

Algebra I

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2)	$\{(-59, 36)\}$	16)	$\{(-2, -5)\}$
4)	$\{(1, -1)\}$	18)	$\{(5, 1/3)\}$
6)	$\{(5, 4)\}$	20)	$\{(2/3, -1)\}$
8)	$\{(-5, -3)\}$	22)	$\{(2, -5)\}$
10)	$\{(-3, -2)\}$	24)	$\{(5, 5/2)\}$
12)	$\{(5, 2)\}$	28)	$\{(2, -5)\}$
14)	$\{(4, -3)\}$	35)	$\{(-4, -6)\}$

2) $3a + 5b = 3$
 $(a + 2b = 13)(-3)$

$$\begin{array}{r} 3a + 5b = 3 \\ -3a - 6b = -39 \\ \hline -1b = -36 \end{array}$$

$b = 36$

$$\begin{aligned} a + 2(36) &= 13 \\ a + 72 &= 13 \\ a + 72 - 72 &= 13 - 72 \\ a &= -59 \end{aligned}$$

$\{(-59, 36)\}$

6) $4x - 3y = 8$
 $(2x + y = 14) \cdot 3$

$$\begin{array}{r} 4x - 3y = 8 \\ 6x + 3y = 42 \\ \hline 10x = 50 \end{array}$$

$x = 5$

$$\begin{aligned} 2(5) + y &= 14 \\ 10 + y &= 14 \\ 10 - 10 + y &= 14 - 10 \\ y &= 4 \end{aligned}$$

$\{(5, 4)\}$

$$10) \quad 3c - 8d = 7$$

$$(c + 2d = -7)(4)$$

$$\begin{array}{r} 3c - 8d = 7 \\ 4c + 8d = -28 \\ \hline 7c \quad = -21 \end{array}$$

$$c = -3$$

$$-3 + 2d = -7$$

$$-3 + 3 + 2d = -7 + 3$$

$$2d = -4$$

$$d = -2$$

$$\{(-3, -2)\}$$

$$12) \quad (x + y = 7)(2) \quad (5) + y = 7$$

$$3x - 2y = 11$$

$$y = 2$$

$$\begin{array}{r} 2x + 2y = 14 \\ + 3x - 2y = 11 \\ \hline 5x \quad = 25 \\ \underline{\quad} \quad \underline{\quad} \\ x = 5 \end{array}$$

$$\{(5, 2)\}$$

$$\begin{aligned}
 16) \quad & 3t - 8z = 34 \\
 & (7t + 4z = -34) \cdot 2 \\
 & \hline
 & 3t - 8z = 34 \\
 & 14t + 8z = -68 \\
 & \hline
 & \frac{17t}{17} = \frac{-34}{17} \\
 & \boxed{t = -2}
 \end{aligned}$$

$$\begin{aligned}
 & 3(-2) - 8z = 34 \\
 & -6 - 8z = 34 \\
 & -6 + 6 - 8z = 34 + 6 \\
 & \quad \quad \quad \frac{-8z}{-8} = \frac{40}{-8} \\
 & \quad \quad \quad z = -5
 \end{aligned}$$

$$\{(-2, -5)\}$$

$$\begin{aligned}
 20) \quad & 18a - 5b = 17 \\
 & (6a + 10b = -6) \cdot (-3) \\
 & \hline
 & 18a - 5b = 17 \\
 & -18a - 30b = 18 \\
 & \hline
 & \frac{-35b}{-35} = \frac{35}{-35} \\
 & b = -1
 \end{aligned}$$

$$\begin{aligned}
 35) \quad & \left(\frac{x}{2} + \frac{y}{3} = -4\right) \cdot 6 \\
 & \left(\frac{x}{5} + \frac{y}{5} = -2\right) \cdot 5
 \end{aligned}$$

$$\begin{aligned}
 & 3x + 2y = -24 \\
 & (x + y = -10) \cdot (-2)
 \end{aligned}$$

$$\begin{aligned}
 & 3x + 2y = -24 \\
 & -2x - 2y = 20 \\
 & \hline
 & \boxed{x = -4}
 \end{aligned}$$

$$\begin{aligned}
 & -4 + y = -10 \\
 & y = -6 \\
 & \{(-4, -6)\}
 \end{aligned}$$