Alg. Lesson 1-1 Variables and Expressions

OAS: A1.A.3.4 Evaluate linear, absolute value, rational, and radical expressions. Include applying a nonstandard operation such as a@b = 2a + b.

It is very important to use math words to understand how to link a word problem to mathematical language.

Addition	Subtraction	Multiplication	Division
Sum	Difference	Product	quotient
More than	Less than	OF	Divided by
Plus	Minus	Times	factored
Increased by	Decreased by	Multiplied by	Split into equal
			parts
Added to	Subtracted from	Total	
Total			

Don't forget that if the word sentence say "more than or less than", this means AT THE END!!!

Ex) Ten less than a number times eight.

$$8n - 10$$
 Ex) Two thirds the volume of C.

$$\frac{2}{3}C$$

Exponents

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Exponent (index or power)  $6^{3} = 6 \times 6 \times 6$ Base  $6 \times 6 \times 6$ Shorthand way of representation (Base multiplied exponent number of times)

Exponential form 
$$\longrightarrow 2^4 = 2 \cdot 2 \cdot 2 \cdot 2 = 16$$
  $\longleftarrow$  evaluated  
Expanded Form

## **Absolute Value Expressions**

<u>Absolute value</u>—def.—the distance from the number to zero on the number line. Absolute value is ALWAYS POSITIVE or zero because you cannot have a negative distance in this case.



The absolute value of -3, shown |-3|, is 3 because the distance from -3 to zero is three spaces.

The absolute value of 5, shown |5|, is 5 because the distance from 5 to zero is five spaces.

The absolute value of 0, shown |0|, is 0 because there is no distance between zero to zero.

When solving absolute value expressions, we follow PEMDAS. Absolute value follows under the parenthesis step.

