

# ALGEBRA BASIC CONCEPTS REVIEW NOTES

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## Basic Algebra Terms and Concepts

### Number Operations

- operators in math  $+$ ,  $-$ ,  $\times$ ,  $\div$
- $x + y$  "the sum of  $x$  and  $y$ "
- $x - y$  "the difference of  $x$  and  $y$ "
- $xy$  "the product of  $x$  and  $y$ "
- $x \div y$  or  $\frac{x}{y}$  "the quotient of  $x$  and  $y$ "

### Variables

- letters or symbols that represent a number in algebra

Examples  $x, y, z$  or  $\pi$

$\uparrow$   
this symbol is called  
"pi" it's approximately  
3.14

## Basic Algebra Terms and Concepts

### Order of Operations

- Very important!
- The correct order you work out a math problem
- Remember by "PEMDAS"

Please Excuse My Dear Aunt Sally.....

What is the order? PEMDAS

1. P - parenthesis - do what's inside first
2. E - exponents/powers next
3. M/D - multiplication/division from left → right
4. A/S - addition/subtraction from left → right

Example  $3(6 + 2^2) \div 15 + 5$

P  $3(\underline{6 + 2^2}) \div 15 + 5$

E  $3(6 + \underline{4}) \div 15 + 5$

M  $\underline{3(10)} \div 15 + 5$

D  $\underline{30} \div 15 + 5$

A  $2 + 5$

7 answer

## Basic Algebra Terms and Concepts

### ● Translating Verbal and Algebraic Phrases

- know key phrases, examples
- "a number" - variable
- "is" - = sign

$4x + y$   
"four times a number plus another number"

"the product of two numbers plus 3"  
 $xy + 3$

### ● Definition of Equations, Inequalities and Solutions

Equations - math statements that have a equal sign, =.

Examples  $6 = 6$        $x + 2 = 8$

Equations with a variable are called "open sentences" ↗

Inequalities - math statements that have a  $<$ ,  $>$ ,  $\leq$ ,  $\geq$ ,  $\neq$  symbol

Examples,  $9 > 2$  or  $3x + 6 \leq 12$

Solutions - Any value for a variable that makes AN equation or inequality true