Integers

Set of Integers

What is an integer?

A set of whole numbers that include the negatives, positive and 0.
Decimals and Fractions are not included in the set of integers.

We write the set of integers as:
Z = {… -3, -2, -1, 0, 1 , 2, 3…}

Other Sets of Integers

We can also write the set of non zero integers:

Z* = {… -3, -2, -1, 1 , 2, 3…}

The * tells us that this is the set of non zero integers

The set of positive integers including zero:

Z_+ = {0, 1 , 2, 3…}

What do we think the set of negative integers including zero could be?

Integer Number Line

New Vocabulary = **Abscissa**: This is a point on the number line.

Can we think of examples where we would use negative integers?

Example 1

In the following set of numbers, which one are from the set of integers Z?

S = {-8, -9.1, 0.66, 4, -101, - $\frac{4}{5}$ }

Example 2

Arrange the following subset of numbers in numerical order (smallest to greatest)

S = {9, -1, -5, -201, 2, 91, -76}

Example 3

List the subset of integers that have a maximum of 2 and a minimum of -2

S =

Adding Integers

Let's go straight into an example with a number line.

2 + - 8= ?

Adding Integers with a Number Line

So what do we know?

We begin with our first number in the equation on the number line.
If we are adding a positive number, we move to the right.
If we are adding a negative number, we move to the left.

Adding Integers with a Number Line

-3 + -8 = ?

Adding Integers with a Number Line

- 5 + 7 =

Adding Integers with a Number Line

Steps when using a Number Line:

Step 1 - Start with an abscissa (point) on the first number of your addition

Step 2 - If we are adding a positive, we move to the right

Step 3 - If we are adding a negative, we move to the left

Classwork

1. -5 + 0 =
2. - 2 + -9 =
3. 1 + -5
4. -2 + 3
5. -8 + -1
6. -7 + -6
7. 7 + -6
8. -2 + -3
9. -4 + -9
10. - 100 + -20