

## Chapter 3 Day 2 Homework

SS pg. 334 #9-29 odd

Define variables and write an equation to represent each situation.

7. A florist sells carnations for \$10.99 a dozen and lilies for \$12.99 a dozen. During a weekend sale, the florist's goal is to earn \$650. Write an equation that represents the total amount the florist would like to earn selling carnations and lilies during the weekend sale.

 $c = \text{carnations}$  $f = \text{lilies}$ 

$$10.99c + 12.99f = 650$$

9. A farmer's market sells oranges for \$0.79 per pound and peaches for \$1.05 per pound. The farmer's market hopes to earn \$325 each day from these sales. Write an equation to represent the total amount the farmer's market would like to earn selling oranges and peaches each day.
11. An electronics store sells DVDs for \$15.99 and Blu-ray discs for \$22.99. The store hopes to earn \$2000 each week from these sales. Write an equation to represent the total amount the store would like to earn each week.

The basketball booster club runs the concession stand during a weekend tournament. They sell hamburgers for \$2.50 each and hot dogs for \$1.50 each. They hope to earn \$900 during the tournament. The equation  $2.50b + 1.50h = 900$  represents the total amount the booster club hopes to earn. Use this equation to determine each unknown value.

13. If the booster club sells 315 hamburgers during the tournament, how many hot dogs must they sell to reach their goal?

$$2.50b + 1.50h = 900$$

$$2.50(315) + 1.50h = 900$$

$$787.50 + 1.50h = 900$$

$$1.50h = 112.50$$

$$h = 75$$

The booster club must sell 75 hot dogs to reach their goal.

15. If the booster club sells 0 hot dogs during the tournament, how many hamburgers must they sell to reach their goal?

17. If the booster club sells 281 hamburgers during the tournament, how many hot dogs must they sell to reach their goal?

Determine the  $x$ -intercept and the  $y$ -intercept of each equation.

19.  $20x + 8y = 240$

$$20x + 8y = 240$$

$$20x + 8(0) = 240$$

$$20x = 240$$

$$x = 12$$

$$20x + 8y = 240$$

$$20(0) + 8y = 240$$

$$8y = 240$$

$$y = 30$$

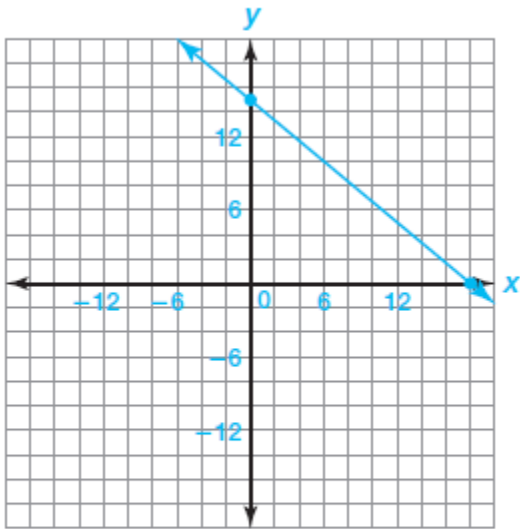
The  $x$ -intercept is  $(12, 0)$  and the  $y$ -intercept is  $(0, 30)$ .

21.  $y = 8x + 168$

23.  $14x + 25y = 342$

Determine the  $x$ -intercept and  $y$ -intercept. Then graph each equation.

25.  $5x + 6y = 90$



$$5x + 6y = 90$$

$$5x + 6(0) = 90$$

$$5x = 90$$

$$x = 18$$

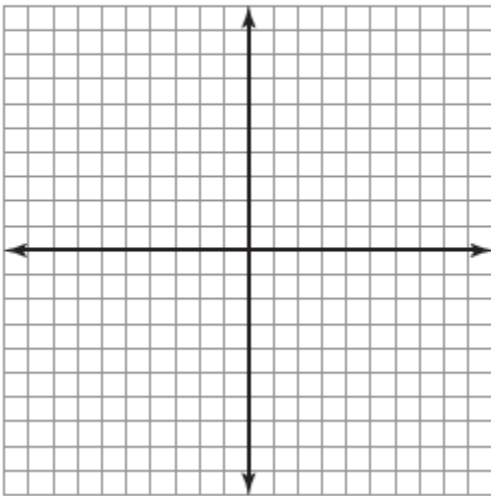
$$5x + 6y = 90$$

$$5(0) + 6y = 90$$

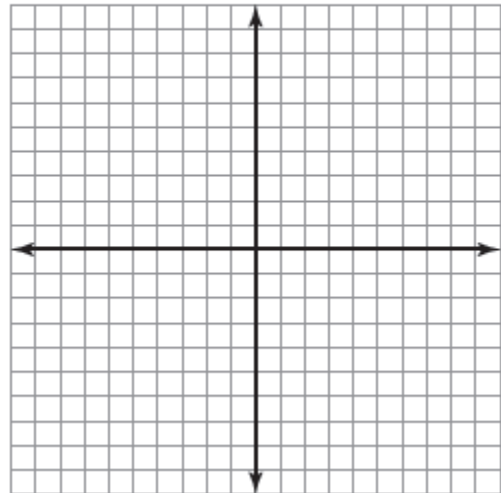
$$6y = 90$$

$$y = 15$$

27.  $y = 3x - 15$



29.  $6x + 13y = 57$



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Convert each equation from standard form to slope-intercept form.

7.  $4x + 6y = 48$

$$4x + 6y = 48$$

$$4x - 4x + 6y = -4x + 48$$

$$\frac{6y}{6} = \frac{-4x + 48}{6}$$

$$y = -\frac{4}{6}x + 8$$

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

9.  $-4x + 9y = 45$

11.  $-x - 8y = 96$

Convert each equation from slope-intercept form to standard form.

13.  $y = 5x + 8$

$$y = 5x + 8$$

$$-5x + y = 5x - 5x + 8$$

$$-5x + y = 8$$

15.  $y = \frac{2}{3}x - 6$

17.  $y = -5x - 13$

SA pg. 45 #1(a-d)

1. Shoe sizes vary from country to country. In the USA the shoe sizes for men are approximated by the equation  $s = 3f - 24$ . This represents the relationship between shoe size,  $s$ , and length of the foot in inches,  $f$ .
- a. The average man's foot is 11.5 inches long. What is the average man's shoe size?
  
  
  
  
  
  
  
  
  
  
  - b. Use the function to determine the  $y$ -intercept. State the meaning of the  $y$ -intercept in terms of this problem situation.
  
  
  
  
  
  
  
  
  
  
  - c. Use the function to determine the  $x$ -intercept. State the meaning of the  $x$ -intercept in terms of this problem situation.
  
  
  
  
  
  
  
  
  
  
  - d. Which form can most easily be used to determine the slope of this equation? What is the slope of this equation? What does it mean in terms of this problem situation?