Solve Linear Equations Worksheets (Distributive Property)

Find the value of x that makes the equation true.

1. $5x - (x + 3) = \dfrac{1}{3}(9x + 18) - 5$

2. $x - (9x - 10) + 11 = 12x + 3\left(-2x + \dfrac{1}{3}\right)$

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1. $5x - (x + 3) = \dfrac{1}{3}(9x + 18) - 5$

$$5x - (x + 3) = \frac{1}{3}(9x + 18) - 5$$
$$5x - x - 3 = 3x + 6 - 5$$
$$4x - 3 = 3x + 1$$
$$4x - 3x - 3 = 3x - 3x + 1$$
$$x - 3 = 1$$
$$x - 3 + 3 = 1 + 3$$
$$x = 4$$

2. $x - (9x - 10) + 11 = 12x + 3\left(-2x + \dfrac{1}{3}\right)$

$$x - (9x - 10) + 11 = 12x + 3\left(-2x + \frac{1}{3}\right)$$
$$x - 9x + 10 + 11 = 12x - 6x + 1$$
$$-8x + 21 = 6x + 1$$
$$-8x + 8x + 21 = 6x + 8x + 1$$
$$21 = 14x + 1$$
$$21 - 1 = 14x + 1 - 1$$
$$20 = 14x$$
$$\frac{20}{14} = \frac{14}{14}x$$
$$\frac{10}{7} = x$$

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