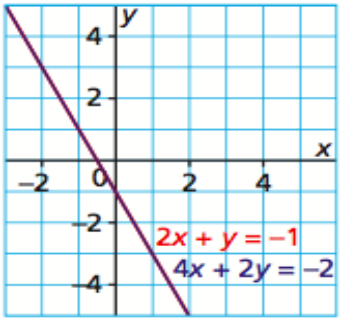
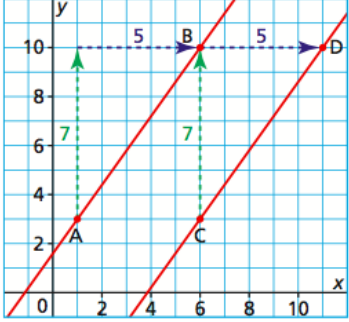
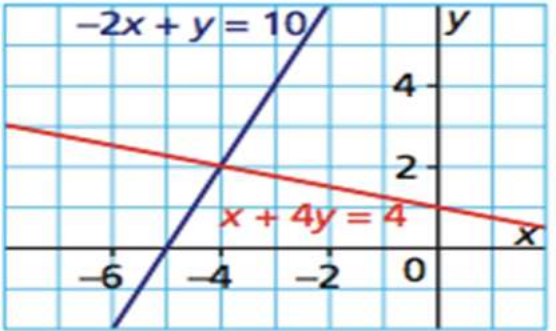


8.3 Number of Solutions**Bell Work**

- _____ two or more linear equations involving common variables
- _____ a point at which two lines touch or cross
- _____ a point of intersection of the lines on a graph; an ordered pair that satisfies both equations; a pair of values occurring in the tables of values of both equations

Key Ideas

| | | |
|---|---|--|
|  |  |  |
| Lines that are on top of each other. They all share the same points! Infinite solutions, same slope, same y-intercept | No solution, same slope, different y-intercepts | One solution, different slopes, different y-intercepts |

Example 1: Determine the number of solutions in a linear system.

a) $x + y = -2$
 $-2x - 2y = 4$

b) $3x + y = -1$
 $-6x - 2y = 12$

Example 2: Given the equation $-2x + y = 4$, write another linear equation that will form a linear system with:

a) exactly one solution

b) no solution

c) infinite solutions

Your Turn

1. Determine the number of solutions in a linear system.

a) $x + y = 3$
 $-2x - y = -2$

b) $2x - 4y = -1$
 $3x - 6y = 2$

2. Given the equation $-6x + y = 3$, write another linear equation that will form a linear system with:

a. Exactly one solution

b. No solution

c. Infinite solutions

HW: Section 8.3 p. 454 #1-3 (pick 3 from each), 4, 5, 6, 7, 11, 12, 13