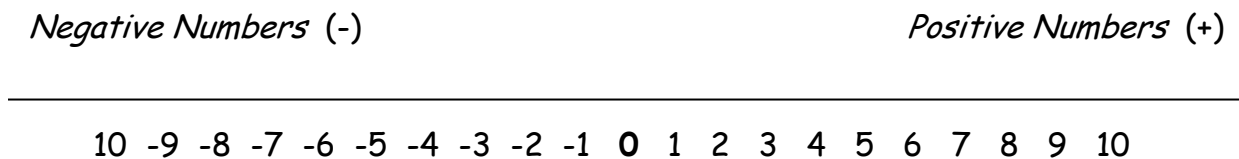# Adding and Subtracting Integers Study Guide

Integers: are all whole numbers on the number line, including 0 and negative numbers.

Positive Numbers: are all numbers that are greater then zero (+)

Negative Numbers: are all numbers that are less then zero (-)

Below is a number line.

Negative Numbers (-)   *Positive Numbers* (+)

10 -9 -8 -7 -6 -5 -4 -3 -2 -1 **0** 1 2 3 4 5 6 7 8 9 10

RULES FOR **ADDING** INTEGERS WITH THE **SAME SIGNS**

> 1. Add the numbers together.
> 2. Give the answer the same sign.

EXAMPLE 1:   (-2) + (-5) = _____   Both numbers are negative. To find the answer, add the numbers together (2+5) and give the answer a negative sign.

EXAMPLE 2:   3 + 4 = _____   Both numbers are positive, so the answer is positive.

RULES FOR **ADDING** INTEGERS WITH **DIFFERENT SIGNS**

1. Ignore the signs and find the difference.
2. Give the answer the sign of the larger number

EXAMPLE 1:   (-4) + 6 = _____   To find the difference, take the larger number minus the smaller number. 6 – 4 = 2. Looking back at the original problem, the larger number, 6, is positive, so the answer is positive.

EXAMPLE 2:   3 + (-7) = _____   Find the difference. 7 – 3 = 4   Looking at the problem, the larger number, 7, is a negative number, so the answer is negative.

RULES FOR **SUBTRACTING** INTEGERS

1. Change the subtraction sign to addition.
2. Change the sign of the second number to the opposite sign.
3. Follow the rules for adding integers.

EXAMPLE 1:   -6 – (-2) = _____   Change the subtraction sign to addition and change -2 to 2.   -6 – (-2) = -6 + 2

EXAMPLE 2:   5 – 6 = _____   Change the subtraction sign to addition and change 6 to -6.   5 – 6 = 5 + (-6)