Name _____ Date _____ Class _____

LESSON 3-1

Practice B

Using Graphs and Tables to Solve Linear Systems

Classify each system, and determine the number of solutions.

1. $\begin{cases} y = -4x + 7 \\ 12x + 3y = 21 \end{cases}$ _____

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

3. $\begin{cases} x + 6y = -2 \\ 12x - 6y = 0 \end{cases}$ _____

Use substitution to determine if the given ordered pair is an element of the solution set for the system of equations. If it is not, give the correct solution.

4. $(-4, 8)\begin{cases} y = -2x \\ 3x + y = -4 \end{cases}$ _____

5. $(11, 3)\begin{cases} y = x - 8 \\ x + 4y = -2 \end{cases}$ _____

6. $(4, 1)\begin{cases} y = 5x - 1 \\ 8 = 4x + y \end{cases}$ _____

7. $(5, -5)\begin{cases} x + y = 10 \\ x - y = 0 \end{cases}$ _____

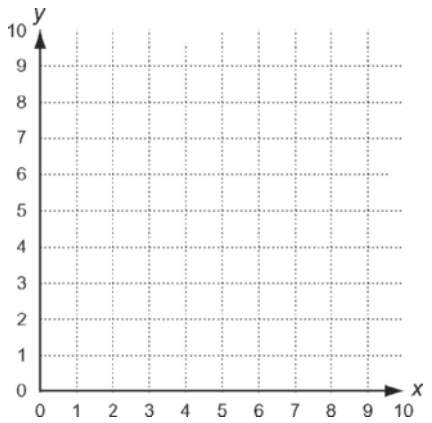
8. $(2, -1)\begin{cases} 2x + 3y = -8 \\ 3x - 4y = 5 \end{cases}$ _____

9. $(0, 3)\begin{cases} 3x + 5y = 15 \\ x - y = -3 \end{cases}$ _____

Solve by graphing a system of equations.

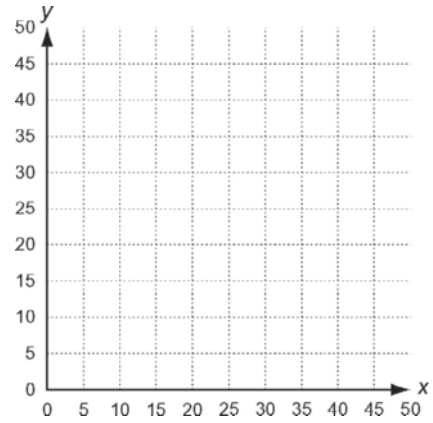
10. A puppy pen is 1 foot longer than twice its width. John wants to increase the length and width by 5 feet each to enlarge the area by 90 square feet. What will be the area of the new pen?

_____



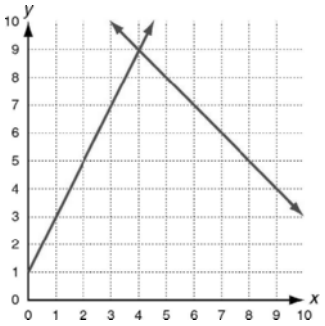
11. Keesha has 10 more quarters than dimes, which, together, total $11.25. How many coins does she have in quarters and dimes?

_____

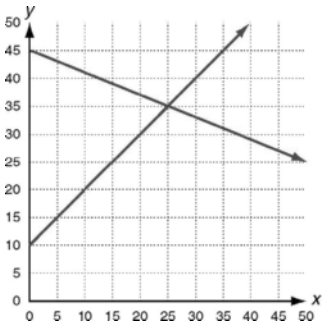


Practice B

1. Consistent, dependent; infinitely many solutions
2. Inconsistent; no solutions
3. Consistent, independent; one solution
4. It is the solution.
5. (6, –2)
6. (1, 4)
7. (5, 5)
8. (–1, –2)
9. It is the solution.
10. 126 square feet



11. 35 quarters + 25 dimes = 60 coins



Practice C

1. Matches 2nd graph.
2. Matches 3rd graph.
3. Matches 1st graph.
4. a. $\begin{cases} y = -x + 16 \\ y = -\frac{1}{6}x + 3.5 \end{cases}$

   b. 15 h

   c. 1 gallon
5. a. 15 months

   b. $1950

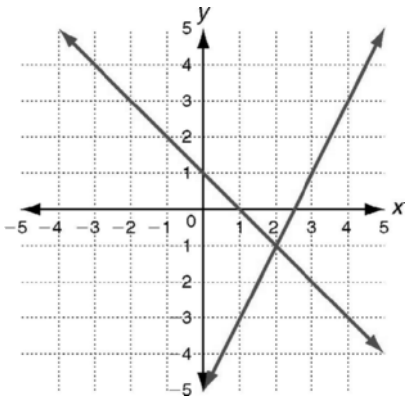
Reteach

1.

$y = -x + 1$	
x	y
0	1
1	0
2	–1
3	–2

$y = 2x - 5$	
x	y
0	–5
1	–3
2	–1
3	1

(2, –1)



2. $y = -x + 2$, $m = -1$, $b = 2$

   $y = -x - 1$, $m = -1$, $b = -1$

   none inconsistent
3. $y = 3x - 1$, $m = 3$, $b = -1$

   $y = 3x - 1$, $m = 3$, $b = -1$

   infinitely many dependent

Challenge

1. $b = -9$, $c = 36$
2. $b = -9$, $c \neq 36$
3. $b \neq -9$
4. 3 lines intersect at a single point
5. 3 lines that coincide
6. 3 parallel lines
7. Possible answer: In order to be inconsistent, the equations must be parallel and have different y-intercepts. If the constant terms are equal to 0, then all y-intercepts are 0, therefore there are no parallel lines and the system must be consistent.
8. Possible answer: To be independent, the slopes cannot be equal. This can be