Name _____ Date _____ Class _____

LESSON 3-2

Practice B

Using Algebraic Methods to Solve Linear Systems

Use substitution to solve each system of equations.

1. $\begin{cases} x = 7y - 4 \\ 2x - 3y = 14 \end{cases}$

2. $\begin{cases} y - 3x = 5 \\ 2x = 3y + 6 \end{cases}$

3. $\begin{cases} 3x - 4y = 20 \\ y - 2x = 0 \end{cases}$

_____ _____ _____

Use elimination to solve each system of equations.

4. $\begin{cases} x + 6y = 1 \\ 3x + 5y = -10 \end{cases}$

5. $\begin{cases} 3x + 4y = 6 \\ 2x + 3y = 3 \end{cases}$

6. $\begin{cases} 3x - 5y = 1 \\ 2x + 3y = -12 \end{cases}$

_____ _____ _____

Use substitution or elimination to solve each system of equations.

7. $\begin{cases} x + y = 13 \\ 2x - 3y = 1 \end{cases}$

8. $\begin{cases} 9x + 2y = 5 \\ 3x - y = -10 \end{cases}$

9. $\begin{cases} 2x + y = 1 \\ x = 5 + y \end{cases}$

_____ _____ _____

10. $\begin{cases} x = -8y \\ x + y = 14 \end{cases}$

11. $\begin{cases} 2x + 4y = 12 \\ -3x + 3y = 63 \end{cases}$

12. $\begin{cases} 5x - 2y = -1 \\ 3x - y = -2 \end{cases}$

_____ _____ _____

Solve.

13. Bill leaves his house for Makayla's house riding his bicycle at 8 miles per hour. At the same time, Makayla leaves her house heading toward Bill's house walking at 3 miles per hour.

    a. Write a system of equations to represent the distance, *d,* each is from Makayla's house in *h* hours. They live 8.25 miles apart.

    _____

    b. Solve the system to determine how long they travel before meeting.

    _____

stated as $\frac{-a}{b} \neq \frac{-c}{d}$, $-ad \neq -bc$, or $-ad + bc \neq 0$.

Problem Solving

1. a. $\begin{cases} 4x + 8y = 26 \\ x + 1 = y \end{cases}$

b.

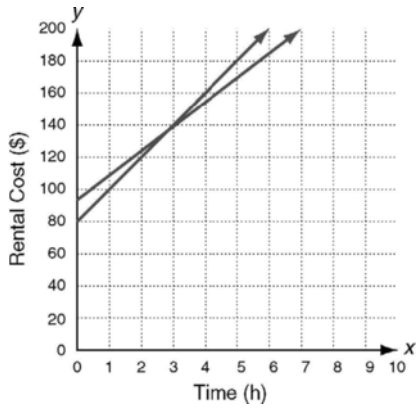
$4x + 8y = 26$	
x	y
1	2.75
1.5	2.50
2	2.25
2.5	2
3	1.75

$x + 1 = y$	
x	y
1	2
1.5	2.5
2	3
2.5	3.5
3	4

c. Small: \$1.50; large: \$2.50

2. a. $\begin{cases} y = 95 + 15x \\ y = 80 + 20x \end{cases}$

b.



c. 3 h

d. \$140

3. B

Reading Strategies

1. a; d
2. b
3. a; c
4. 5
5. 4
6. 6

LESSON 3-2

Practice A

1. a. $x = 4$

   b. $y = 1$

   c. (4, 1)
2. (3, 2)
3. (1, 5)
4. (–1, –3)
5. a. $\begin{cases} -12x + 15y = -21 \\ 12x - 16y = 24 \end{cases}$

   b. $y = -3$

   c. (–2, –3)
6. (4, –1)
7. (–3, 3)
8. (–1, 2)

Practice B

1. (10, 2)
2. (–3, –4)
3. (–4, –8)
4. (–5, 1)
5. (6, –3)
6. (–3, –2)
7. (8, 5)
8. (–1, 7)
9. (2, –3)
10. (16, –2)
11. (–12, 9)
12. (–3, –7)
13. a. $\begin{cases} d = 8.25 - 8h \\ d = 3h \end{cases}$

    b. 0.75 h or 45 min

Practice C

1. (–1.2, 4)
2. $\left(-3, -3\frac{1}{2}\right)$
3. $\left(8\frac{1}{4}, -2\right)$
4. $\left(-8\frac{1}{2}, 1\right)$
5. (–6, 11)
6. $\left(7, 3\frac{1}{2}\right)$
7. $\left(6, 7\frac{1}{2}\right)$
8. $\left(\frac{2}{5}, -\frac{4}{5}\right)$
9. $\left(9, -\frac{3}{4}\right)$
10. a. $\begin{cases} 4n + 2r = 23.5 \\ 2n + 4r = 18.5 \end{cases}$

    b. \$7.00