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

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

|  |  |
| --- | --- |
| **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$ ( \frac{1}{2} )^{3}$ 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:
 |