Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_

Mr. Tallman Math 7-8A

**Do Now**

**Evaluate the following.**

|  |  |  |
| --- | --- | --- |
| 1) $6+8$ | 2) $-512+512$ | 3) $37+\left(-5\right)$ |
| 4) $-43+20$ | 5) $-9+3+\left(-12\right)$ | 6) $6+\left(-2\right)+\left|-4+1\right|$ |

7) The New York Jets started out at the 30 yard line. Ryan Fitzpatrick throws a 15 yard pass, but on the next play, the Jets receive a false start and have to take a 5 yard penalty. What yard line are the Jets currently on? Write an expression to model this situation.

**Lesson #4 – Subtracting Integers**

Let’s remember the addition rules for integers:

|  |  |
| --- | --- |
| Adding Integers: Same Sign | Adding Integers: Different Sign |
|  |  |

Let’s discover the rule for subtracting integers:

Model the following problem on the number line below: $5-3$



Rewrite $5-3$ using an **addition expression**: $5-3→$ \_\_\_\_\_\_\_\_\_\_\_\_\_\_

If you reverse the order of integers, 3 – 5, will you get the same answer? Explain.

|  |
| --- |
| **Rule for Subtracting Integers** |

Example 1) Change each subtraction problem into an addition problem. Then evaluate each.

|  |  |
| --- | --- |
| A) $-7-2$ | B) $-1-(-3)$ |
| C) $3-5$ | D) $-8-(-4)$ |

Example 2) Evaluate each expression if a = 9, b = $-8$ and c = $-2$

|  |  |
| --- | --- |
| A) 14 – b | B) c - a |

Example 3) The temperature on Monday was $-5°$C. By Tuesday, the temperature rose to $-2°$C. Write an expression to show the **change** in temperature. Then state the change in temperature.

**Now You Try!**

**For questions 4-6 , evaluate the expressions when x = -5 and y = 7**

|  |  |  |
| --- | --- | --- |
| 4) $x-(-8)$ | 5) $-3-y$ | 6) $y-x-3$ |

5) Complete the table below.

6) The top of a sailboat mast is 22 feet above the water’s surface. The bottom of the sailboat is 3 feet below the surface of the water. What is the **difference** in elevations?

7) The temperature at the start of a football game was $-1°F$. At halftime, the temperature was $-9°F$. What was the **change** in temperature?

8) A submarine is 450 feet below sea level. If it **descends** 300 feet, what is its new position?