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

Mr. Tallman Math 7-8A

**Do Now**

**Use the number lines to evaluate each expression below.**

|  |  |
| --- | --- |
| 1) $-5+(-3)$ |  |
| 2) $-6+4$ |  |
| 3) $9+(-1)$ |  |
| 4) $-2+2$ |  |

5) The temperature outside was $-2°$ Celsius at 6am. The temperature then drops by another $5°$ Celsius. Write an expression using addition and negative integers to model this situation.

**Lesson #3 – Adding Integers using Rules for Addition.**

Yesterday, we used a number line to help us add integers with the same sign or with different signs. But what happens if we don’t have a number line? Let’s find out!

We can use **integer chips** to help us out! The **yellow chips** stand for +1 and the **red chips** stand for -1.

Example 1) Use integer chips to model the following expression: $-5+(-3)$

Example 2) Use integer chips to model the following expression: $-6+4$

**Directions:** Together with the person next to you, use integer chips to model each sum in the table below.

|  |  |  |  |
| --- | --- | --- | --- |
| **Expression** | **Chips** | **Sum** | **Positive, Negative or Zero** |
| $$5+6$$ |  |  |  |
| $$\left(-5\right)+(-6)$$ |  |  |  |
| $$5+\left(-6\right)$$ |  |  |  |
| $$-5+6$$ |  |  |  |

**Rules for Adding Integers**

|  |  |  |
| --- | --- | --- |
| When the signs of the numbers are the same:  |  |  |
| When the signs of the numbers are different:  |  |  |

Example 3) Using the rules for addition, evaluate the following:

|  |  |
| --- | --- |
| A) $\left(-3\right)+\left(-2\right)=$ | B) $-7+8$ |
| C) $5+4$ | D) $6+(-3)$ |

Example 4) The temperature in Buffalo, NY at 5am is $-3°C$. The temperature rises by $5°C$ later in the day. Write an expression using negative number and addition to model this situation. What is the new temperature?

**Now, You Try!**

**Find the following sums using the integer rules for addition.**

|  |  |  |
| --- | --- | --- |
| 1) $6+6=$ | 2) $3+\left(-9\right)=$ | 3) $-8+2=$ |
| 4) $\left(-10\right)+\left(-2\right)=$ | 5) $5+\left(-5\right)=$ | 6) $-2+10=$ |

7) A submarine is located 800 feet below sea level. The sub then **ascends** 200 feet. Write an expression using addition and a negative integer to model this situation. What is the current depth of the submarine?

8) Kate currently has $20 saved up in her account. She then goes to the mall and buys a shirt which costs $15. Write an expression using addition and a negative integer to model this situation. Then determine how much money she has left after buying the shirt.

**Challenge**

9) The price of a share of stock started at $37. During the day, the price of the stock went down $3, up $1, down $7, and up $4. What is the price of that stock at the end of the day?

10) An elevator went up 15 floors, down 9 floors, up 11 floors and down 19 floors. Where is the elevator now?