

Solving Multi-Step Equations

Distributive With Parentheses - Negative Coefficients

Name: _____ Date: _____



Solve the equations.

(1) $95 = -7x + 5(3x + 3)$

(2) $-2x + 4(2x - 3) = 54$

(3) $5x - 6(x + 4) = -18$

(4) $-54 = 2x - 2(-5x - 3)$

(5) $-5x - 4(-4x + 3) = 87$

(6) $-4x + 7(2x - 2) = -84$

(7) $79 = 5x - 2(7x - 8)$

(8) $40 = -2x + 2(4x - 7)$

(9) $3x + 2(2x + 8) = -68$

(10) $-5x - 2(-6x - 2) = -66$

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ANSWER KEY



Solve the equations.

$$\begin{aligned}(1) \quad 95 &= -7x + 5(3x + 3) \\ 95 &= -7x + 15x + 15 \\ 95 &= 8x + 15 \\ 80 &= 8x \\ 10 &= x\end{aligned}$$

$$\begin{aligned}(2) \quad -2x + 4(2x - 3) &= 54 \\ -2x + 8x - 12 &= 54 \\ 6x - 12 &= 54 \\ 6x &= 66 \\ x &= 11\end{aligned}$$

$$\begin{aligned}(3) \quad 5x - 6(x + 4) &= -18 \\ 5x - 6x - 24 &= -18 \\ -x - 24 &= -18 \\ -x &= 6 \\ x &= -6\end{aligned}$$

$$\begin{aligned}(4) \quad -54 = 2x - 2(-5x - 3) \\ -54 = 2x + 10x + 6 \\ -54 = 12x + 6 \\ -60 = 12x \\ -5 = x\end{aligned}$$

$$\begin{aligned}(5) \quad -5x - 4(-4x + 3) &= 87 \\ -5x + 16x - 12 &= 87 \\ 11x - 12 &= 87 \\ 11x &= 99 \\ x &= 9\end{aligned}$$

$$\begin{aligned}(6) \quad -4x + 7(2x - 2) &= -84 \\ -4x + 14x - 14 &= -84 \\ 10x - 14 &= -84 \\ 10x &= -70 \\ x &= -7\end{aligned}$$

$$\begin{aligned}(7) \quad 79 = 5x - 2(7x - 8) \\ 79 = 5x - 14x + 16 \\ 79 = -9x + 16 \\ 63 = -9x \\ -7 = x\end{aligned}$$

$$\begin{aligned}(8) \quad 40 = -2x + 2(4x - 7) \\ 40 = -2x + 8x - 14 \\ 40 = 6x - 14 \\ 54 = 6x \\ 9 = x\end{aligned}$$

$$\begin{aligned}(9) \quad 3x + 2(2x + 8) &= -68 \\ 3x + 4x + 16 &= -68 \\ 7x + 16 &= -68 \\ 7x &= -84 \\ x &= -12\end{aligned}$$

$$\begin{aligned}(10) \quad -5x - 2(-6x - 2) &= -66 \\ -5x + 12x + 4 &= -66 \\ 7x + 4 &= -66 \\ 7x &= -70 \\ x &= -10\end{aligned}$$