

Solve Linear Equations Worksheets (Distributive Property)

Find the value of x that makes the equation true.

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2. $-(x - 7) + \frac{5}{3} = 2(x + 9)$

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1. $17 - 5(2x - 9) = -(-6x + 10) + 4$

$$\begin{aligned}17 - 5(2x - 9) &= -(-6x + 10) + 4 \\17 - 10x + 45 &= 6x - 10 + 4 \\62 - 10x &= 6x - 6 \\62 - 10x + 10x &= 6x + 10x - 6 \\62 &= 16x - 6 \\62 + 6 &= 16x - 6 + 6 \\68 &= 16x \\ \frac{68}{16} &= \frac{16}{16}x \frac{68}{16} = x \\ \frac{17}{4} &= x\end{aligned}$$

2. $-(x - 7) + \frac{5}{3} = 2(x + 9)$

$$\begin{aligned}-(x - 7) + \frac{5}{3} &= 2(x + 9) \\-x + 7 + \frac{5}{3} &= 2x + 18 \\-x + \frac{26}{3} &= 2x + 18 \\-x + x + \frac{26}{3} &= 2x + x + 18 \\ \frac{26}{3} &= 3x + 18 \\ \frac{26}{3} - 18 &= 3x + 18 - 18 \\ -\frac{28}{3} &= 3x \\ \frac{1}{3} \cdot \frac{-28}{3} &= \frac{1}{3} \cdot 3x \\ -\frac{28}{9} &= x\end{aligned}$$