1. Two lines cross at (3, 5). What is the solution of the system?

The crossing point works in both

Answer: (3, 5)

2. Check: is (2, 7) a solution of y = 3x + 1 and y = x + 5?

3(2)+1 = 7 yes; 2+5 = 7 yes

Answer: Yes

3. Check: is (1, 4) a solution of y = 2x + 2 and y = 5x - 2?

2+2 = 4 yes; 5-2 = 3 no

Answer: No

4. Graph y = x + 1 and y = -x + 5. Where do they cross?

Tables or slopes; equal when x = 2

Answer: (2, 3)

5. Graph y = 2x and y = x + 3. Solution?

2x = x + 3

Answer: (3, 6)

6. Two lines have the SAME slope and different intercepts. How many solutions?

Parallel - never cross

Answer: none

7. Two equations graph the SAME line. How many solutions?

Every point is shared

Answer: infinitely many

8. Graph y = -2x + 8 and y = x - 1. Solution?

-2x + 8 = x - 1; 9 = 3x

Answer: (3, 2)

9. y = (1/2)x + 3 and y = 2x. Solve by graphing, then verify by substitution. ★ challenge

(1/2)x + 3 = 2x

3 = 1.5x, x = 2

Answer: (2, 4) - checks in both

10. Without graphing, decide: y = 3x + 2 and 6x - 2y = -4. One, none, or infinite solutions? ★ challenge

Second: -2y = -6x - 4, y = 3x + 2

Identical lines!

Answer: infinitely many