

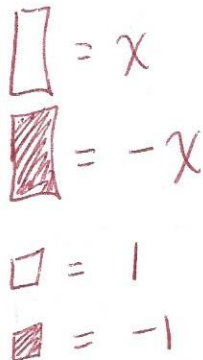
KEY

Essential Question: How do I model and solve an equation?

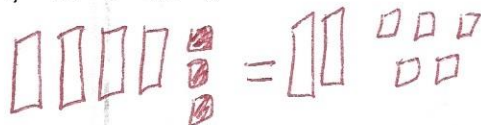
Questions:

Models

Mathematical Symbols



1)  $4x - 3 = 2x + 5$



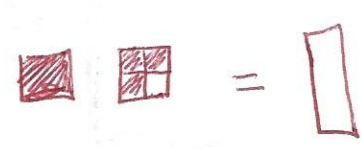
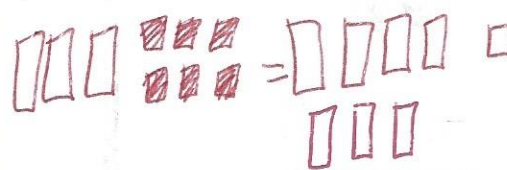
$$\begin{array}{r} 4x - 3 = 2x + 5 \\ -2x \quad \quad \quad -2x \\ \hline 2x - 3 = 5 \end{array}$$

$$\begin{array}{r} 2x - 3 = 5 \\ +3 \quad \quad \quad +3 \\ \hline 2x = 8 \end{array}$$

$$\frac{2x}{2} = \frac{8}{2}$$

$$x = 4$$

2)  $3x - 6 = 7x + 1$



$$\begin{array}{r} 3x - 6 = 7x + 1 \\ -3x \quad \quad \quad -3x \\ \hline -6 = 4x + 1 \end{array}$$

$$\begin{array}{r} -6 = 4x + 1 \\ -1 \quad \quad \quad -1 \\ \hline -7 = 4x \end{array}$$

$$\frac{-7}{4} = \frac{4x}{4}$$

$$\begin{array}{l} -\frac{7}{4} = x \\ \text{or} \\ -1.75 = x \end{array}$$

Summary:

Questions:

Models

Mathematical Symbols

$$\square = x$$

$$\blacksquare = -x$$

$$\square = 1$$

$$\blacksquare = -1$$

3)  $x + 5 = 3x - 1$

$$\begin{array}{r} x + 5 = 3x - 1 \\ -x \quad -x \\ \hline \end{array}$$

$$\begin{array}{r} 5 = 2x - 1 \\ +1 \quad +1 \\ \hline \end{array}$$

$$\frac{6}{2} = \frac{2x}{2}$$

$$\boxed{3 = x}$$

4)  $x + 4 = -x - 4$

$$\begin{array}{r} x + 4 = -x - 4 \\ +x \quad +x \\ \hline \end{array}$$

$$\begin{array}{r} 2x + 4 = -4 \\ -4 \quad -4 \\ \hline \end{array}$$

$$\frac{2x}{2} = \frac{-8}{2}$$

$$\boxed{x = -4}$$

5)  $0.4x - 8 = 9 - 0.6x$

$$\begin{array}{r} 0.4x - 8 = 9 - 0.6x \\ +0.6x \quad +0.6x \\ \hline \end{array}$$

$$\begin{array}{r} 1x - 8 = 9 \\ +8 \quad +8 \\ \hline \end{array}$$

$$1x = 17$$

$$\boxed{x = 17}$$