

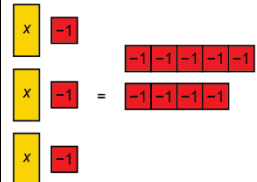
Activity 6 Assessment

Solving Equations Involving the Distributive Property

Solving Equations Involving the Distributive Property

Uses algebra tiles to represent an equation of the form $a(x + b) = c$

I used tiles to model $3(x - 1) = -9$.



Rewrites an equation of the form $a(x + b) = c$ by expanding symbolically or dividing both sides by a

$3(x - 5) = -20$ can be written as
 $(3)(x) - (3)(5) = -20$, or
 $3x - 15 = -20$

Solves an equation of the form $a(x + b) = c$, and checks their solution

I used the Distributive Property to rewrite $3(x - 5) = -20$ as
 $3x - 15 = -20$.

I added 15 to each side:
 $3x - 15 + 15 = -20 + 15$
 $3x = -5$

I divided both sides by 3:

$$\frac{-3x}{3} = \frac{-5}{3}$$

$$x = -\frac{5}{3}$$

I substituted $-\frac{5}{3}$ for x in the equation

$3x - 15 = -20$:

$$\text{L.S.} = 3\left(-\frac{5}{3}\right) - 15$$

$$= -5 - 15$$

$$= -20$$

$$\text{R.S.} = -20$$

$$\text{L.S.} = \text{R.S.}$$

My solution is correct.

Determines whether a worked solution for an equation of the form $a(x + b) = c$ is correct and fixes any mistakes

$$\begin{aligned} -2(x - 4) &= 12 \\ -2x - 8 &= 12 \\ -2x - 8 + 8 &= 12 + 8 \\ -2x &= 20 \\ x &= -10 \end{aligned}$$

The error in this solution happens in the first step.

$(-2)(-4)$ is $+8$, not -8 .

The corrected solution is:

$$\begin{aligned} -2(x - 4) &= 12 \\ -2x + 8 &= 12 \\ -2x + 8 - 8 &= 12 - 8 \\ -2x &= 4 \\ x &= -2 \end{aligned}$$

To check, I substitute -2 for x in the equation.

$$\text{L.S.} = -2(-2 - 4)$$

$$= -2(-6)$$

$$= 12$$

$$\text{R.S.} = 12$$

$$\text{L.S.} = \text{R.S.}$$

Observations/Documentation