ABSOLUTE VALUE 3.1

It is the distance from zero.

It is always positive because it is a distance.

If there is a negative sign outside of the absolute value sign, it means you are to give the opposite of the answer--so it will be negative.

Opposite numbers are the same distance from zero on either side of zero on the number line--like 5 and -5.

Zero is neither positive nor negative because it is not on either side of itself!

EXAMPLES:

Pre-Algebra Chapter 3.2

When adding integers:

P + P means you add; answer is P

N + N means you add; answer is N

P + N or N + P means subtract logically and use the sign of the larger absolute valued number to determine the sign of the answer

EXAMPLES:

EVALUATING AN EXPRESSION

1. Copy the problem
2. Replace the variable with the value
   Change the subtraction signs to "adding the opposite"
3. Solve.

All extra signs must remain in the problem until you do the evaluation.

This is the case in -x when x is -3. The negative in front of the x stays until you replace the x with -3. See how it works in the problem listed below:

Look!

$-x$

$-(-3)$ (a double negative!)

3 IT IS A POSITIVE 3

Celsius to Fahrenheit

$$F = \frac{9C}{5} + 32$$

Celsius to Kelvin

$$K = C + 273.15$$

Fahrenheit to Celsius

$$C = \frac{5}{9}(F-32)$$

$$A = b * h$$

3.3 Adding three or more integers

Copy the problem
Change the subtraction signs to "adding the opposite"
Combine all the positives
Combine all the negatives
Solve

3.3 Sub.

Copy $\qquad 7-16 \qquad 3-{}^{-}5$

Rewrite

$-$ mean $+{}^{+}$

Rules of $+$

$$^{-}3-5+6-2+7-8+1$$

3.4

Rewrite the problems always changing the subtraction signs to "adding the opposite" or "plus the opposite".

Then you can follow the rules of addition.

Subtracting is the same as adding the opposite.

Subtracting a negative is the same as adding a positive.

A double negative means adding a positive.

EXAMPLES:

3.5 MULTIPLYING INTEGERS

P * P = P
N * N = P
P * N = N
N * P = N

In the original problem, the number of negatives determines the sign of the answer. If an even number of negatives the answer is positive. If an odd number of negatives, the answer is negative.

3.6 DIVIDING INTEGERS

The same rules that applied to multiplication ALSO apply to division.

P ÷ **P** = P
N ÷ N = P
P ÷ N = N
N ÷ P = N