

Solving Multi-Step Equations

Distributive With Parentheses - Negative Coefficients

Name: _____ Date: _____



Solve the equations.

(1) $3x - 5(-2x + 15) = -192$

(2) $-5x + 7(-2x - 13) = 137$

(3) $-4x - 5(-5x + 18) = 120$

(4) $68 = -2x + 7(-4x - 16)$

(5) $-12 = 4x + 4(x + 15)$

(6) $-5x - 4(x - 13) = 106$

(7) $2x + 2(2x - 19) = 16$

(8) $-6x + 4(-5x - 5) = 162$

(9) $-66 = 3x - 4(4x - 3)$

(10) $189 = 6x + 3(6x - 9)$

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ANSWER KEY



Solve the equations.

$$\begin{aligned}(1) \quad 3x - 5(-2x + 15) &= -192 \\ 3x + 10x - 75 &= -192 \\ 13x - 75 &= -192 \\ 13x &= -117 \\ x &= -9\end{aligned}$$

$$\begin{aligned}(2) \quad -5x + 7(-2x - 13) &= 137 \\ -5x - 14x - 91 &= 137 \\ -19x - 91 &= 137 \\ -19x &= 228 \\ x &= -12\end{aligned}$$

$$\begin{aligned}(3) \quad -4x - 5(-5x + 18) &= 120 \\ -4x + 25x - 90 &= 120 \\ 21x - 90 &= 120 \\ 21x &= 210 \\ x &= 10\end{aligned}$$

$$\begin{aligned}(4) \quad 68 &= -2x + 7(-4x - 16) \\ 68 &= -2x - 28x - 112 \\ 68 &= -30x - 112 \\ 180 &= -30x \\ -6 &= x\end{aligned}$$

$$\begin{aligned}(5) \quad -12 &= 4x + 4(x + 15) \\ -12 &= 4x + 4x + 60 \\ -12 &= 8x + 60 \\ -72 &= 8x \\ -9 &= x\end{aligned}$$

$$\begin{aligned}(6) \quad -5x - 4(x - 13) &= 106 \\ -5x - 4x + 52 &= 106 \\ -9x + 52 &= 106 \\ -9x &= 54 \\ x &= -6\end{aligned}$$

$$\begin{aligned}(7) \quad 2x + 2(2x - 19) &= 16 \\ 2x + 4x - 38 &= 16 \\ 6x - 38 &= 16 \\ 6x &= 54 \\ x &= 9\end{aligned}$$

$$\begin{aligned}(8) \quad -6x + 4(-5x - 5) &= 162 \\ -6x - 20x - 20 &= 162 \\ -26x - 20 &= 162 \\ -26x &= 182 \\ x &= -7\end{aligned}$$

$$\begin{aligned}(9) \quad -66 &= 3x - 4(4x - 3) \\ -66 &= 3x - 16x + 12 \\ -66 &= -13x + 12 \\ -78 &= -13x \\ 6 &= x\end{aligned}$$

$$\begin{aligned}(10) \quad 189 &= 6x + 3(6x - 9) \\ 189 &= 6x + 18x - 27 \\ 189 &= 24x - 27 \\ 216 &= 24x \\ 9 &= x\end{aligned}$$