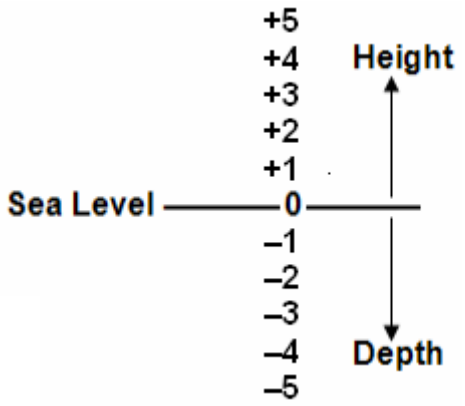
INTEGERS, WHAT THEY ARE

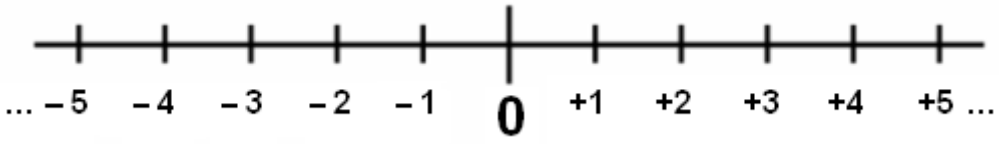
FACT 1: Integers are positive and negative "whole numbers." A positive integer is a whole number added to zero. A negative integer is a whole number subtracted from zero.

…			
0 – 3	=	–3	(decrease of 3)
0 – 2	=	–2	(decrease of 2)
0 – 1	=	–1	(decrease of 1)
0			(ZERO)
0 + 1	=	+1	(increase of 1)
0 + 2	=	+2	(increase of 2)
0 + 3	=	+3	(increase of 3)
…			

FACT 2: Zero acts as the point of reference. It is neither positive nor negative.



FACT 3: On a number line, the integers appear on opposite sides of zero, and they mirror each other.



FACT 4: Adding 1 to an integer gives the next integer. Subtracting 1 from an integer gives the previous integer.

–5 + 1 = –4; –4 + 1 = –3; –3 + 1 = –2; –2 + 1 = –1; …
+2 – 1 = +1; +1 – 1 = 0; 0 – 1 = –1; –1 – 1 = –2; …

FACT 5: The integers extend indefinitely in either direction from zero.

The largest number is positive and indefinite (positive infinity).
The smallest number is negative and indefinite (negative infinity).

1. **Express the result of following operations as integers.**
   (a) 0 – 5 (c) 0 + 13 (e) 0 – 37
   (b) 0 + 5 (d) 0 – 13 (f) 0 + 37

2. **What is the purpose of "0" on a number line?**

3. **Express the following as negative integers.**
   (a) A shortage of $25 in account.
   (b) A 5 degrees cooler temperature than the freezing water.
   (c) A depth of 50 feet on a scale of heights.

4. **Arrange the following integers in the sequence of smallest to the largest as on a number line.**

   +2, –3 , +4, –5, +6, –7

End of Lesson