
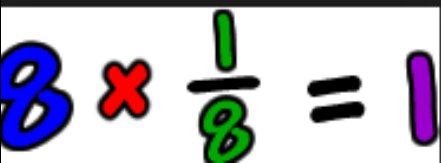


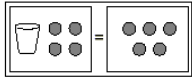
Unit 4 ü Equations and Inequalities Unit Guide I

SOL 6.13: The student will identify parts of an expression and an equation. We will represent and solve one step linear equations using a variety of materials. We will apply properties of real numbers and properties of equality to solve a one-step equation and confirm solutions. We will write verbal and algebraic expressions.

	Target Defined	Example of Target	Challenge A	Challenge B	Challenge C		
Target 1 T 1	Identify parts of algebraic expressions.	<p style="text-align: center;"> terms $5x - 3$ coefficient variable constant </p>					
Target 2 T2	Identify commutative, associative and distributive properties.	<p style="text-align: center;">Commutative Properties</p> <p>The order in which two numbers are added or multiplied does not change their sum or product.</p> <p style="text-align: center;">$7 + 9 = 9 + 7$ $4 \times 5 = 5 \times 4$</p> <p style="text-align: center;">Associative Properties</p> <p>The way in which three numbers are grouped when they are added or multiplied does not change their sum or product.</p> <p style="text-align: center;">$2 + (3 + 4) = (2 + 3) + 4$ $3 \times (5 \times 2) = (3 \times 5) \times 2$</p> <p style="text-align: center;">Distributive Property</p> <p>To multiply a sum by a number, multiply each addend by the number outside the parentheses.</p> <p style="text-align: center;">$2(7 + 4) = 2 \times 7 + 2 \times 4$</p>					
Target 3 T 3	Identify examples of the identity properties of addition and multiplication	<div style="background-color: #fff9c4; padding: 10px;"> <p style="text-align: center;">IDENTITY PROPERTY OF ADDITION AND MULTIPLICATION</p> <p>• The SUM of any number and zero is the original number. The PRODUCT of any number and 1 is the original number.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <p style="text-align: center;">Arithmetic</p> <p>In Addition: $12 + 0 = 12$</p> <p>In Multiplication: $10 \cdot 1 = 10$</p> </td> <td style="width: 50%; vertical-align: top;"> <p style="text-align: center;">Algebra</p> <p>In Addition: $a + 0 = a$</p> <p>In Multiplication: $a \cdot 1 = a$</p> </td> </tr> </table> </div>	<p style="text-align: center;">Arithmetic</p> <p>In Addition: $12 + 0 = 12$</p> <p>In Multiplication: $10 \cdot 1 = 10$</p>	<p style="text-align: center;">Algebra</p> <p>In Addition: $a + 0 = a$</p> <p>In Multiplication: $a \cdot 1 = a$</p>			
<p style="text-align: center;">Arithmetic</p> <p>In Addition: $12 + 0 = 12$</p> <p>In Multiplication: $10 \cdot 1 = 10$</p>	<p style="text-align: center;">Algebra</p> <p>In Addition: $a + 0 = a$</p> <p>In Multiplication: $a \cdot 1 = a$</p>						

Target 4 T 4	Identify examples of the multiplicative property of zero	<p>The product of any number and zero is zero.</p> $4 \times 0 = 0 \qquad 0 \times 25 = 0$
Target 5 T 5	Identify examples of the Inverse Properties of addition and multiplication	 
Target 6 T 6	Solve and write one-step equations with addition.	<div style="border: 2px solid yellow; padding: 5px;"> <p style="text-align: center;">One Step Addition Example</p> <p style="text-align: center; color: red;">The Opposite of Addition is Subtraction</p> $y + 14 = 20$ $\quad -14 \quad -14$ $y = 6 \checkmark$ <p style="text-align: center; color: green;">The value which makes the equation true is 6.</p> </div>
Target 7 T 7	Solve and write one-step equations with subtraction.	<div style="border: 2px solid green; padding: 5px;"> <p style="text-align: center;">ONE STEP SUBTRACTION EXAMPLE</p> <p style="text-align: center; color: red;">The Opposite of Subtraction is Addition</p> $x - 120 = 80$ $\quad +120 \quad +120$ $x = 200 \checkmark$ <p style="text-align: center; color: green;">The value which makes the equation true is 200.</p> </div>
Target 8 T 8	Solve and write one-step equations with multiplication	<div style="border: 2px solid purple; padding: 5px;"> <p style="text-align: center;">Multiplication Example</p> <p style="text-align: center; color: red;">The Opposite of Multiplication is Division</p> $3n = 12$ $\frac{\cancel{3}n}{\cancel{3}} = \frac{12}{3}$ $n = 4 \checkmark$ <p style="text-align: center; color: green;">The value which makes the equation true is 4.</p> <p style="font-size: small;">3/3 cancels down to become 1/1 = 1 1n is simply "n"</p> </div>
Target 9 T 9	Solve and write one-step equations with division.	<div style="border: 2px solid blue; padding: 5px;"> <p style="text-align: center;">One Step Division Example</p> <p style="text-align: center; color: red;">The Opposite of Division is Multiplication.</p> $\frac{k}{2} = 16$ $\frac{k}{\cancel{2}} \times \cancel{2} = 16 \times 2$ $k = 32 \checkmark$ <p style="text-align: center; color: green;">The value which makes the equation true is 32.</p> <p style="font-size: small;">k is divided by 2, so we need to multiply both sides by 2 2/2 cancels down to become 1/1 = 1 1k is simply "k"</p> </div>

Challenge A	Challenge B	Challenge C
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<p>Target 10 T 10</p>	<p>Identify and evaluate models of one-step equations.</p>	<p>$x + 4 = 5$</p> 					
<p>Target 11 T 11</p>	<p>Solve addition and subtraction equations involving integers.</p>	<p style="text-align: center;"><u>Addition/Subtraction</u></p> $\begin{array}{r} x + 8 = 2 \\ -8 \quad -8 \\ \hline x = -6 \end{array}$ $\begin{array}{r} y - 13 = -4 \\ +13 \quad +13 \\ \hline y = 9 \end{array}$					
<p>Target 12 T 12</p>	<p>Solve multiplication and division equations involving integers.</p>	<p style="text-align: center;"><u>Multiplication/Division</u></p> $\begin{array}{r} -3x = 21 \\ -3 \quad -3 \\ \hline x = -7 \end{array}$ $\cancel{(-2)} \frac{m}{-2} = 8 \cancel{(-2)}$ $m = -16$					

Summative Grades: