

Solving Multi-Step Equations

Variables on Both Sides - Negative Coefficients

Name: _____ Date: _____



Solve the equations.

(1) $-4x - 24 = x + 51$

(2) $-35 + 2x = 37 - 6x$

(3) $-16 - 6x = -4x + 10$

(4) $-8 - 4x = -3x + 7$

(5) $6x - 9 = 15 + 4x$

(6) $4x - 48 = 42 - 2x$

(7) $4x - 10 = 3 + 5x$

(8) $-6x - 53 = 3x + 82$

(9) $-56 + x = 22 - 5x$

(10) $-4 + x = 3x + 12$

(11) $x - 50 = -6x + 34$

(12) $-25 - 2x = -6x + 7$

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ANSWER KEY



Solve the equations.

$$\begin{aligned}(1) \quad -4x - 24 &= x + 51 \\ -24 - 5x &= 51 \\ -5x &= 75 \\ x &= -15\end{aligned}$$

$$\begin{aligned}(2) \quad -35 + 2x &= 37 - 6x \\ -35 + 8x &= 37 \\ 8x &= 72 \\ x &= 9\end{aligned}$$

$$\begin{aligned}(3) \quad -16 - 6x &= -4x + 10 \\ -16 - 2x &= 10 \\ -2x &= 26 \\ x &= -13\end{aligned}$$

$$\begin{aligned}(4) \quad -8 - 4x &= -3x + 7 \\ -8 - x &= 7 \\ -x &= 15 \\ x &= -15\end{aligned}$$

$$\begin{aligned}(5) \quad 6x - 9 &= 15 + 4x \\ -9 + 2x &= 15 \\ 2x &= 24 \\ x &= 12\end{aligned}$$

$$\begin{aligned}(6) \quad 4x - 48 &= 42 - 2x \\ -48 + 6x &= 42 \\ 6x &= 90 \\ x &= 15\end{aligned}$$

$$\begin{aligned}(7) \quad 4x - 10 &= 3 + 5x \\ -10 - x &= 3 \\ -x &= 13 \\ x &= -13\end{aligned}$$

$$\begin{aligned}(8) \quad -6x - 53 &= 3x + 82 \\ -53 - 9x &= 82 \\ -9x &= 135 \\ x &= -15\end{aligned}$$

$$\begin{aligned}(9) \quad -56 + x &= 22 - 5x \\ -56 + 6x &= 22 \\ 6x &= 78 \\ x &= 13\end{aligned}$$

$$\begin{aligned}(10) \quad -4 + x &= 3x + 12 \\ -4 - 2x &= 12 \\ -2x &= 16 \\ x &= -8\end{aligned}$$

$$\begin{aligned}(11) \quad x - 50 &= -6x + 34 \\ -50 + 7x &= 34 \\ 7x &= 84 \\ x &= 12\end{aligned}$$

$$\begin{aligned}(12) \quad -25 - 2x &= -6x + 7 \\ -25 + 4x &= 7 \\ 4x &= 32 \\ x &= 8\end{aligned}$$