

Solving Multi-Step Equations

Distributive With Parentheses - Negative Coefficients

Name: _____ Date: _____



Solve the equations.

(1) $-4x + 3(2x - 3) = -25$

(2) $4x + 2(-7x - 5) = 40$

(3) $-3x + 6(x + 15) = 126$

(4) $-2x + 7(4x - 8) = 126$

(5) $-3x + 7(-3x - 11) = 43$

(6) $3x + 5(-3x + 10) = 146$

(7) $4x - 3(-3x - 8) = 128$

(8) $2x - 4(-6x - 13) = 182$

(9) $5x + 2(-x - 9) = -36$

(10) $6x - 5(5x + 2) = 180$

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ANSWER KEY



Solve the equations.

$$\begin{aligned}(1) \quad -4x + 3(2x - 3) &= -25 \\ -4x + 6x - 9 &= -25 \\ 2x - 9 &= -25 \\ 2x &= -16 \\ x &= -8\end{aligned}$$

$$\begin{aligned}(2) \quad 4x + 2(-7x - 5) &= 40 \\ 4x - 14x - 10 &= 40 \\ -10x - 10 &= 40 \\ -10x &= 50 \\ x &= -5\end{aligned}$$

$$\begin{aligned}(3) \quad -3x + 6(x + 15) &= 126 \\ -3x + 6x + 90 &= 126 \\ 3x + 90 &= 126 \\ 3x &= 36 \\ x &= 12\end{aligned}$$

$$\begin{aligned}(4) \quad -2x + 7(4x - 8) &= 126 \\ -2x + 28x - 56 &= 126 \\ 26x - 56 &= 126 \\ 26x &= 182 \\ x &= 7\end{aligned}$$

$$\begin{aligned}(5) \quad -3x + 7(-3x - 11) &= 43 \\ -3x - 21x - 77 &= 43 \\ -24x - 77 &= 43 \\ -24x &= 120 \\ x &= -5\end{aligned}$$

$$\begin{aligned}(6) \quad 3x + 5(-3x + 10) &= 146 \\ 3x - 15x + 50 &= 146 \\ -12x + 50 &= 146 \\ -12x &= 96 \\ x &= -8\end{aligned}$$

$$\begin{aligned}(7) \quad 4x - 3(-3x - 8) &= 128 \\ 4x + 9x + 24 &= 128 \\ 13x + 24 &= 128 \\ 13x &= 104 \\ x &= 8\end{aligned}$$

$$\begin{aligned}(8) \quad 2x - 4(-6x - 13) &= 182 \\ 2x + 24x + 52 &= 182 \\ 26x + 52 &= 182 \\ 26x &= 130 \\ x &= 5\end{aligned}$$

$$\begin{aligned}(9) \quad 5x + 2(-x - 9) &= -36 \\ 5x - 2x - 18 &= -36 \\ 3x - 18 &= -36 \\ 3x &= -18 \\ x &= -6\end{aligned}$$

$$\begin{aligned}(10) \quad 6x - 5(5x + 2) &= 180 \\ 6x - 25x - 10 &= 180 \\ -19x - 10 &= 180 \\ -19x &= 190 \\ x &= -10\end{aligned}$$