

1) Find the slope of the line that passes through each of the following:

a. $(3, -5)$ and $(-1, -2)$

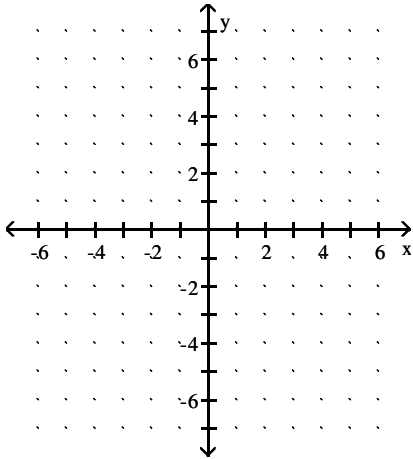
b. $(-4, 5)$ and $(-4, -2)$

2) Determine whether $(1, -3)$ is a solution of the given system of equations.

$$2x - y = 5$$

$$4x - 2y = -10$$

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



a. Find the x-intercept _____
(as an ordered pair)

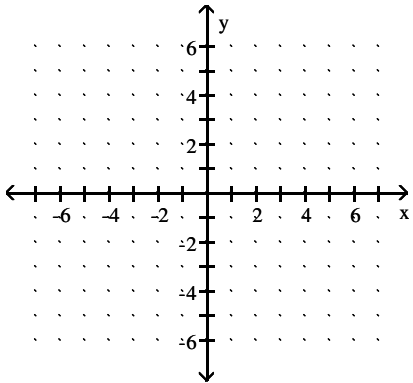
b. Find the y-intercept _____
(as an ordered pair)

c. Find the slope _____

d. Find one other point _____
(as an ordered pair)

e. Graph

4) Given: $y + 6 = 0$



a. Find the x-intercept _____

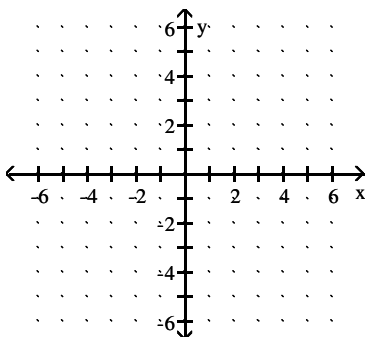
b. Find the y-intercept _____
(as an ordered pair)

c. Find the slope _____

d. Find one other point _____
(as an ordered pair)

e. Graph

5) Given: $x - 5 = 0$



a. Find the x-intercept _____
(as an ordered pair)

b. Find the y-intercept _____

c. Find the slope _____

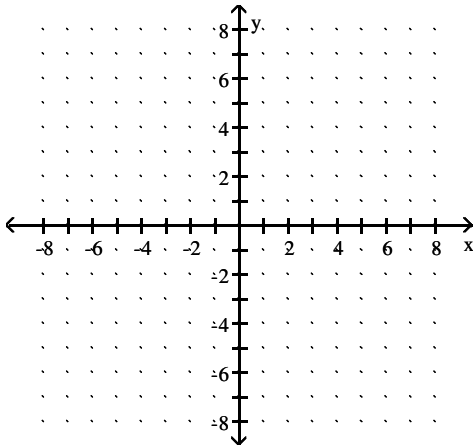
d. Graph

- 6) Find the equation of the line that passes through the point $(-4, 3)$ and has a slope of $\frac{5}{2}$. Write your answer in the **slope-intercept form of a line.**
- 7) Find the equation of the line that passes through the points $(-2, 1)$ and $(4, 5)$. Write your answer in the **standard form of a line.**
- 8) Find the equation of the line that passes through the point $(0, -3)$ and is perpendicular to the line $3x + 2y = 5$. Write your answer in the **slope-intercept form of a line.**
- 9) New Albany Realty is an established real estate company that has enjoyed constant growth in sales since 2000. In 2002, the company sold 200 houses, and in 2007 the company sold 275 houses. Let **H** represent the number of houses sold and **t** the number of years since 2000.
- Find a linear equation that expresses **H** in terms of **t**. Simplify your equation completely.
 - Use the equation found in part (a) to predict the number of houses sold in 2006.
- 10) Kentucky Center for the Arts has a special membership this year. They are offering a flat membership fee of \$400 accompanied by a special ticket rate of only \$15 per show.
- If x is the number of shows that I intend to see this year, write an equation that models my bill for the year.
 - Using the equation found in part (a), how many shows did I see if my final bill was \$745?
- 11) Solve the following system using **SUBSTITUTION.**
- $$x + 4y = -17$$
- $$4x + 3y = -3$$

- 12) Solve the following system using **GRAPHING.**
You must show a complete graph for full credit.

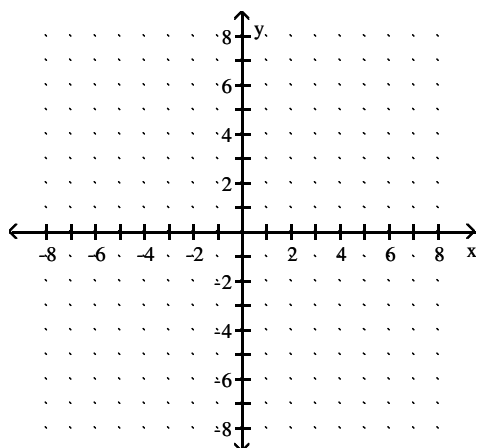
$$3x + y = 7$$

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



- 13) Solve the following system using **GRAPHING**.
You must show a complete graph for full credit.

$$\begin{aligned}x + y &= 8 \\ y &= 3x - 4\end{aligned}$$



- 14) Solve the following system using **ELIMINATION BY ADDITION**.

$$27x + 8y = -324$$

$$\frac{3x}{2} - \frac{y}{3} = -18$$

- 15) Solve the following system using **SUBSTITUTION**.

$$-2x + y = 2$$

$$-x + 3y = -9$$

- 16) Solve the following system using **ELIMINATION BY ADDITION**.

$$-2x - y = 10$$

(Express your answer in fraction form! No decimals,)

$$\frac{-x}{2} + \frac{y}{3} = 0$$

- 17) Solve the following system using **ANY METHOD OF YOUR CHOOSING**.

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

$$-30x - 10y = 10$$

- 18) Solve the following system using **ANY METHOD OF YOUR CHOOSING**.

$$4x + 11y = 3$$

$$4x - y = 14 \quad \text{Express your answer using fractions. NO DECIMALS.}$$

- 19) Solve the following system using **ANY METHOD OF YOUR CHOOSING**.

$$y = 2x - 7$$

$$8x - 4y = 1$$

- 20) Two angles are supplementary. The larger angle measures 12° more than twice the smaller angle. What is the measure of both angles?

- 21) Steve goes to Starbucks and buys 4 fancy coffees and 2 pastries for \$22.

Brian goes to Starbucks and buys 2 fancy coffees and 3 pastries for \$16.

- 22) Two angles are complementary. The larger angle measures 12° less than twice the smaller angle. What is the measure of both angles?

- 23) The perimeter of a rectangle is 44 cm. One side is 5 cm shorter than twice the other side.
- 24) Three cans of soup and two cans of tuna cost \$3.85. On the other hand, two cans of soup and five cans of tuna cost \$4.73
- 25) Julie and Eric row their boat (at a constant speed) 40 miles downstream for 4 hours, helped by the current. Rowing at the same rate, the trip back against the current takes 10 hours. Find the rate of the current.
- 26) A chemist needs 120 milliliters of a 25% solution but has only 11% and 35% solutions available. Find how many milliliters of each that should be mixed to get the desired solution.

Answer Key

Testname: M117 CHAP 8&4 REVIEW F10

1) a. $-\frac{3}{4}$

b. undefined

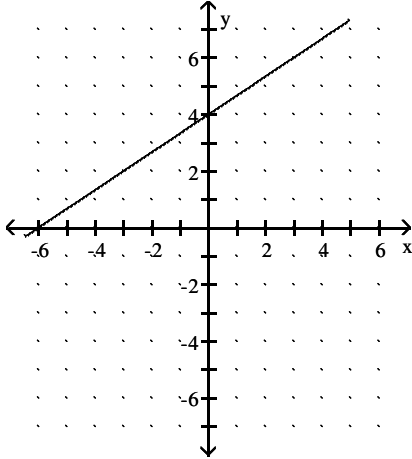
2) No

3) a. $(-6,0)$

b. $(0,4)$

c. $\frac{2}{3}$

d. answers vary

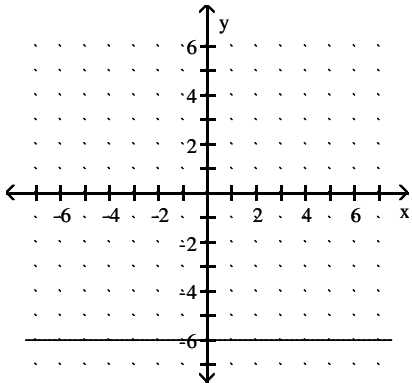


4) a. none

b. $(0,-6)$

c. 0

d. answers vary

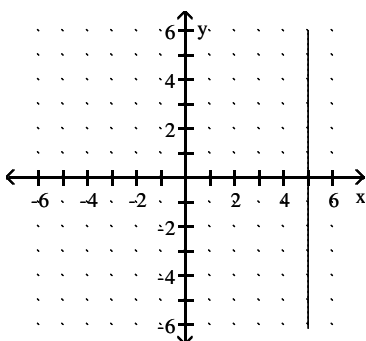


5) a. $(5,0)$

b. none

c. undefined

d. answers vary



6) $y = \frac{5}{2}x + 13$

7) $2x - 3y = -7$

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

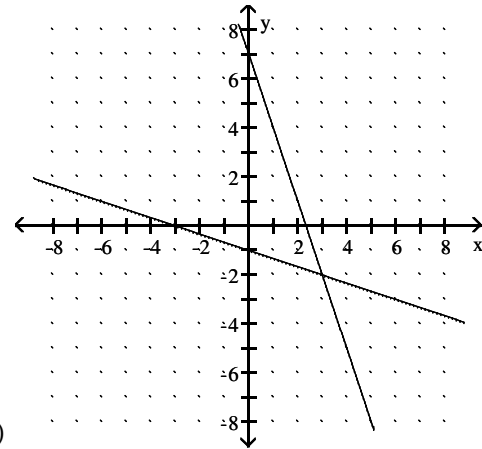
9) a. $H = 15t + 170$

b. 260 houses

10) a. $y = 15x + 400$

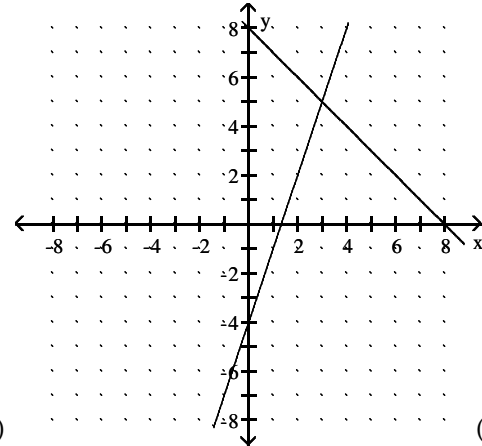
b. 23 shows

11) $(3,-5)$



12)

$(3,-2)$



13)

14) $(-12,0)$

15) $(-3,-4)$

16) $\left(\frac{-20}{7}, \frac{-30}{7}\right)$

17) infinitely many solutions

18) $\left(\frac{157}{48}, \frac{-11}{12}\right)$

19) no solution or \emptyset

20) $\begin{cases} x + y = 180 \\ y = 2x + 12 \end{cases}$
 56° and 124°

$(3,5)$

Answer Key

Testname: M117 CHAP 8&4 REVIEW F10

$$21) \begin{cases} 4c + 2p = 22 \\ 2c + 3p = 16 \end{cases}$$

$$c = \$4.25$$

$$p = \$2.50$$

$$22) \begin{cases} x + y = 90 \\ y = 2x - 12 \end{cases}$$

$$56^\circ \text{ and } 34^\circ$$

$$23) \begin{cases} 2w + 2l = 44 \\ l = 2w - 5 \end{cases}$$

$$w = 9\text{cm}$$

$$l = 13\text{cm}$$

$$24) \begin{cases} 3s + 2t = 3.85 \\ 2s + 5t = 4.73 \end{cases}$$

$$s = \$0.89$$

$$t = \$0.59$$

$$25) \begin{cases} 40 = (r+c)4 \\ 40 = (r-c)10 \end{cases}$$

$$c = 3 \text{ mph}$$

$$26) \begin{cases} x + y = 120 \\ .11x + .35y = 120(.25) \end{cases}$$

$$50 \text{ ml of } 11\%$$

$$70 \text{ ml of } 35\%$$