# Solving Systems of Equations by Elimination

1) $-4x - 2y = -12$
$4x + 8y = -24$

$6y = -36$
$y = -6$

$-4x - 2(-6) = -12$
$-4x + 12 = -12$
$-12 \quad -12$
$-4x = -24$
$x = 6$

$(6, -6)$

2) $4x + 8y = 20$
$-4x + 2y = -30$

3) $x - y = 11$
$2x + y = 19$

$3x = 30$
$x = 10$

$10 - y = 11$
$-10 \quad -10$
$-y = 1$
$y = -1$

$(10, -1)$

4) $-6x + 5y = 1$
$6x + 4y = -10$

5) $(-2x - 9y = -25) \cdot -1$
$-4x - 9y = -23$
$2x + 9y = 25$

$-2x = 2$
$x = -1$

$(-1, 3)$

$-2(-1) - 9y = -25$
$2 - 9y = -25$
$-2 \quad -2$
$-9y = -27$
$y = 3$

6) $8x + y = -16$
$-3x + y = -5$

7) $(6x + 6y = 6) \cdot -1$
$-6x + 3y = -12$
$6x - 6y = -6$

$-3y = -18$
$y = 6$

$-6x + 3(6) = -12$
$-6x + 18 = -12$
$-18 \quad -18$
$-6x = -30$
$x = 5$

$(5, 6)$

8) $7x + 2y = 24$
$8x + 2y = 30$

9) $(5x + y = 9) \cdot -2$
$10x - 7y = -18$
$-10x - 2y = -18$

$-9y = -36$
$y = 4$

$5x + 4 = 9$
$-4 \quad -4$
$5x = 5$
$x = 1$

$(1, 4)$

10) $-4x + 9y = 9$
$x - 3y = -6$

11) $(-3x + 7y = -16) \cdot -3$
$-9x + 5y = 16$
$9x - 21y = 48$

$-16y = 64$
$y = -4$

$(-4, -4)$

$-3x + 7(-4) = -16$
$-3x - 28 = -16$
$+28 \quad +28$
$-3x = 12$
$x = -4$

12) $-7x + y = -19$
$-2x + 3y = -19$