Standard 7.NS.1 **Adding and Subtracting Negative Numbers** Unit 1 Day 9

**Example 1:** What is the sum? Use a number line.

1. 3 + 5
2. 3 + (-5)
3. -3 + 5
4. -3 + (-5)

**Absolute Value:** The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ away from zero on a number line. For example, |4| and |-4| is 4.



**Example 2:** Adding Real Numbers – Khan Academy Video

What is the sum of (-15) + (-46) + (-29)

**You Try!** Find each sum. Draw a number line if needed.

1. (-12) + (-5)
2. (-4) + (-22) + (-1)

**Key Concept:** Adding Real Numbers

**Adding Numbers with the Same Sign**: \_\_\_\_\_\_\_\_ their absolute value. The sum has the \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ as the addends.

Example: Example:

**Adding Numbers with Different Signs:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ their absolute values. The sum has the same sign as the addend with the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ absolute value.

Example: Example:

**Example 3:** What is each sum?

1. -12 + 7
2. -18 + (-2)
3. -4.8 + 9.5

**Opposites:** Two numbers that are the same distance from 0 on a number line but lie in opposite \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Additive Inverses:** A number and its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Inverse Property of Addition:** When you add a number and it’s opposite, the sum is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Key Concept:**  Subtracting Real Numbers

To subtract a real number, add its opposite: a – b = a + (-b)

Example: Example:

**Example 4:** What is each difference?

1. -8 – (-13) =
2. 3.5 – 12.4 =
3. 9 – 9 =

**Example 5:** A reef explorer dives 25 ft to photograph brain coral and then rises 16 ft to travel over a ridge before diving 47 ft to survey the base of the reef. Then the diver rises 29 ft to see an underwater cavern. What is the location of the cavern in relation to sea level?

**You Try!** A robot submarine dives 803 ft to the ocean floor. It rises 215 ft as the water gets shallower. Then the submarine dives 2619 ft into a deep crevice. Next, it rises 734 ft to photograph a crack in the wall of the crevice. What is the location of the crack in relation to sea level?

**Practice:** Complete the following problems in class for credit. Show all work.

1. Use a number line to find each sum.
   1. -5 + 2
   2. -2 + (-1)
2. Find each sum or difference.
   1. -12 + 9
   2. -4 + (-3)
   3. -3 – (-5)
   4. 1.5 – 8.5
3. What is the sum of a number and its opposite?
4. Your friend says that since –a is the opposite of a, the opposite of a number is always negative. Describe and correct the error.