

1. Represent  $-8$  in three or more ways
2. What do  $-8$  and  $-20$  have in common?
3. An integer is a lot less than  $5$ . What integer might it be and what makes it a lot less?

Mrs. Peden

Date: \_\_\_\_\_

Name: \_\_\_\_\_

**11.2 - Subtracting Integers**

Recall: Sum of integers (Addition)

Blue algebra chips = -1  
Red algebra chips = +1

Interesting to note for sums of integers:

o When adding integers with the same sign, add the two numbers and keep the sign  
Example:  $(-2) + (-12) = -14$   $5 + 6 = 11$


o When adding integers with opposite signs, result depends on relative size of integers!  
Example:  $-2 + 12 = 10$   $-8 + 3 = -5$

positive because 12 is bigger than 2

Now, Subtracting Integers

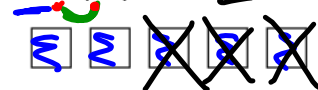
So let's try some basic starters:

a.  $7 - 2 = 5$

0 

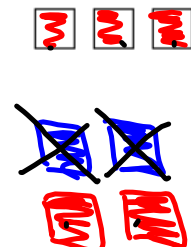
$7 + (-2)$

b.  $-5 - (-3) = -2$



$-5 + 3 = -2$

c.  $3 - (-2) = 5$



So we have 3 red, and want to take away negative, so how do we add them without affecting the original equation?

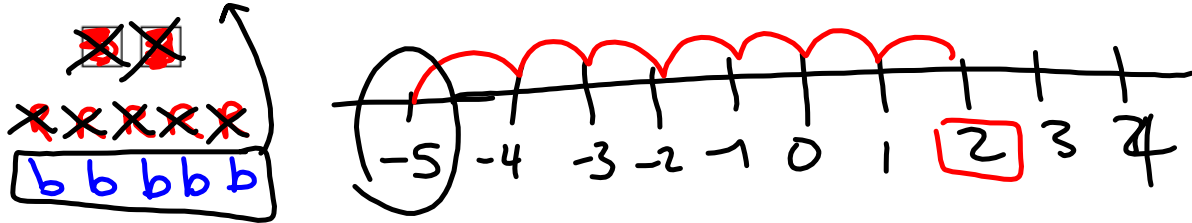
**Use Zero principle**

What do you notice about the answer? Can you write the expression another way??

$3 + 2 = 5$

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d.  $2 - 7 = -5$  *subtract - go to left*



e.  $-4 - (-2)$   $\rightarrow -4 + 2 = -2$

Interesting to note for subtracting integers:

o Subtraction of integers is really simply add the opposite integer!

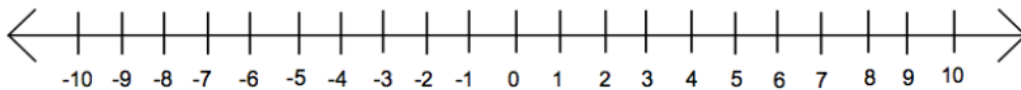
Example:

**Using number lines:** The difference (subtraction) is the distance and direction from the second integer to the first.

Example: Carleton Place weather this past weekend was  $-5$ . In Toronto, it was  $+2$ , while in Winnipeg it was  $-10$ .

Difference between CP and TO in an expression:  $-5 - 2 =$

{same as - Difference between TO and CP? in an expression:  $2 - (-5) =$  }



Difference between Winnipeg and CP in an expression:  $-10 - (-5) =$

**Homework: page 359 # 5 - 9, 12-13, 1-2 NO CALCULATORS ARE TO BE USED TODAY!**