Name: _____

Sec. 7.5: Solve Special Types of Linear Systems

Recall that so far in Chapter 7 we have worked with consistent, independent linear systems. In some cases, however, we can encounter other types of systems.

- Inconsistent system: a linear system with _____ _____
- Consistent dependent system: a linear system with _____ _____ _____

Examples

Solve each system.

1. $6x - 2y = 28$
   $y = 3x - 14$

2. $5x - 7y = -30$
   $-5x + 7y = 28$

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Sec. 7.5 Practice Problems

Solve each system by substitution.

1) $-12x + 2y = 8$
$y = 6x + 4$

2) $-x - 2y = -2$
$x + 2y = -6$

Solve each system by elimination.

3) $-4x + 2y = -2$
$-24x + 12y = 12$

4) $-4x + 10y = 0$
$-8x + 20y = 0$

5) $10x + y = 23$
$-20x - 2y = -26$

6) $9x - 6y = 12$
$18x - 12y = 24$

Solve each system by substitution.

7) $y = x - 2$
$3x - 3y = 6$

8) $-3x + 2y = 12$
$-6x + 4y = 24$

9) $12x - 6y = 4$
$-6x + 3y = -5$

10) $2x - 2y = -5$
$6x - 6y = 5$

11) $-8x + 12y = -12$
$-4x + 6y = -6$

12) $3x - y = 20$
$-3x + y = -20$

13) $8x - y = -18$
$y = 8x + 18$

14) $6x - 6y = 4$
$12x - 12y = -4$

Solve each system by elimination.

15) $-4x + 3y = 7$
$4x - 3y = -8$

16) $10x - 4y = 8$
$-10x + 4y = -8$

17) $-5x + y = -15$
$-5x + y = -10$

18) $3x - 7y = -4$
$3x - 7y = -7$

Answers to Sec. 7.5 Practice Problems

1) Infinite number of solutions
2) No solution
3) No solution
4) Infinite number of solutions
5) No solution
6) Infinite number of solutions
7) Infinite number of solutions
8) Infinite number of solutions
9) No solution
10) No solution
11) Infinite number of solutions
12) Infinite number of solutions
13) Infinite number of solutions
14) No solution
15) No solution
16) Infinite number of solutions
17) No solution
18) No solution