

Solving Multi-Step Equations

Distributive With Parentheses - Negative Coefficients

Name: _____ Date: _____



Solve the equations.

(1) $-5x + 4(-2x + 7) = -89$

(2) $-4x - 2(6x - 9) = -126$

(3) $-4x - 4(4x - 15) = -180$

(4) $-4x + 4(4x + 12) = -60$

(5) $-6x - 4(-x - 2) = -14$

(6) $3x - 2(-4x - 6) = 122$

(7) $-4x + 2(3x + 11) = 36$

(8) $6x - 5(4x + 3) = -127$

(9) $-2x + 2(2x + 2) = -12$

(10) $-5x - 3(-3x + 19) = -33$

Solving Multi-Step Equations

Distributive With Parentheses - Negative Coefficients

ANSWER KEY



Solve the equations.

$$\begin{aligned}(1) \quad -5x + 4(-2x + 7) &= -89 \\ -5x - 8x + 28 &= -89 \\ -13x + 28 &= -89 \\ -13x &= -117 \\ x &= 9\end{aligned}$$

$$\begin{aligned}(2) \quad -4x - 2(6x - 9) &= -126 \\ -4x - 12x + 18 &= -126 \\ -16x + 18 &= -126 \\ -16x &= -144 \\ x &= 9\end{aligned}$$

$$\begin{aligned}(3) \quad -4x - 4(4x - 15) &= -180 \\ -4x - 16x + 60 &= -180 \\ -20x + 60 &= -180 \\ -20x &= -240 \\ x &= 12\end{aligned}$$

$$\begin{aligned}(4) \quad -4x + 4(4x + 12) &= -60 \\ -4x + 16x + 48 &= -60 \\ 12x + 48 &= -60 \\ 12x &= -108 \\ x &= -9\end{aligned}$$

$$\begin{aligned}(5) \quad -6x - 4(-x - 2) &= -14 \\ -6x + 4x + 8 &= -14 \\ -2x + 8 &= -14 \\ -2x &= -22 \\ x &= 11\end{aligned}$$

$$\begin{aligned}(6) \quad 3x - 2(-4x - 6) &= 122 \\ 3x + 8x + 12 &= 122 \\ 11x + 12 &= 122 \\ 11x &= 110 \\ x &= 10\end{aligned}$$

$$\begin{aligned}(7) \quad -4x + 2(3x + 11) &= 36 \\ -4x + 6x + 22 &= 36 \\ 2x + 22 &= 36 \\ 2x &= 14 \\ x &= 7\end{aligned}$$

$$\begin{aligned}(8) \quad 6x - 5(4x + 3) &= -127 \\ 6x - 20x - 15 &= -127 \\ -14x - 15 &= -127 \\ -14x &= -112 \\ x &= 8\end{aligned}$$

$$\begin{aligned}(9) \quad -2x + 2(2x + 2) &= -12 \\ -2x + 4x + 4 &= -12 \\ 2x + 4 &= -12 \\ 2x &= -16 \\ x &= -8\end{aligned}$$

$$\begin{aligned}(10) \quad -5x - 3(-3x + 19) &= -33 \\ -5x + 9x - 57 &= -33 \\ 4x - 57 &= -33 \\ 4x &= 24 \\ x &= 6\end{aligned}$$