

**Variables and Expressions Class Work**

🦋 **You will be able to...** identify components of expressions and write algebraic expressions or equations to model situations

**Breakfast Menu**

Berries  
Cereal  
English muffin  
Melon  
Oatmeal  
Pancakes  
Waffles

**DRINKS:**

Apple Juice  
Grapefruit Juice  
Milk  
Orange Juice

*(all drinks cost \$1.00 each)*

*What is this menu missing? What else would you want to know when looking at this menu?*

The cost of each person's order is represented using an ***algebraic expression***. Determine what each person ordered.

<i>Mike:</i> $b + m + p + 2$	
<i>Sarah:</i> $w + b + c + 1$	
<i>Frank:</i> $o + m + b + 1$	
<i>Emily:</i> $c + e + 2$	
<i>Matthew:</i> $c + c + b$	
<i>Joyce:</i> $e + b + b + 2$	

### Breakfast Menu

Berries  
Cereal  
English muffin  
Melon  
Oatmeal  
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Waffles

#### DRINKS:

Apple Juice  
Grapefruit Juice  
Milk  
Orange Juice

*(all drinks cost \$1.00 each)*

The cost of each family's order is represented using an **algebraic expression**. Determine what each family ordered.

*Smith Family:*  $3b + 3e + 2p + 5 + 2b$

*Jones Family:*  $4w + 3m + 2c + 3o + 4c + 7$

	REPRESENTATION	NAME	EXAMPLE
UNKNOWN AMOUNTS			
NUMBERS USED TO DESCRIBE HOW MANY OF THE UNKNOWN AMOUNTS			
KNOWN AMOUNTS			

#### DEFINITIONS:

★ Variable:

★ Coefficient:

★ Constant:

★ Algebraic Expression:

Name: \_\_\_\_\_

**Practice:** Identify the variables, constants, and coefficients in each expression. Then state how many terms are in each expression.

1.  $3x + 4 - 8y$

Variable(s): \_\_\_\_\_

Constant(s): \_\_\_\_\_

Coefficients(s): \_\_\_\_\_

How many terms? \_\_\_\_\_

2.  $2d - 3b + d - 9$

Variable(s): \_\_\_\_\_

Constant(s): \_\_\_\_\_

Coefficients(s): \_\_\_\_\_

How many terms? \_\_\_\_\_

3.  $5f^2 + 3g^2 - h^3 + 8$

Variable(s): \_\_\_\_\_

Constant(s): \_\_\_\_\_

Coefficients(s): \_\_\_\_\_

How many terms? \_\_\_\_\_

**Can You Write Each Expression in a More Simple Way?!**

4.  $6h + 9h$

5.  $8m - 3m$

6.  $3w + 10w - w$

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**Homework:**

**Directions:** Be sure to show all work, communicate your thought process, and justify your reasoning. Remember to check that your answers are complete, correct, and reasonable.

1. Identify the variables, constants, and coefficients in each expression. Also state how many terms are in each expression.

a.  $4x + 2y - 8$

Variable(s): \_\_\_\_\_

Constant(s): \_\_\_\_\_

Coefficient(s): \_\_\_\_\_

Number of terms: \_\_\_\_\_

b.  $4r - 3r^2 + s - 9$

Variable(s): \_\_\_\_\_

Constant(s): \_\_\_\_\_

Coefficient(s): \_\_\_\_\_

Number of terms: \_\_\_\_\_

**Can You Write Each Expression in a More Simple Way?!**

2.  $3x + 4x$

3.  $6z - 3z$

4.  $r + 8r - 2r$

# UNDERSTANDING EXPRESSIONS, by

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The Variable is...

The Coefficients are...

Our Expression is...

The constant is...

This  
expression  
simplifies to...

In the real world, our expression could represent...

## Expression List:

$$3x + 7x + 8$$

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$$2y + 9y + 12$$

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$$20z - 5z + 3$$

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$$7m - m + 2$$

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$$18f + 3f + 9$$

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$$23r - 3r + 4$$

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$$12b + b + 10$$

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$$5v - v + 1$$