Lesson 3.1

October 31, 2014

Essential Question:

How can you write and evaluate an expression that represents a real-life problem?

Lesson 3.1

October 31, 2014

Lesson Objective:

Students will be able to:

write and evaluate an expression written in words.

Self-Evaluation Scale

Score	Description
4	I can teach other students how to write and evaluate an expression written in words.
3	I can write and evaluate an expression written in words.
2	I recognize, but still need help to write and evaluate an expression written in words.
1	I do not know how to write and evaluate an expression written in words.

Learning Objective: Students will be able to write and evaluate an expression written in words.

Algebraic Expression

Expression that contains numbers, operations, and one or more symbol.

Learning Objective: Students will be able to write and evaluate an expression written in words.

Terms

Part of an algebraic expression

Learning Objective: Students will be able to write and evaluate an expression written in words.

Variable

Symbol that represents one or more numbers

Learning Objective: Students will be able to write and evaluate an expression written in words.

Coefficient

The numerical factor of a term that contains a variable

Learning Objective: Students will be able to write and evaluate an expression written in words.

Constant

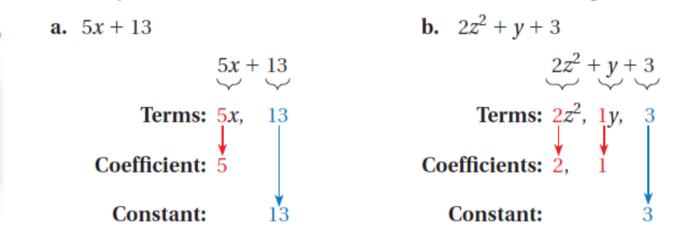
A term without a variable

1

Learning Objective: Students will be able to write and evaluate an expression written in words.

Identifying Parts of an Algebraic Expression

Identify the terms, coefficients, and constants in each expression.



2 Writing Algebraic Expressions Using Exponents

Write each expression using exponents.

a. $d \cdot d \cdot d \cdot d$

Because *d* is used as a factor 4 times, its exponent is 4.

So,
$$d \cdot d \cdot d \cdot d = d^4$$
.

b. 1.5 • *h* • *h* • *h*

Because *h* is used as a factor 3 times, its exponent is 3.

So, $1.5 \cdot h \cdot h \cdot h = 1.5h^3$.

3 Evaluating Algebraic Expressions

- a. Evaluate k + 10 when k = 25.
 - k + 10 = 25 + 10 Substitute 25 for k. = 35 Add 25 and 10.
- b. Evaluate $4 \cdot n$ when n = 12.
 - $4 \cdot n = 4 \cdot 12$ Substitute 12 for *n*. = 48 Multiply 4 and 12.

4

Learning Objective: Students will be able to write and evaluate an expression written in words.

Evaluating an Expression with Two Variables

Evaluate $a \div b$ when a = 16 and $b = \frac{2}{3}$. $a \div b = 16 \div \frac{2}{3}$ Substitute 16 for a and $\frac{2}{3}$ for b. $= 16 \cdot \frac{3}{2}$ Multiply by the reciprocal of $\frac{2}{3}$, which is $\frac{3}{2}$. = 24 Multiply.

5

Learning Objective: Students will be able to write and evaluate an expression written in words.

a-b= a+ b

Evaluating Expressions with Two Operations

a. Evaluate 3x + 14 when x = 5.

3x - 14 = 3(5) - 14	Substitute 5 for <i>x</i> .
= 15 - 14	Using order of operations, multiply 3 and 5.
= 1	Subtract 14 from 15.

b. Evaluate $z^2 + 8.5$ when z = 2.

$z^2 + 8.5 = 2^2 + 8.5$	Substitute 2 for z.
= 4 + 8.5	Using order of operations, evaluate 2 ² .
= 12.5	Add 4 and 8.5.

Assignment

Complete problems 8, 12, 16, 20, 26, 30, 34, 36, 44, 46, 50, & 52 on pages 115 - 117 in your Big Ideas Text Book.

۲

 $\frac{1}{2}$ + 8 24 78 - 2<u>6</u>+8 10<u>-</u>

$$7ht3$$

Terms = 7h,3
Variable = h
Coeff. = 7
(onst. = 3

 $n^2 + \frac{1}{2}d + 0$ $= \eta^2$, ad V , d (on =

 $\frac{24}{5} + 8$ 24 9 +8 29+8 1023

Homework

In your Big Ideas Record and Practice Journal page 60 + 2 Candies each!!!