

Name _____

Date _____

Mr. Tallman

Math 7R

Do Now

Use the number lines to evaluate each expression below.

1) $-5 + (-3) = 8$	
2) $-6 + 4 = -2$	
3) $9 + (-1) = 8$	
4) $-2 + 2 = 0$	

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.

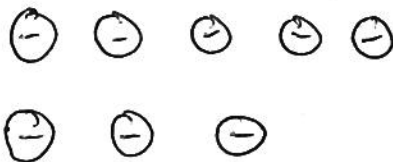
$$-2 + (-5)$$

Lesson #3 - Adding Integers using Rules for Addition.

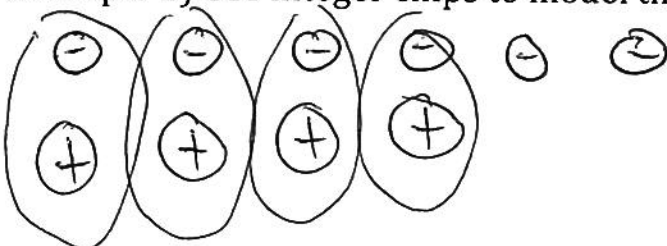
Yesterday, we used a number line to help us add integers with the same sign or with different signs. But what happens if we don't have a number line? Let's find out!

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.

<u>Expression</u>	<u>Chips</u>	<u>Sum</u>	<u>Positive, Negative or Zero</u>
$5 + 6$		11	Positive
$(-5) + (-6)$		-11	Negative
$5 + (-6)$		-1	Negative
$-5 + 6$		1	Positive

Rules for Adding Integers

When the signs of the numbers are the same:	Add the numbers, Keep Common Sign.	$-2 + (-2) = -4$ $-6 + (-13) = -19$
When the signs of the numbers are different:	Subtract the numbers, Keep Sign of higher #.	$-3 + 2 = -1$ $2 + (-1) = 1$

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

A) $(-3) + (-2) = -5$	B) $-7 + 8 = 1$
C) $5 + 4 = 9$	D) $6 + (-3) = 3$

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?

$$-3 + 5 = 2^{\circ}\text{C}$$

Now, You Try!

Find the following sums using the integer rules for addition.

1) $6 + 6 = 12$	2) $3 + (-9) = -6$	3) $-8 + 2 = -6$
4) $(-10) + (-2) = -12$	5) $5 + (-5) = 0$	6) $-2 + 10 = 8$

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?

$-800 + 200$
-600 feet below Sea Level.

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.

$20 + (-15)$
\$5

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?

$37 + (-3) + 1 + (-7) + 4 = \32

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

$15 + (-9) + 11 + (-19) = -2$

Could be in the basement!

