Basic Algebra Terms and Concepts

Number Operations

- operators in math +, -, x, ÷
  \[ x + y \quad \text{"the sum of } x \text{ and } y\]
  \[ x - y \quad \text{"the difference of } x \text{ and } y\]
  \[ xy \quad \text{"the product of } x \text{ and } y\]
  \[ x ÷ y \text{ or } \frac{x}{y} \quad \text{"the quotient of } x \text{ and } y\]

Variables

- letters or symbols that represent a number in algebra

Examples \( x, y, z \) or \( \pi \)

\[ \uparrow \]

this symbol is called "\( \pi \)"
its approximately 3.14
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 to right
4. A/S - addition / subtraction from left to right

Example: \[ 3(6 + 2^2) ÷ 15 + 5 \]

P \[ 3(6 + 2^2) ÷ 15 + 5 \]
E \[ 3(6 + 4) ÷ 15 + 5 \]
M \[ 3(10) ÷ 15 + 5 \]
D \[ 30 ÷ 15 + 5 \]
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