

# Solving Multi-Step Equations

## Distributive With Parentheses - Negative Coefficients

Name: \_\_\_\_\_ Date: \_\_\_\_\_



Solve the equations.

(1)  $6x - 2(5x + 5) = 14$

(2)  $3x + 2(2x + 6) = -37$

(3)  $47 = 7x + 2(-6x - 4)$

(4)  $66 = 4x + 3(-3x + 2)$

(5)  $5x + 4(-2x + 6) = -12$

(6)  $-88 = -4x - 5(x + 5)$

(7)  $-18 = 5x - 2(x - 6)$

(8)  $-2x + 3(4x + 9) = -93$

(9)  $3x + 4(x + 6) = 80$

(10)  $33 = -7x - 3(-x - 3)$

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## ANSWER KEY



Solve the equations.

$$\begin{aligned}(1) \quad 6x - 2(5x + 5) &= 14 \\ 6x - 10x - 10 &= 14 \\ -4x - 10 &= 14 \\ -4x &= 24 \\ x &= -6\end{aligned}$$

$$\begin{aligned}(2) \quad 3x + 2(2x + 6) &= -37 \\ 3x + 4x + 12 &= -37 \\ 7x + 12 &= -37 \\ 7x &= -49 \\ x &= -7\end{aligned}$$

$$\begin{aligned}(3) \quad 47 &= 7x + 2(-6x - 4) \\ 47 &= 7x - 12x - 8 \\ 47 &= -5x - 8 \\ 55 &= -5x \\ -11 &= x\end{aligned}$$

$$\begin{aligned}(4) \quad 66 &= 4x + 3(-3x + 2) \\ 66 &= 4x - 9x + 6 \\ 66 &= -5x + 6 \\ 60 &= -5x \\ -12 &= x\end{aligned}$$

$$\begin{aligned}(5) \quad 5x + 4(-2x + 6) &= -12 \\ 5x - 8x + 24 &= -12 \\ -3x + 24 &= -12 \\ -3x &= -36 \\ x &= 12\end{aligned}$$

$$\begin{aligned}(6) \quad -88 &= -4x - 5(x + 5) \\ -88 &= -4x - 5x - 25 \\ -88 &= -9x - 25 \\ -63 &= -9x \\ 7 &= x\end{aligned}$$

$$\begin{aligned}(7) \quad -18 &= 5x - 2(x - 6) \\ -18 &= 5x - 2x + 12 \\ -18 &= 3x + 12 \\ -30 &= 3x \\ -10 &= x\end{aligned}$$

$$\begin{aligned}(8) \quad -2x + 3(4x + 9) &= -93 \\ -2x + 12x + 27 &= -93 \\ 10x + 27 &= -93 \\ 10x &= -120 \\ x &= -12\end{aligned}$$

$$\begin{aligned}(9) \quad 3x + 4(x + 6) &= 80 \\ 3x + 4x + 24 &= 80 \\ 7x + 24 &= 80 \\ 7x &= 56 \\ x &= 8\end{aligned}$$

$$\begin{aligned}(10) \quad 33 &= -7x - 3(-x - 3) \\ 33 &= -7x + 3x + 9 \\ 33 &= -4x + 9 \\ 24 &= -4x \\ -6 &= x\end{aligned}$$