|  |  |  |  |
| --- | --- | --- | --- |
|  | | |  |
| MC900237833[1] | | | **Math 6/7 Unit 3**  **Expressions** |
| Volume 1 Issue 3 | | |  |
| **References**  Helpful Links:  <http://thinkingblocks.com>  <http://www.khanacademy.org>  <http://www.arcademicskillbuilders.com>  <http://hoodamath.com>  <http://www.ixl.com/math/grade-6/evaluate-variable-expressions-with-whole-numbers>  <http://www.ixl.com/math/grade-6/evaluate-variable-expressions-involving-decimals-fractions-and-mixed-numbers>  Georgia Math Grade 6 Plus Textbook Connection:  Ch. 3, Lessons 1-7  Georgia Math Grade 6 Textbook Online:  connected.mcgraw-hill.com  [https://www.mheonline. com/apps/](https://www.mheonline.com/apps/) | | | Dear Parents In this unit students will:   * Represent repeated multiplication with exponents * Evaluate expressions containing exponents to solve mathematical and real world problems * Translate verbal phrases and situations into algebraic expressions * Identify the parts of a given expression * Use the properties to identify equivalent expressions * Use the properties and mathematical models to generate equivalent expressions  Concepts Students will Use & Understand  * Variables can be used as unique unknown values or as quantities that vary. * Exponential notation is a way to express repeated products of the same number. * Algebraic expressions may be used to represent and generalize mathematical problems and real life situations * Properties of numbers can be used to simplify and evaluate expressions. * Algebraic properties can be used to create equivalent expressions * Two equivalent expressions form an equation.  Vocabulary  * **Algebraic expression**: A mathematical phrase involving at least one variable and sometimes numbers and operation symbols. * **Associative Property of Addition**: The sum of a set of numbers is the same no matter how the numbers are grouped. * **Associative Property of Multiplication:** The product of a set of numbers is the same no matter how the numbers are grouped. * **Coefficient:**  A number multiplied by a variable in an algebraic expression. * **Commutative Property of Addition:** The sum of a group of numbers is the same regardless of the order in which the numbers are arranged * **Commutative Property of Multiplication:** The product of a group of numbers is the same regardless of the order in which the numbers are arranged. * **Constant:**  A quantity that does not change its value. * **Distributive Property:** The sum of two addends multiplied by a number is the sum of the product of each addend and the number. * **Exponent:** The number of times a number or expression (called base) is used as a factor of repeated multiplication. Also called the power. * **Like Terms:** Terms in an algebraic expression that have the same variable raised to the same power. Only the coefficients of like terms are different. * **Order of Operations:** The rules to be followed when simplifying expressions. * **Term:** A number, a variable, or a product of numbers and variables. * **Variable:** A letter or symbol used to represent a number or quantities that vary   Try <http://intermath.coe.uga.edu/dictnary/homepg.asp> or <http://www.amathsdictionaryforkids.com/> for further examples. |
|  | |  | |
| Symbols  Expression:  8*x* + 4*y*  Terms:  8*x*  4*y* | | Example 1 What is the value of the expression below when *m* = 5 and *n* = 0.5?  *m*2 + (*n* + 6) Example 2 Luci bought *n* ride tickets at the carnival. Bianca bought 4 times as many ride tickets as Luci. Write an expression that represents the total number of ride tickets that Luci and Bianca bought. Example 3 Write an equivalent expression for 9(*p* + 8). Example 4 Simplify the expression using exponents: 5∙5∙5∙5∙5∙5∙5∙n∙n + 4∙4∙4 | |
|  | |  | |
|  | **Key**  **Example 1**  *m*2 + (*n* + 6); *m* = 5 and *n* = 0.5  Substitute the variable with numerical value  ***m***2 + (***n*** + 6)  **5**2 + (**0.5** + 6)  Use orders of operations to solve  **5**2 + (**0.5** + 6)  **5**2 + 6.5  25 + 6.5  31.5  **Example 2**  *n* + 4n  **Example 3**  **9**(*p* + 8)  Use the distributive property to write an equivalent expression  **9**(*p*) + **9**(8)  9*p* + 72  **Example 4**  5⁷n²+ 4³ | | |
|  | |  | |