Test Tomorrow!!!!!!!!!

Name ___*Kelly*___

Study Guide

Solve each system by graphing in calculator

1) $y = -\frac{1}{2}x + 3$

$y = -\frac{1}{2}x + 1$ 　NO Solution

2) $y = -\frac{5}{3}x - 9$ 　$(-3, -4)$

$y = \frac{8}{3}x + 4$

3) $y = -\frac{3}{4}x + 6$ 　$(-4, 9)$

$y = -\frac{7}{2}x - 5$

4) $y = -\frac{1}{4}x - 6$ 　$(8, -8)$

$y = -\frac{15}{8}x + 7$

Convert to slope-int form then solve by graphing in calculator

5) $2x + y = -1$
$x + 2y = 4$

$2x + y = -1$
$-2x \qquad -2x$

$\boxed{y = 1 - 2x}$

$\boxed{(-2, 3)}$

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

$\frac{2y}{2} = \frac{4 - x}{2}$

$\boxed{y = 2 - \frac{1}{2}x}$

6) $x + y = -4$
$5x - 2y = -6$

$x + y = -4$
$-x \qquad -x$

$\boxed{y = -4 - x}$

$5x - 2y = -6$
$- 5x \qquad -5x$

$\frac{-2y}{-2} = \frac{-6 - 5x}{-2}$

$\boxed{y = 3 + \frac{5}{2}x}$

$\boxed{(-2, -2)}$

7) $4x + 3y = -9$
$x - y = -4$

$x - y = -4$
$-x \qquad -x$

$\frac{-y}{-1} = \frac{-x - 4}{-1}$

$\boxed{y = x + 4}$

$\boxed{(-3, 1)}$

$4x + 3y = -9$
$-4x \qquad -4x$

$\frac{3y}{3} = \frac{-9 - 4x}{3}$

$\boxed{y = -3 - \frac{4}{3}x}$

8) $x - 3y = 9$
$8x - 3y = -12$

$8x - 3y = -12$
$-8x \qquad -8x$

$\frac{-3y}{-3} = \frac{-12 - 8x}{3}$

$\boxed{y = 4 + \frac{8}{3}x}$

$\boxed{(-3, -4)}$

$x - 3y = 9$
$-x \qquad -x$

$\frac{-3y}{-3} = \frac{9 - x}{3}$

$\boxed{y = -3 + \frac{1}{3}x}$

9) $x - 3y = -9$
$7x - 3y = 9$

$7x - 3y = 9$
$-7x \qquad -7x$

$\frac{-3y}{-3} = \frac{9 - 7x}{-3}$

$\boxed{y = -3 + \frac{7}{3}x}$

$x - 3y = -9$
$-x \qquad -x$

$\frac{-3y}{-3} = \frac{-9 - x}{-3}$

$\boxed{y = 3 + \frac{1}{3}x}$

$\boxed{(3, 4)}$

10) $5x + 2y = -2$
$x + 2y = 6$

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

$\frac{2y}{2} = \frac{6 - x}{2}$

$\boxed{y = 3 - \frac{1}{2}x}$

$5x + 2y = -2$
$-5x \qquad -5x$

$\frac{2y}{2} = \frac{-2 - 5x}{2}$

$\boxed{y = -1 - \frac{5}{2}x}$

$\boxed{(-2, +4)}$

1. Sabrina has $5.00 in her bank account and begins saving $2.00 every week. Ali has $30.00 in his account and is withdrawing $3.00 every week. When will their account balances be the same?

a. Define the variable

$X = $ week $y = $ Amount of $

b. Write a system of equations

$$y = 5 + 2x$$
$$y = 30 - 3x$$

c. Solution: (   ) $(5, 15)$

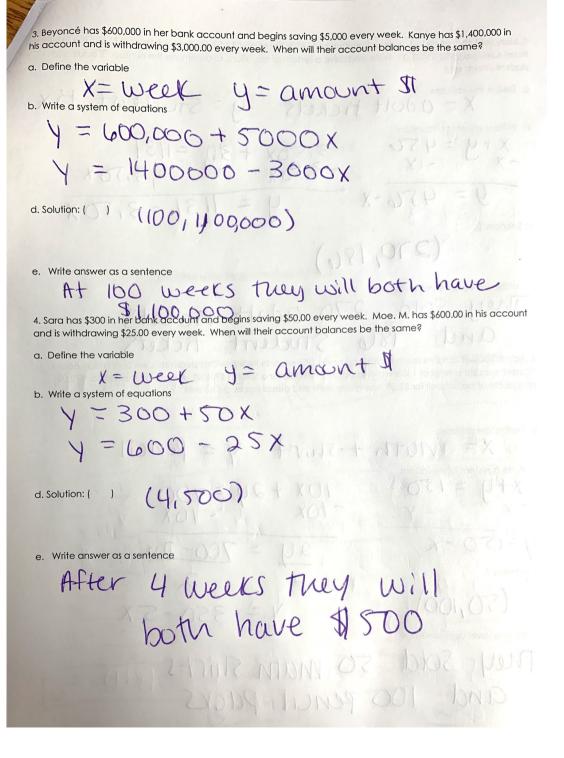d. Write answer as a sentence

After 5 weeks they will both have $15

2. Annalise works at Staples. Mechanical pencils cost $1.00 each and pens cost $1.50 each. One day she sold a total of 50 pens and pencils for $65.00. How many pencils did Annalise sell? How many pens did she sell?

a. Define the variable

$X = $ Pencils $y = $ Pens

b. Write a system of equations

$$1X + 1.50y = 65 \qquad x + y = 50$$
$$-1X \qquad\qquad -1X \qquad -x \qquad\qquad -x$$
$$\frac{1.50y}{1.50} = \frac{65 - 1X}{1.50} \qquad y = 50 - X$$
$$y = \frac{65}{1.5} - \frac{1}{1.50}x$$

d. Solution: (   ) $(20, 30)$

e. Write answer as a sentence

They Sold 20 pencils & 30 pens

3. Beyoncé has $600,000 in her bank account and begins saving $5,000 every week. Kanye has $1,400,000 in his account and is withdrawing $3,000.00 every week. When will their account balances be the same?

a. Define the variable

$$x = week \qquad y = amount \; \$$$

b. Write a system of equations

$$y = 600,000 + 5000x$$
$$y = 1400000 - 3000x$$

d. Solution: ( )   (100, 1,100,000)

e. Write answer as a sentence

At 100 weeks they will both have $1,100,000

4. Sara has $300 in her bank account and begins saving $50.00 every week. Moe. M. has $600.00 in his account and is withdrawing $25.00 every week. When will their account balances be the same?

a. Define the variable

$$x = week \qquad y = amount \; \$$$

b. Write a system of equations

$$y = 300 + 50x$$
$$y = 600 - 25x$$

d. Solution: ( )   (4, 500)

e. Write answer as a sentence

After 4 weeks they will both have $500

5. Mary sold 456 tickets to the school musical. An adult ticket cost $3.50. Student tickets cost $1.00. The total ticket sales equaled $1131.00. Write and solve a system of equations to determine the number of adult and student tickets sold.

a. Define the variable

$X = $ adult tickets $y = $ student tix

b. Write a system of equations

$x + y = 456$
$-x \qquad -x$
_____
$y = 456 - x$

$3.50x + 1y = 1131$
$-3.50x \qquad -3.50x$
_____
$y = 1131 - 3.50x$

d. Solution: (   )

$(270, 186)$

e. Write answer as a sentence

They sold 270 adult tickets and 186 student tickets

6. Adam Youssef Issa sells math t-shirts and packs of pencils to his fellow DHS students. One busy Friday Adam Youssef Issa sold a total of 150 shirts and packs of pencils for a total of $700.00. If a math t shirt sells for $10.00 and packs of pencils sell for $2.00 how many shirts and pencil packs did he sell?

a. Define the variable

$X = $ math t-shirt $y = $ pencil

b. Write a system of equations

$x + y = 150$
$-x \qquad -x$
_____
$y = 150 - x$

$10x + 2y = 700$
$-10x \qquad -10x$
_____
$\dfrac{2y}{2} = \dfrac{700 - 10x}{2}$

$y = 350 - 5x$

d. Solution: (   )

$(50, 100)$

e. Write answer as a sentence

They sold 50 math shirts and 100 pencil packs