**Unit 3 Study Guide: Expressions (Chapter 5 in Textbook)**

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Due Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **Standard** | **Problems** |
| EE.1: Write and evaluate expressions with exponents. | Evaluate the following expressions:   1. 20 − 36 ÷ 32 • 2 2. 10 – 3 × 2 + 8 ÷ (3 – 1) 2 2. Lex evaluated the following expression. His work is shown:   4 + (16 ÷ 4) \* 23  20 ÷ 4 \* 23  5 \* 23  5 \* 8  =40  Do you agree with his answer?  What mistakes were made, if any?   1. Evaluate 5. Evaluate 73: 2. Evaluate 34: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. Write 4 x 4 x 4 x 4 as an exponent. |
| 2a:Write expressions with numbers and variables (translating word phrases into algebraic expressions) | Write an algebraic expression for:   1. six less than some number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. twice the sum of a number and 5: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. fifteen less m: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4. three times a number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 5. twice a number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 6. h divided by twelve: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 2b: Identify parts of an expression using mathematical terms. | Term: Each part of an algebraic expression separated by a plus or minus sign  Constant: A term without a variable; a number without a variable (ex. 3)  Coefficient: The numerical factor being multiplied by a variable (ex. 3x)  Variable: a mystery number represented by a letter.  ***Identify the parts of the following expressions:***    **2m3 + 4c – 5**  **10x + 16 -5x2**  Variables: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Variables: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Terms: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Terms: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Coefficients:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Coefficients:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Constants: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Constants: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Complete the table below:   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Expression** | **Number of Terms** | **List the Constants, or write None** | **List the Coefficients, or write None** | **List the Variables, or write None** | | 5x + 2 |  |  |  |  | | 11y + 3x |  |  |  |  | | b2 + 5b -1 |  |  |  |  | | x2 + 3y + 4x |  |  |  |  | | 9g + f + 8 |  |  |  |  | |
| 2c: Evaluate expressions at specific values for their variables. | 1. Evaluate 3x2 – (x + 1) when x=2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. There are 3 times as many oranges as apples in a fruit bowl. If a represents the number of apples, how many oranges are there when a= 5? Use the expression 3a 3. Evaluate x2 + 5x – 1 when:   x = 2: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  x = 4: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. Evaluate 5(n-2) when:   n = 3: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  n = 5: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  n = 10: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. Evaluate k + (5 · 4) when:   k = 5: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  k = 8: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  k = 12: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. Evaluate n · (32 – n2) – 1 when n = 2: |