

Linear Equations in Disguise Worksheets

Solve the following equations.

1. $\frac{5x - 8}{3} = \frac{11x - 9}{5}$

2. $\frac{x + 11}{7} = \frac{2x + 1}{-8}$

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1. $\frac{5x - 8}{3} = \frac{11x - 9}{5}$

$$\begin{aligned}\frac{5x - 8}{3} &= \frac{11x - 9}{5} \\ 5(5x - 8) &= 3(11x - 9) \\ 25x - 40 &= 33x - 27 \\ 25x - 25x - 40 &= 33x - 25x - 27 \\ -40 &= 8x - 27 \\ -40 + 27 &= 8x - 27 + 27 \\ -13 &= 8x \\ -\frac{13}{8} &= x\end{aligned}$$

2. $\frac{x + 11}{7} = \frac{2x + 1}{-8}$

$$\begin{aligned}\frac{x + 11}{7} &= \frac{2x + 1}{-8} \\ 7(2x + 1) &= -8(x + 11) \\ 14x + 7 &= -8x - 88 \\ 14x + 7 - 7 &= -8x - 88 - 7 \\ 14x &= -8x - 95 \\ 14x + 8x &= -8x + 8x - 95 \\ 22x &= -95 \\ x &= -\frac{95}{22}\end{aligned}$$