

Solving Multi-Step Equations

Distributive With Parentheses - Negative Coefficients

Name: _____ Date: _____



Solve the equations.

(1) $-7x - 3(-2x - 11) = 43$

(2) $-4x - 3(6x - 16) = -128$

(3) $-6x + 7(3x - 2) = 136$

(4) $5x + 2(x + 3) = -29$

(5) $2x - 5(5x + 17) = 122$

(6) $4x - 7(-3x + 12) = 91$

(7) $7x + 2(4x + 6) = 192$

(8) $-6x + 2(7x + 14) = -20$

(9) $-5x - 5(3x + 12) = 80$

(10) $-3x + 4(-6x - 10) = 149$

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ANSWER KEY



Solve the equations.

$$\begin{aligned}(1) \quad -7x - 3(-2x - 11) &= 43 \\ -7x + 6x + 33 &= 43 \\ -x + 33 &= 43 \\ -x &= 10 \\ x &= -10\end{aligned}$$

$$\begin{aligned}(2) \quad -4x - 3(6x - 16) &= -128 \\ -4x - 18x + 48 &= -128 \\ -22x + 48 &= -128 \\ -22x &= -176 \\ x &= 8\end{aligned}$$

$$\begin{aligned}(3) \quad -6x + 7(3x - 2) &= 136 \\ -6x + 21x - 14 &= 136 \\ 15x - 14 &= 136 \\ 15x &= 150 \\ x &= 10\end{aligned}$$

$$\begin{aligned}(4) \quad 5x + 2(x + 3) &= -29 \\ 5x + 2x + 6 &= -29 \\ 7x + 6 &= -29 \\ 7x &= -35 \\ x &= -5\end{aligned}$$

$$\begin{aligned}(5) \quad 2x - 5(5x + 17) &= 122 \\ 2x - 25x - 85 &= 122 \\ -23x - 85 &= 122 \\ -23x &= 207 \\ x &= -9\end{aligned}$$

$$\begin{aligned}(6) \quad 4x - 7(-3x + 12) &= 91 \\ 4x + 21x - 84 &= 91 \\ 25x - 84 &= 91 \\ 25x &= 175 \\ x &= 7\end{aligned}$$

$$\begin{aligned}(7) \quad 7x + 2(4x + 6) &= 192 \\ 7x + 8x + 12 &= 192 \\ 15x + 12 &= 192 \\ 15x &= 180 \\ x &= 12\end{aligned}$$

$$\begin{aligned}(8) \quad -6x + 2(7x + 14) &= -20 \\ -6x + 14x + 28 &= -20 \\ 8x + 28 &= -20 \\ 8x &= -48 \\ x &= -6\end{aligned}$$

$$\begin{aligned}(9) \quad -5x - 5(3x + 12) &= 80 \\ -5x - 15x - 60 &= 80 \\ -20x - 60 &= 80 \\ -20x &= 140 \\ x &= -7\end{aligned}$$

$$\begin{aligned}(10) \quad -3x + 4(-6x - 10) &= 149 \\ -3x - 24x - 40 &= 149 \\ -27x - 40 &= 149 \\ -27x &= 189 \\ x &= -7\end{aligned}$$