

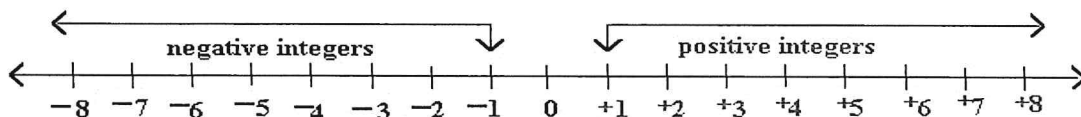
# ADDING & SUBTRACTING INTEGERS

**VOCABULARY:**

<b>Integers</b>	the set of whole numbers (no decimals) that include <u>positive</u> numbers, <u>negative</u> numbers, and <u>zero</u>
<b>Positive Integer</b>	Any integer that is greater (bigger) than zero Examples: <u>1, 2, 3, ...</u>
<b>Negative Integer</b>	Any integer that is less than (smaller) zero Examples: <u>-1, -2, -3, ...</u>

**COMPARING THE VALUE OF INTEGERS**

When comparing integers, we can use a number line. The further a number is to the right the greater it's value  
 - Positive integers are greater than negative integers



**EXAMPLES:**

i) Which is greater:

a) -6 or 6

b) 18 or 9

c) -2 or -5

ii) Rank these numbers from smallest to largest: ~~-5~~, 10, ~~1~~, ~~-7~~, ~~0~~, ~~-8~~, 21, ~~-18~~

-18, -8, -7, -5, 0, 1, 10, 21

**WHAT WILL ADDING INTEGERS LOOK LIKE?**

- Sometimes expressions will involve brackets. Why are brackets used in these situations?  
 → To separate signs  
 → To indicate order
- If there are two operations/signs beside each other, separated by only a bracket, we can eliminate the bracket by combining the signs

If signs are the same:	
- combine signs into a +	
$2 + (+3) = 2 + 3 = 5$	$4 - (-4) = 4 + 4 = 8$

If signs are different:	
- Combine signs into a -	
$4 - (+5) = 4 - 5 = -1$	$-8 + (-2) = -8 - 2 = -10$

**Examples**

i)  $2 - (-8)$   
 $= 2 + 8$   
 $= 10$

ii)  $(+3) + (-2)$   
 $= 3 - 2$   
 $= 1$

iii)  $(3) - (+3)$   
 $= 3 - 3$   
 $= 0$

iv)  $(-4) - (+5)$   
 $= -4 - 5$   
 $= -9$

