1-1 Variables and Expressions

Lesson 1

Algebra I - Unit 1

[redacted] are symbols used to represent unspecified numbers or values.

An [redacted] consists of one or more numbers and variables along with one or more arithmetic operations.

Here are some examples:

[redacted]

What mathematical operation is represented below?

xy $x \cdot y$ $x(y)$ $(x)y$ $(x)(y)$

In each expression, the quantities being multiplied are called _____ and the result is called the _____

Example 1:

Write an algebraic expression for each verbal expression.

- *Eight more than a number.*

- *The difference of 7 and 4 times a number x.*

- *One third of the size of the original area a.*

x^n

The variable x is called the [redacted] and n is called the [redacted]

The exponent indicates the number of times the base is used as a [redacted]

Example 2:

Write each expression algebraically.

- *The product of 7 and m to the fifth power.*

- *The difference of 4 and x squared.*

To [redacted] an expression means to find its value.

Example 3:

Evaluate each expression.

- 2^6
- 4^3

Example 4:

Write a verbal expression for each algebraic expression.

- $4m^3$
- $c^2 + 21d$
- 5^3

Classwork:

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Check for Understanding

Concept Check

1. **Explain** the difference between an algebraic expression and a verbal expression.
2. **Write** an expression that represents the perimeter of the rectangle. Sample answer: $2\ell + 2w$

3. **OPEN ENDED** Give an example of a variable to the fifth power. Sample answer: a^5

4–5. Sample answers are given.

Write an algebraic expression for each verbal expression.

4. the sum of j and 13 $j + 13$
5. 24 less than three times a number $3x - 24$

Evaluate each expression.

6. 9^2 81
7. 4^4 256

Write a verbal expression for each algebraic expression.

8. $4m^4$ the product of 4 and m to the fourth power
9. $\frac{1}{2}n^3$ one half of n cubed

Application

10. **MONEY** Lorenzo bought several pounds of chocolate-covered peanuts and gave the cashier a $20 bill. Write an expression for the amount of change he will receive if p represents the cost of the peanuts. $20 - p$

1. Algebraic expressions include variables and numbers, while verbal expressions contain words.

Homework:

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