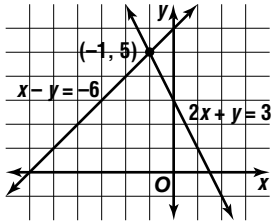
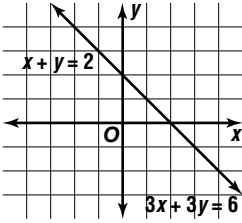
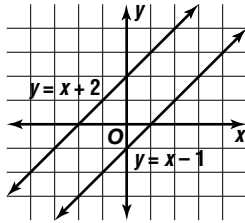


Solutions of Systems of Equations

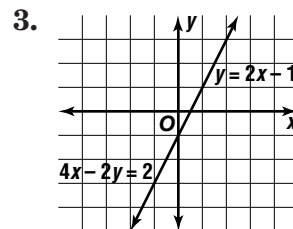
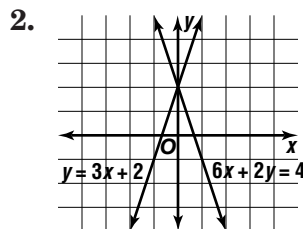
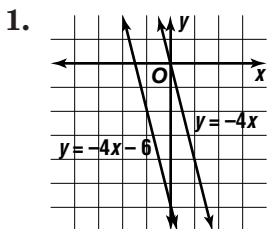
(Pages 554–559)

Graphs of systems of equations may be intersecting lines, parallel lines, or the same line. Systems of equations can be described by the number of solutions they have. A **consistent** system has at least 1 solution. An **inconsistent** system has no solution.

Graph			
Description of Graph	intersecting lines	same line	parallel lines
Number of Solutions	1	infinitely many	0
Type of System	consistent and independent	consistent and dependent	inconsistent

PRACTICE

State whether each system is consistent and independent, consistent and dependent, or inconsistent.



Determine whether each system of equations has one solution, no solution, or infinitely many solutions by graphing. If the system has one solution, name it.

4. $y = -x + 4$
 $\frac{1}{2}x - y = 2$

5. $y = x + 6$
 $x - y = 5$

6. $y = -3x + 6$
 $x + \frac{1}{3}y = 2$

7. $y = -2x + 4$
 $3x + y = 5$

8. **Standardized Test Practice** What is the solution of the system $y = x + 3$ and $y = -2x + 9$?

A Infinite solutions

B no solution

C (2, 5)

D (5, 2)

Answers: 1. inconsistent 2. consistent and independent 3. consistent and dependent 4. (4, 0) 5. no solution 6. infinitely many 7. (1, 2) 8. C