

Interpreting Expressions



Vocabulary

Learning Questions

∞ What am I learning today?

- The vocabulary needed to describe mathematical expressions

∞ How will I show I learned it?

- Identify the pieces of a trinomial expression

Algebraic Expression

∞ A mathematical statement with variables, numbers, addition, subtraction, multiplication, division, parenthesis, square roots, exponents...

∞ Examples: $\frac{x - 2}{3(x + 2)}$ ①

$-5b + 7c - d$ ②

$\sqrt{5xy}$ ③

Variable

☞ Symbols or letters used to represent an unknown

☞ Examples:

X	①
θ	②
β	③
☺	④

Term

∞ Items that are being added, subtracted, or divided.

∞ Examples:

① $\underline{5a^2} - \underline{2xy} + \underline{3}$

3 terms

② $\frac{P - 2x}{a^2 + b}$

4 terms

Like Terms

∞ A term with the same variable raised to the same power

∞ Examples:

① $5x^2y$ and $8x^2y$

② $-7y^2$ and $22y^2$

Coefficient

∞ The number in front of a variable. It can be positive or negative.

∞ Examples:

① $123xy$ **123**

② $6 - 9y^3z^2$ **-9**

③ x **1**

Exponent

- ∞ The number up in the air next to a base
- ∞ The number of times you multiply something by itself

∞ Examples:

①	$2^3 = 2 \cdot 2 \cdot 2$	3
②	x^{12}	12
③	$-3y^4 + 7$	4

Base

- ∞ What the exponent sits on. You cannot have a base without an exponent.
- ∞ The part that has been raised to a power

∞ Examples:

$(-3y)^4$

①	2^3	2
②	x^{12}	x
③	$-3\underline{y}^4 + 7$	y

Constant

- ∞ A number that has no variable
- ∞ It can be positive or negative

∞ Examples:

① -42 **-42**

② $\underline{3}x + 5$ **5**

③ $5x^2 + 3y^4 - 8$ **-8**

Factors

∞ Items that are being multiplied together

∞ Can be numbers, variables, parenthesis

∞ Examples:

① 6 $1 \cdot 6$ or $2 \cdot 3$
1 and 6... Or 2 and 3

② $9xy$ **9 and x and y** $9 \cdot x \cdot y$

③ $(x + 2)(y - 3)$ **(x + 2) and (y - 3)**

④ $3(z - 9)$ **3 and (z - 9)**

ADDITION (+)

☞ Sum

☞ Plus

☞ Add

☞ More Than

☞ Increased

SUBTRACTION (-)

☞ Difference

☞ Minus

☞ Decreased

☞ Less Than (swaps the order)

5 less than a number
 $X - 5$

MULTIPLICATION (•)

• Product

• Twice

• Double

• Triple

DIVISION (\div)

☞ Quotient

☞ Half

☞ Divide by

EXPONENTS (x^2)

☞ Square

☞ Cubed

☞ To the power of

☞ Raised to a power

SQUARE-ROOT ($\sqrt{\quad}$)

☞ Square-Root

☞ Root of

Translate

The sum of a number and 10

$$**x + 10**$$

Translate

The product of 9 and x squared

$$9x^2$$

$$9 \cdot x^2$$

Translate

9 less than g to the fourth power

$$g^4 - 9$$

Translate

$$8 + 3x$$

Eight increased by three times x

Practice 1

$$6x^3 - 4xy + 7x^2 - 12$$

$$\underline{6x^3} + \underline{7x^2} - \underline{4xy} - \underline{12}$$

How many terms are there?

4

Name the terms: $6x^3$, $7x^2$, $-4xy$, -12

Name the factors: $6 \cdot x^3$, $7 \cdot x^2$, $-4 \cdot x \cdot y$
 $2 \cdot 3 \cdot x \cdot x \cdot x$, $7 \cdot x \cdot x$

Name the coefficients: 6 , 7 , -4 , $-3 \cdot 4$, $-6 \cdot 2$

Name the constant:

-12

Practice 2

$$\underline{3a^2b} - \underline{16abc} + \underline{8.5}$$

How many terms are there? 3

Name the terms: $3a^2b$, $-16abc$, 8.5

Name the factors: $3 \cdot a^2 \cdot b$, $-16 \cdot a \cdot b \cdot c$, $1 \cdot 8.5$

Name the coefficients: 3, -16

Name the constant: 8.5

Practice 3

**You are buying 4 cokes at “d” dollars each.
Tax is an additional \$.58.**

Write an expression for this situation. $4d + .58$

How many terms are there? 2

Name the terms: $4d, .58$

Name the factors: $4 \cdot d, 1 \cdot .58$

Name the coefficients: 4

Name the constant: $.58$

HOMework

WORKSHEET

Interpreting an Expression Intro Worksheet