

Solving Multi-Step Equations

Distributive With Parentheses - Negative Coefficients

Name: _____ Date: _____



Solve the equations.

(1) $5x + 4(-x + 6) = 12$

(2) $3x + 4(x - 12) = -111$

(3) $-7x - 3(-x + 5) = -43$

(4) $4x + 2(-3x - 10) = -32$

(5) $-6x - 3(4x - 4) = 138$

(6) $-6x - 3(-7x + 12) = 69$

(7) $-4x - 4(-3x + 11) = -116$

(8) $-7x - 3(-6x - 7) = 142$

(9) $3x - 3(-3x - 4) = 96$

(10) $6x - 3(-4x - 2) = -120$

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ANSWER KEY



Solve the equations.

$$\begin{aligned}(1) \quad 5x + 4(-x + 6) &= 12 \\ 5x - 4x + 24 &= 12 \\ x + 24 &= 12 \\ x &= -12 \\ x &= -12\end{aligned}$$

$$\begin{aligned}(2) \quad 3x + 4(x - 12) &= -111 \\ 3x + 4x - 48 &= -111 \\ 7x - 48 &= -111 \\ 7x &= -63 \\ x &= -9\end{aligned}$$

$$\begin{aligned}(3) \quad -7x - 3(-x + 5) &= -43 \\ -7x + 3x - 15 &= -43 \\ -4x - 15 &= -43 \\ -4x &= -28 \\ x &= 7\end{aligned}$$

$$\begin{aligned}(4) \quad 4x + 2(-3x - 10) &= -32 \\ 4x - 6x - 20 &= -32 \\ -2x - 20 &= -32 \\ -2x &= -12 \\ x &= 6\end{aligned}$$

$$\begin{aligned}(5) \quad -6x - 3(4x - 4) &= 138 \\ -6x - 12x + 12 &= 138 \\ -18x + 12 &= 138 \\ -18x &= 126 \\ x &= -7\end{aligned}$$

$$\begin{aligned}(6) \quad -6x - 3(-7x + 12) &= 69 \\ -6x + 21x - 36 &= 69 \\ 15x - 36 &= 69 \\ 15x &= 105 \\ x &= 7\end{aligned}$$

$$\begin{aligned}(7) \quad -4x - 4(-3x + 11) &= -116 \\ -4x + 12x - 44 &= -116 \\ 8x - 44 &= -116 \\ 8x &= -72 \\ x &= -9\end{aligned}$$

$$\begin{aligned}(8) \quad -7x - 3(-6x - 7) &= 142 \\ -7x + 18x + 21 &= 142 \\ 11x + 21 &= 142 \\ 11x &= 121 \\ x &= 11\end{aligned}$$

$$\begin{aligned}(9) \quad 3x - 3(-3x - 4) &= 96 \\ 3x + 9x + 12 &= 96 \\ 12x + 12 &= 96 \\ 12x &= 84 \\ x &= 7\end{aligned}$$

$$\begin{aligned}(10) \quad 6x - 3(-4x - 2) &= -120 \\ 6x + 12x + 6 &= -120 \\ 18x + 6 &= -120 \\ 18x &= -126 \\ x &= -7\end{aligned}$$