Chapter 3 Date:_____, Section: _____ Name_____

Determine whether the ordered pair is a solution of the system of equations. Remember to use alphabetical order of variables.

1) (1, 3); $9x + y = 12$, $8x - 2y = 2$ 1) _____

2) (1, 3); $y = 7x + -20$, $5x - y = 2$ 2) _____

3) (5, 3); $x - y = 2$, $y = 8x - 37$ 3) _____

Solve the system graphically. If the system has an infinite number of solutions, use set –builder notation to write the solution set. If the system has no solution, state this.

4) $x - y = 4$, $x + y = 10$ 4) _____

5) $4x + y = -22$, $x + 6y = 6$ 5) _____

6) $x = 1$, $y = 8$ 6) _____

7) $8x + y = 32$, $8x + y = 56$ 7) _____

8) $2x + y = 8$, $4x + 2y = 16$ 8) _____

Translate the problem situation to a system of equations. Do not attempt to solve.

9) The sum of two numbers is 22. Five times the smaller number minus twice the larger number is 264. What are the numbers? (Let x represent the smaller number and y represent the larger number.) 9) _____

10) Bill & Jose's Discount Cinema sold adults' tickets for $5.20 each and children's tickets for $2.30 each. Last Tuesday, a total of $526.00 was collected from 148 movie watchers. How many of each type of ticket were sold? (Let x represent the number of adults' tickets and y represent the number of children's tickets.) 10) _____

11) The perimeter of a rectangular building is 246 feet. The width is 57 feet shorter than the length. What are the dimensions? (Let W represent the width and L represent the length.) 11) _____

Solve using the substitution method. If the system has an infinite number of solutions, use set –builder notation to write the solution set. If the system has no solution, state this.

12) $x + 2y = 2$, $8x - 5y = -5$ 12) _____

13) $5x - 2y = -1$
$x + 4y = 35$ 13) _____

14) $5x + 3y = 80$
$2x + y = 30$ 14) _____

Solve using the elimination method. If the system has an infinite number of solutions, use set –builder notation to write the solution set. If the system has no solution, state this.

15) $x + y = -9$
$x - y = 1$ 15) _____

16) $x + 2y = 10$
$7x + 2y = 22$ 16) _____

17) $x + 4y = 15$
$2x + 3y = 5$ 17) _____

18) $3r - 2s = 8$
$6r - 4s = -16$ 18) _____

19) $5x - 2y = -6$
$-15x + 6y = 18$ 19) _____

20) $x - 4y = 0$
$-4x - 5y = -21$ 20) _____

Solve the problem.

21) The sum of two numbers is 43, and their difference is 11. What are the numbers? 21) _____

22) Ron and Kathy are ticket sellers for their class play. Ron sells student tickets for $2.00 each, and Kathy sells adult tickets for $4.50 each. If their total revenue for 364 tickets is $1175.50, then how many tickets did Ron sell? 22) _____

23) Don runs a charity fruit sale, selling boxes of oranges for $11 and boxes of grapefruit for $10. If he sold a total of 762 boxes and took in $8125 in all, then how many boxes of oranges did he sell? 23) _____

Answer Key
Testname:

1) Yes
2) No
3) Yes
4) (7, 3)
5) (–6, 2)
6) (1, 8)
7) No solution
8) {(x, y)| 2x + y = 8}
9) x + y = 22, 5x – 2y = 264
10) x + y = 148, 5.20x + 2.30y = 526.00
11) W = L – 57, 2L + 2W = 246
12) (0, 1)
13) (3, 8)
14) (10, 10)
15) (–4, –5)
16) (2, 4)
17) (–5, 5)
18) No solution
19) {(x, y)|5x + –2y = –6}
20) (4, 1)
21) 16, 27
22) 185 tickets
23) 505 boxes