**EVALUATE ALGEBRAIC EXPRESSIONS** means to find its numerical value.

**ORDER OF OPERATIONS** is a method used to evaluate an expression involving more than one operation. In algebraic expressions, it can only by evaluated if the values of the variables are known.

|  |  |
| --- | --- |
| **Step 1** | Replace the variables with their numerical values. |
| **Step 2** | Evaluate expressions inside grouping symbols. |
| **Step 3** | Evaluate all powers. |
| **Step 4** | Do all multiplications and/or divisions from left to right. |
| **Step 5** | Do all additions and/or subtractions from left to right. |

**Example**: Evaluate , if .

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  | Replace with. |
|  |  |  | Evaluate |
|  |  |  | Subtract and |

**Sample Problem 1**: Evaluate each expression if , , and .

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

**GROUPING SYMBOLS**, such as parentheses or brackets, indicate the order in which the operations should be performed first.

**Example**: Evaluate , if , , and .

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  | Replace with, with, and with. |
|  |  |  | Evaluate  **and** |
|  |  |  | Multiply and |
|  |  |  | Subtract and |
|  |  |  | Subtract from |

**Sample Problem 2**: Evaluate each expression if , , , and .

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

**FRACTION BAR** is another type of grouping symbol. It indicates that the numerator and denominator should each be treated as a single value.

**Example**: Evaluate, if , and .

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  | Replace with, and with. |
|  |  |  | Evaluate  **and** |
|  |  |  | Multiply and |
|  |  |  | Subtract from |
|  |  |  | Divide to |

**Sample Problem 3**: Evaluate each expression if , , , and .

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |