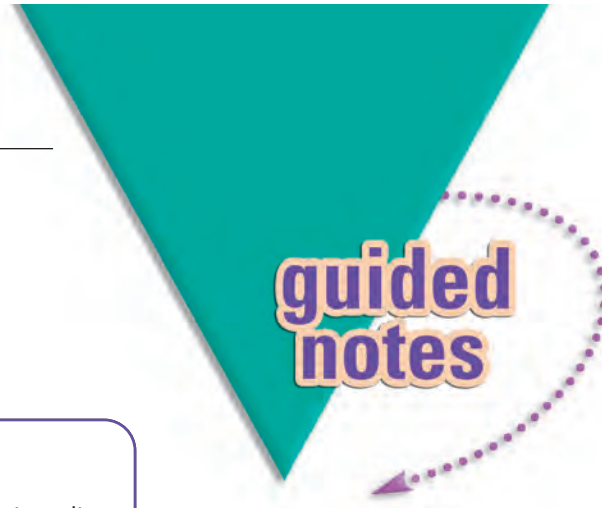


NAME _____

Module 2 Writing and Simplifying Algebraic Expressions
Lesson 5 Evaluating Expressions



guided notes

Lesson Objectives

- Evaluate algebraic expressions for given numerical values.
- Use the order of operations.

An **algebraic expression** _____ is a combination of numbers, one or more variables, and operations.

Total bases are equal to **$1s + 2d + 3t + 4h$** _____.

$1s$ _____ is the number of bases for s singles, **$2d$** _____ is the number of bases for d doubles, **$3t$** _____ is the number of bases for t triples, and **$4h$** _____ is the number of bases for h home runs.

Replace each variable in the expression for twenty-four singles, eight doubles, no triples, and twelve home runs.

$$1(\mathbf{24}) + 2(\mathbf{8}) + 3(\mathbf{0}) + 4(\mathbf{12})$$

To evaluate an expression:

1. Replace each **variable** _____ in the expression with its value.
2. Simplify to find the value of the **numerical expression** _____.

Evaluate $(-2)^n$ for $n = 3$. **$(-2)^3$** _____ = -8

Evaluate $(-2)^n$ for $n = 4$. **$(-2)^4$** _____ = 16

The order of operations can be remembered by the saying, _____

Please Excuse My Dear Aunt Sally _____.

Evaluate expressions in **parentheses** _____ first, followed by

exponents _____. Next, **multiply and divide** _____ in

order from left to right. Then, **add and subtract** _____ in order from left to right.

Evaluate $\sqrt{a^2 + b^2}$ for $a = 3$ and $b = 4$. $\sqrt{3^2 + 4^2}$ = $\sqrt{9 + 16}$ = $\sqrt{25}$ = 5.

1 Evaluate $\sqrt[3]{x}$ for $x = -8$. -2

2 Evaluate $|3 - x|$ for $x = -8$. 11

The expression $P\left(1 + \frac{r}{n}\right)^{nt}$, is used to find how much compound interest a savings account would earn.

Replace the variables in the expression with its value. $P = 10,000$, $r = 0.06$, $n = 12$, and $t = 5$. $10,000\left(1 + \frac{0.06}{12}\right)^{12 \cdot 5}$ = 13,488.50153, or \$13,488.50.