Integer Rules

Integers

absolute value – the distance the number is from zero (always positive)

Adding Integers

When adding integers with the same sign (all + or all -) add the numbers and the total will have the same sign as the numbers.

EX: -6 + -5 = -11
(6 + 5 = 11 and since the numbers are negative the answer should also be negative.)

When adding integers with different signs subtract the two numbers. The answer will have the sign of the number with the greatest (absolute) value.

EX: -13 + 7 = - 6
(13 – 7 = 6 and since 13 is a larger number the answer will be negative, because the 13 is negative in the original problem.)

-7 + 13 = 6
(13 – 7 = 6 and since 13 is a larger number the answer will be positive, because 13 is positive in the original problem.)

Subtracting Integers

To subtract an integer, add its opposite.

EX: -5 – 8 becomes -5 + -8 so it is -14
-10 – 12 becomes -10 + -12 so it is -22

To subtract a negative number change it to addition.

EX: 7 – (-4) is the same as 7 + 4, so it = 11
8 – (-3) is the same as 8 + 3, so it = 11

EX: -4 – n for n = -5 (use –5 anywhere you see n)
- 4 – (-5) is the same as –4 + 5 so it = 1

-6 –x for x = -8 (use –8 anywhere you see x)
-6 – (-8) is the same as –6 + 8 so it = 2

Multiplying Integers

Two integers with the same sign when multiplied together will be positive.

Positive x Positive = Positive
Negative x Negative = Positive

Two integers with different signs will be negative when multiplied together.

Negative x Positive = Negative
Positive x Negative = Negative

An odd number of negative numbers multiplied together will be negative.
An even number of negative numbers multiplied together will be positive.

EX: (-6)(4)(2) will be a negative number because there is only 1 (odd) negative number being multiplied.

(-6)(4)(-2) will be a positive number because there are 2 (even) negative numbers being multiplied.

Dividing Integers

Two integers with the same sign will be positive when divided.

Positive ÷ Positive = Positive
Negative ÷ Negative = Positive

Two integers with different signs will be negative when divided.

Negative ÷ Positive = Negative
Positive ÷ Negative = Negative

Order of Operations

Please **E**xcuse **M**y **D**ear **A**unt **S**ally **(PEMDAS)**

1. Parenteses -- start inside and work your way out
2. Exponents
3. Multiplication & Division – going from left to right
4. Add & Subtract – going from left to right