Math 084 W2010 Worksheet 5.3 v01
Systems of Linear Equations Exercises
Dressler

Name_____

Solve the system by the addition method. If there is no solution or an infinite number of solutions, so state.

1) $x + y = 6$
$x - y = -8$

2) $x - 2y = -7$
$4x - 2y = -4$

3) $x + 9y = 36$
$2x + 9y = 45$

4) $x - 5y = -11$
$8x - 6y = 48$

5) $x - 5y = 20$
$-4x - 4y = 16$

6) $4x + 9y = -53$
$2x - 2y = 6$

7) $-6x - 7y = 35$
$3x + 2y = -10$

8) $9x - 54 = -5y$
$6x + 3y = 33$

9) $2x + 12y = -50$
$12x + 3y = 45$

10) $3x - 2y = 3$
$2x + \frac{1}{2}y = -9$

11) $\frac{1}{2}x + \frac{1}{2}y = 0$
$\frac{1}{4}x - \frac{1}{4}y = \frac{7}{2}$

12) $-2x + 5y = 4$
$-3x + 5y = 4$

13) $\frac{x+1}{4} = \frac{y+19}{8}$
$\frac{x}{2} = \frac{2y+4}{4}$

14) $x + y = -5$
$x + y = -6$

15) $5x - 2y = -3$
$5x - 2y = 7$

16) $8x - 7y = 4$
$16x - 14y = 12$

17) $4x - 6y = 8$
$-12x + 18y = -16$

18) $5x = 6y + 2$
$5x = 6y - 3$

19) $6x - 4y = 5$
$-8y = 10 - 12x$

20) $4x + y = 11$
$16x + 4y = 44$

21) $4x + y = 10$
$16x + 4y = 40$

Solve the system by the best method.

22) $x + 6y = 0$
$x - 6y = 60$

23) $x + y = 9$
$y = -4x$

24) $y = 3x - 3$
$3x + y = 21$

25) $-3x + 7y = 43$
$3x + 5y = 5$

26) $6x + 4y = 4$
$6x + 4y = 10$

27) $x - 2y = 22$
$4x - 3y = 53$

28) $9x = 36$
$x - 6y = 16$

29) $7x = 43 + 5y$
$2x - 3y = 6$

1) {(–1, 7)}
2) {(1, 4)}
3) {(9, 3)}
4) {(9, 4)}
5) {(0, –4)}
6) {(–2, –5)}
7) {(0, –5)}
8) {(1, 9)}
9) {(5, –5)}
10) {(–3, –6)}
11) {(7, –7)}
12) $\left\{\left[0, \frac{4}{5}\right]\right\}$
13) {(15, 13)}
14) no solution; ∅
15) no solution; ∅
16) no solution; ∅
17) no solution; ∅
18) no solution; ∅
19) infinite number of solutions; {(x, y)| 6x – 4y = 5} or {(x, y)| –8y = 10 – 12x}
20) infinite number of solutions; {(x, y)| 4x + y = 11} or {(x, y)| 16x + 4y = 44}
21) infinite number of solutions; {(x, y)| 4x + y = 10} or {(x, y)| 16x + 4y = 40}
22) {(30, –5)}
23) {(–3, 12)}
24) {(4, 9)}
25) {(–5, 4)}
26) no solution; ∅
27) {(8, –7)}
28) {(4, –2)}
29) {(9, 4)}