

1. $y = 2x$ and $x + y = 9$. Solve.

$$x + 2x = 9$$

$$3x = 9, x = 3$$

Answer: (3, 6)

2. $y = x + 1$ and $x + y = 7$.

$$x + x + 1 = 7$$

$$2x = 6$$

Answer: (3, 4)

3. $y = 3x$ and $2x + y = 15$.

$$2x + 3x = 15$$

Answer: (3, 9)

4. $y = x - 2$ and $3x + y = 10$.

$$3x + x - 2 = 10$$

$$4x = 12$$

Answer: (3, 1)

5. $x = 2y$ and $x + 3y = 15$.

$$2y + 3y = 15$$

Answer: (6, 3)

6. $y = 2x + 1$ and $3x + 2y = 16$.

$$3x + 2(2x+1) = 16$$

$$7x + 2 = 16, x = 2$$

Answer: (2, 5)

7. $y = -x + 8$ and $2x - y = 7$.

$$2x - (-x + 8) = 7$$

$$3x - 8 = 7, x = 5$$

Answer: (5, 3)

8. $x - y = 3$ and $2x + y = 12$. (Isolate first!)

$$x = y + 3$$

$$2(y+3) + y = 12; 3y = 6$$

Answer: (5, 2)

9. $3x - y = 10$ and $2x + 5y = 1$. ★ challenge

$$y = 3x - 10$$

$$2x + 5(3x - 10) = 1$$

$$17x = 51, x = 3$$

Answer: (3, -1)

10. $y = x^2 - 3$ and $y = 2x$. Solve the linear-quadratic system. ★ challenge

$$x^2 - 3 = 2x$$

$$x^2 - 2x - 3 = 0; (x-3)(x+1)$$

Answer: (3, 6) and (-1, -2)