

Solving Equations, Using Algebra Tiles – Jigsaw Puzzle 2

Name David Thorsteinsson Date 1-11-19

Equation	Tile Model	Written Description of Procedure	Mathematical Procedure (Algorithm)
$2x + 1 = 5$		<ol style="list-style-type: none"> 2 times x plus one equals five units. Subtract 1 unit on both sides and then divide by 2. One x is equal to 2. 	$\begin{array}{r} 2x + 1 = 5 \\ -1 \\ \hline 2x = 4 \\ \div 2 \\ \hline x = 2 \end{array}$
$3x + 4 = -2$		<ol style="list-style-type: none"> Three times x plus four equals negative 2 units. Subtract 4 on both sides and then divide by 3. One x is equal to negative 2 units. 	$\begin{array}{r} 3x + 4 = -2 \\ -4 \\ \hline 3x = -6 \\ \div 3 \\ \hline x = -2 \end{array}$
$-3x + 2 = 5$		<ol style="list-style-type: none"> Three negative x's and two units are the same as 5. Subtract two units from each side of the equation. Divide both sides of the equation into two equal groups. Flip both sides of the equation to make them opposites. One x is equal to one negative unit. 	$\begin{array}{r} -3x + 2 = 5 \\ -2 \\ \hline -3x = 3 \\ \div -3 \\ \hline x = -1 \end{array}$
$2x - 3 = x + 2$		<ol style="list-style-type: none"> Two x's minus three equals x plus two. Subtract x on both sides and then plus 3 on both sides. One x is equal to 5 units. 	$\begin{array}{r} 2x - 3 = x + 2 \\ -x \\ \hline x - 3 = 2 \\ +3 \\ \hline x = 5 \end{array}$

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Solving Equations Using Algebra Tiles – Jigsaw Puzzle 1

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Equation	Tile Model	Written Description of Procedure	Mathematical Procedure (Algorithm)
$2x = -8$		<ol style="list-style-type: none"> Two xs is equal to negative 8 units, Divide on both sides of the equation by two units, One x is equal to negative 4 units. 	$\frac{2x = -8}{2} \quad \boxed{x = -4}$
$3x = -6$		<ol style="list-style-type: none"> Three xs is the same as -6, Divide by 3 on both sides of the equation, One x is equal to two negative units. 	$\frac{3x = -6}{3} \quad \boxed{x = -2}$
$-1x = 5$		<ol style="list-style-type: none"> One negative x is equal to 5. Take the opposite of each side of the equation. One x is equal to five negative units. 	$\frac{-1x = 5}{-1} \quad \boxed{x = -5}$
$3x = 2+x$		<ol style="list-style-type: none"> Three xs is equal to two units plus x, Subtract x on both sides of the equation and then divide by 2 units on both sides, One x is equal to one unit. 	$3x = 2+x$ $\frac{-x}{-x} \quad \frac{-x}{-x} = \frac{2}{-x}$ $\frac{2}{-x} = 2$ $\frac{+2}{+2} \quad \frac{+2}{+2} = \frac{1}{1}$