Name _____ Date _____

Variables

Variables in mathematics are letters or symbols that represent number values. In some expressions and equations, the number value of a variable is unknown and in some the number value is given. Variables can be x, y, z, or any other letters or symbols.

EX: $z + 5$ $9 - h$ $12 / r$ $b \times 7$ c^2  $+ 8$

If you were given the number values for these variables you could evaluate all of these expressions. To **evaluate** an algebraic expression means to find the value of it when the variable is replaced by a given number. An **expression** is a math sentence with at least two numbers and/or variables and at least one operation to perform. To evaluate an expression, we complete two steps: 1) substitute the given number value for the variable and then 2) simplify the expression using the order of operations. **Simplify** means to reduce an expression to its simplest state.

Look at the number values for each letter and symbol in the chart below, then follow the example to evaluate the expressions.

Number Value of Variable	Algebraic Expression	Replace Variable and Rewrite	Simplified Answer
$z = 4$	$z + 5$	$4 + 5$	9
$h = 3$	$9 - h$		
$r = 6$	$12 / r$		
$b = 10$	$b \times 7$		
 $= 1$	 $+ 8$		
$c = 5$	c^2	5^2 5×5	25

Match the words below with their definitions:

variable	**second step in evaluating expressions**	**evaluate**
simplify	**first step in evaluating expressions**	**expression**

1) find the value of it when the variable is replaced by a given number

2) simplify the expression using the order of operations

3) reduce an expression to its simplest state

4) letters or symbols that represent number values

5) substitute the given number value for the variable

6) math sentence with at least two numbers and/or variables and at least one operation to perform