

Solve Linear Equations Worksheets (Distributive Property)

Find the value of x that makes the equation true.

1. $7x + 8\left(x + \frac{1}{4}\right) = 3(6x - 9) - 8$

2. $-4x - 2(8x + 1) = -(-2x - 10)$

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$$7x + 8\left(x + \frac{1}{4}\right) = 3(6x - 9) - 8$$

$$7x + 8x + 2 = 18x - 27 - 8$$

$$15x + 2 = 18x - 35$$

$$15x - 15x + 2 = 18x - 15x - 35$$

$$2 = 3x - 35$$

$$2 + 35 = 3x - 35 + 35$$

$$37 = 3x$$

$$\frac{37}{3} = \frac{3}{3}x$$

$$\frac{37}{3} = x$$

2. $-4x - 2(8x + 1) = -(-2x - 10)$

$$-4x - 2(8x + 1) = -(-2x - 10)$$

$$-4x - 16x - 2 = 2x + 10$$

$$-20x - 2 = 2x + 10$$

$$-20x + 20x - 2 = 2x + 20x + 10$$

$$-2 = 22x + 10$$

$$-2 - 10 = 22x + 10 - 10$$

$$-12 = 22x$$

$$\frac{-12}{22} = \frac{22}{22}x$$

$$-\frac{6}{11} = x$$