \frac{1}{3}(3) - 2$ $-1 = -1 \checkmark \quad -1 = 1 - 2$ $-1 = -1 \checkmark$
2. $\begin{cases} y = -x + 6 \\ y = 2x \end{cases}$		$(2, 4)$ $y = -x + 6 \quad y = 2x$ $4 = -(2) + 6 \quad 4 = 2(2)$ $4 = 4 \checkmark \quad 4 = 4 \checkmark$
3. $\begin{cases} 4x + 2y = 12 \\ y = 6 - 2x \end{cases}$ $\begin{array}{r} 4x + 2y = 12 \\ -4x \quad -4x \\ \hline 2y = -4x + 12 \\ \frac{2y}{2} = \frac{-4x + 12}{2} \\ \hline y = -2x + 6 \end{array}$ Same		Infinitely many solutions
4. $\begin{cases} x + y = 3 \\ x - y = 5 \end{cases}$ $y = -x + 3$ $y = x - 5$		$(4, -1)$ $x + y = 3 \quad x - y = 5$ $4 + (-1) = 3 \quad 4 - (-1) = 5$ $3 = 3 \checkmark \quad 5 = 5 \checkmark$

5. Maryann and Carlos are each saving for new scooters. So far, Maryann has \$9 saved, and can earn \$6 per hour babysitting. Carlos has \$3 saved, and can earn \$9 per hour working at his family's restaurant.

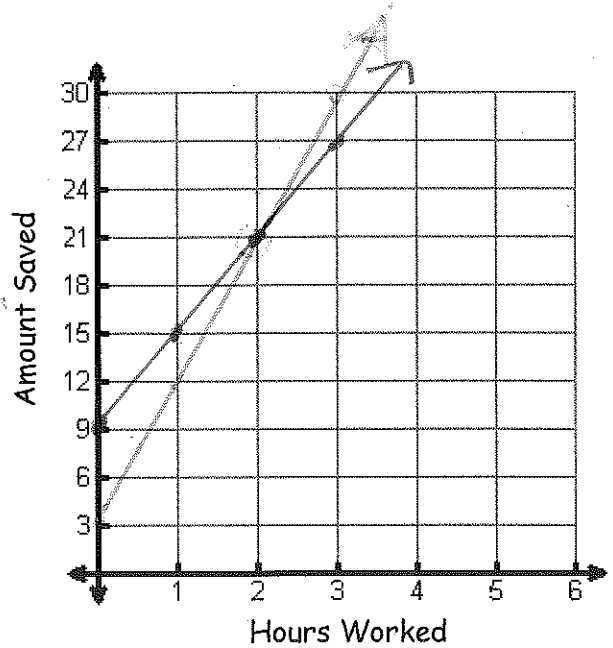
$+9$ $+6h$
 $+3$ $+9h$
 S : dollars saved
 h : hours worked

a. Write a system of equations to represent this situation.

$$S = 9 + 6h$$

$$S = 3 + 9h$$

b. Graph the system of equations.



c. After how many hours of work will Maryann and Carlos have saved the same amount?

After 2 hours

d. What will that amount be?

They will have both saved \$21

e. Verify that the solution is correct. fss $(2, 21)$

$S = 9 + 6h$	$S = 3 + 9h$
$21 = 9 + 6(2)$	$21 = 3 + 9(2)$
$21 = 9 + 12$	$21 = 3 + 18$
$21 = 21 \checkmark$	$21 = 21 \checkmark$

6. Which ordered pair is a solution to the system $\begin{cases} 2x - y = -2 \\ \frac{1}{3}y = x \end{cases}$?

A (0, 2) $\frac{1}{3}(2) \neq 0$ $\frac{2}{3} \neq 0$	B (1, 3) $\frac{1}{3}(3) = 1$ $1 = 1 \checkmark$ $2(1) - (3) = -1 \neq -2$ $2 - 3 = -1$ $-1 \neq -2$
<u>C</u> (2, 6) $\frac{1}{3}(6) = 2$ $2 = 2 \checkmark$ $2(2) - (6) = -2$ $4 - 6 = -2$ $-2 = -2 \checkmark$	D (3, 8) $\frac{1}{3}(8) = 3$ $\frac{8}{3} \neq 3$ $2 \frac{2}{3} \neq 3$

7. Prove that the answer you chose in #6 is correct by showing work.

See above ~~use~~ use fss and must be a true solution for both equations.