

Solving Multi-Step Equations

Variables on Both Sides - Negative Coefficients

Name: _____ Date: _____



Solve the equations.

(1) $-2x - 72 = -8x + 30$

(2) $7x - 176 = 79 - 10x$

(3) $-10 + 5x = 14 + 3x$

(4) $-5x - 80 = 52 - 11x$

(5) $-10 - 2x = 15 - x$

(6) $-160 + 10x = 80 + 2x$

(7) $-8x - 22 = 26 - 5x$

(8) $-5x - 81 = 8x + 114$

(9) $-52 + 5x = 11x + 104$

(10) $11x - 105 = 28 + 4x$

(11) $-76 + 7x = 174 - 3x$

(12) $-64 + 3x = -5x + 56$

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ANSWER KEY



Solve the equations.

$$\begin{aligned}(1) \quad -2x - 72 &= -8x + 30 \\ -72 + 6x &= 30 \\ 6x &= 102 \\ x &= 17\end{aligned}$$

$$\begin{aligned}(2) \quad 7x - 176 &= 79 - 10x \\ -176 + 17x &= 79 \\ 17x &= 255 \\ x &= 15\end{aligned}$$

$$\begin{aligned}(3) \quad -10 + 5x &= 14 + 3x \\ -10 + 2x &= 14 \\ 2x &= 24 \\ x &= 12\end{aligned}$$

$$\begin{aligned}(4) \quad -5x - 80 &= 52 - 11x \\ -80 + 6x &= 52 \\ 6x &= 132 \\ x &= 22\end{aligned}$$

$$\begin{aligned}(5) \quad -10 - 2x &= 15 - x \\ -10 - x &= 15 \\ -x &= 25 \\ x &= -25\end{aligned}$$

$$\begin{aligned}(6) \quad -160 + 10x &= 80 + 2x \\ -160 + 8x &= 80 \\ 8x &= 240 \\ x &= 30\end{aligned}$$

$$\begin{aligned}(7) \quad -8x - 22 &= 26 - 5x \\ -22 - 3x &= 26 \\ -3x &= 48 \\ x &= -16\end{aligned}$$

$$\begin{aligned}(8) \quad -5x - 81 &= 8x + 114 \\ -81 - 13x &= 114 \\ -13x &= 195 \\ x &= -15\end{aligned}$$

$$\begin{aligned}(9) \quad -52 + 5x &= 11x + 104 \\ -52 - 6x &= 104 \\ -6x &= 156 \\ x &= -26\end{aligned}$$

$$\begin{aligned}(10) \quad 11x - 105 &= 28 + 4x \\ -105 + 7x &= 28 \\ 7x &= 133 \\ x &= 19\end{aligned}$$

$$\begin{aligned}(11) \quad -76 + 7x &= 174 - 3x \\ -76 + 10x &= 174 \\ 10x &= 250 \\ x &= 25\end{aligned}$$

$$\begin{aligned}(12) \quad -64 + 3x &= -5x + 56 \\ -64 + 8x &= 56 \\ 8x &= 120 \\ x &= 15\end{aligned}$$