

# Solving Multi-Step Equations

Variables on Both Sides - Negative Coefficients

Name: \_\_\_\_\_ Date: \_\_\_\_\_



Solve the equations.

$$(1) \quad 4x - 36 = 7x + 30$$

$$(2) \quad 7x - 121 = -3x + 79$$

$$(3) \quad -9x - 71 = 25 - 15x$$

$$(4) \quad -57 - 14x = 119 - 3x$$

$$(5) \quad -4x - 215 = 109 + 8x$$

$$(6) \quad -34 + 6x = 12 + 4x$$

$$(7) \quad -11 + 6x = 16 + 5x$$

$$(8) \quad -123 - 5x = 6x + 152$$

$$(9) \quad -192 + 8x = 132 - 10x$$

$$(10) \quad -191 - 12x = 154 + 3x$$

$$(11) \quad 2x - 211 = 65 + 14x$$

$$(12) \quad -2x - 34 = 3x + 41$$

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## ANSWER KEY



Solve the equations.

$$(1) \quad 4x - 36 = 7x + 30$$

$$\begin{aligned} -36 - 3x &= 30 \\ -3x &= 66 \\ x &= -22 \end{aligned}$$

$$(2) \quad 7x - 121 = -3x + 79$$

$$\begin{aligned} -121 + 10x &= 79 \\ 10x &= 200 \\ x &= 20 \end{aligned}$$

$$(3) \quad -9x - 71 = 25 - 15x$$

$$\begin{aligned} -71 + 6x &= 25 \\ 6x &= 96 \\ x &= 16 \end{aligned}$$

$$(4) \quad -57 - 14x = 119 - 3x$$

$$\begin{aligned} -57 - 11x &= 119 \\ -11x &= 176 \\ x &= -16 \end{aligned}$$

$$(5) \quad -4x - 215 = 109 + 8x$$

$$\begin{aligned} -215 - 12x &= 109 \\ -12x &= 324 \\ x &= -27 \end{aligned}$$

$$(6) \quad -34 + 6x = 12 + 4x$$

$$\begin{aligned} -34 + 2x &= 12 \\ 2x &= 46 \\ x &= 23 \end{aligned}$$

$$(7) \quad -11 + 6x = 16 + 5x$$

$$\begin{aligned} -11 + x &= 16 \\ x &= 27 \end{aligned}$$

$$(8) \quad -123 - 5x = 6x + 152$$

$$\begin{aligned} -123 - 11x &= 152 \\ -11x &= 275 \\ x &= -25 \end{aligned}$$

$$(9) \quad -192 + 8x = 132 - 10x$$

$$\begin{aligned} -192 + 18x &= 132 \\ 18x &= 324 \\ x &= 18 \end{aligned}$$

$$(10) \quad -191 - 12x = 154 + 3x$$

$$\begin{aligned} -191 - 15x &= 154 \\ -15x &= 345 \\ x &= -23 \end{aligned}$$

$$(11) \quad 2x - 211 = 65 + 14x$$

$$\begin{aligned} -211 - 12x &= 65 \\ -12x &= 276 \\ x &= -23 \end{aligned}$$

$$(12) \quad -2x - 34 = 3x + 41$$

$$\begin{aligned} -34 - 5x &= 41 \\ -5x &= 75 \\ x &= -15 \end{aligned}$$