

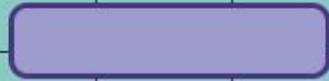


# Algebra

## Directed Numbers



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## Aim

- Identify positive and negative numbers in context

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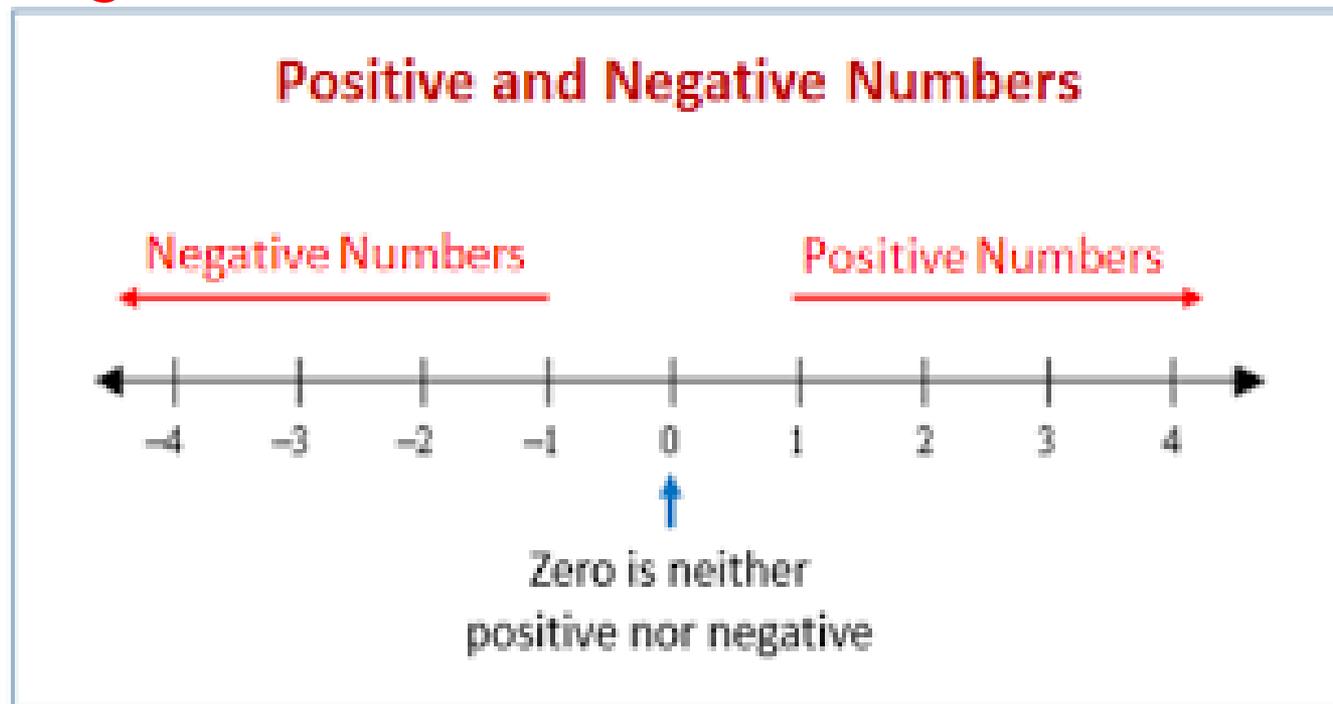
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# What are positive and negative numbers?

- A **positive** number is more than (greater than) zero.
- A **negative** number is less than zero.



# Where do we use positive numbers in our lives?

- **Whole numbers** that are **greater than 0**, are **positive** when we learned how to count, that they are **numbers**.
- We don't put a '+' sign before them because we know from greater than zero.
- So, +1 and 1 are the same! +15 and 15 are the same, even +100 and 100 are the same.
- These numbers are greater than '0' and are positive numbers.

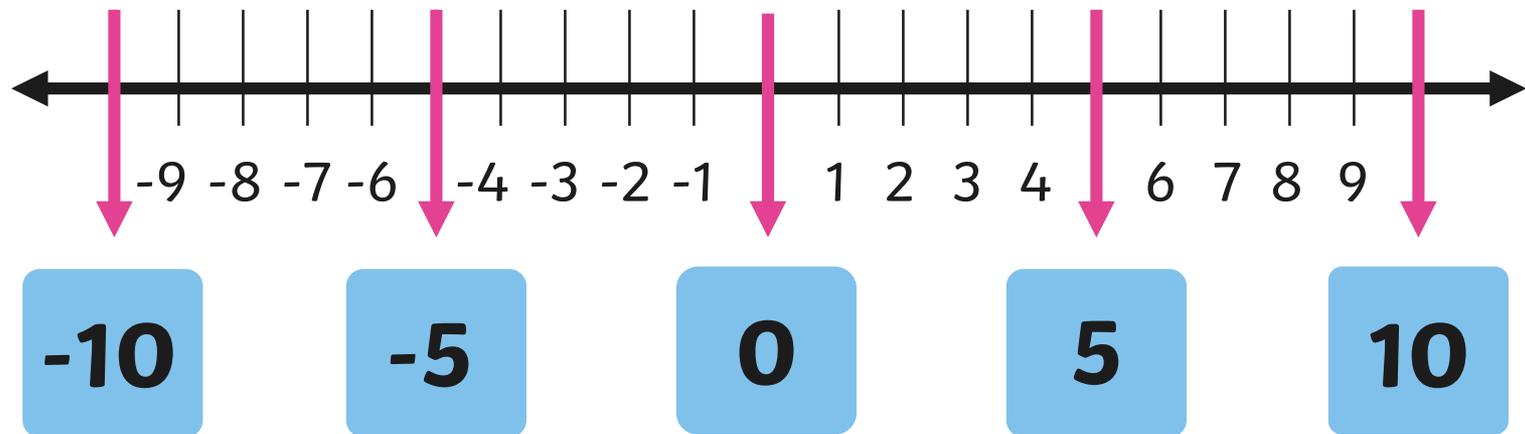
# Where do we use negative numbers in our lives?

- We use **negative numbers** (**numbers less than zero**) daily and we might not even realise it!
- We use **negative numbers** in real life in the following ways;  
**e.g.** temperature, buttons in a lift, goal difference in soccer/sports league tables, depths in a swimming pool
- Other real-life contexts such as bank/credit union or post office account balances also use negative numbers.
- The **money you lodge/put in** to your bank account is a **positive number** because you are **adding it in to your account**.
- When you **spend money** or if you **withdraw** (take out) money **from your account**, then that is a **negative number** because you are **taking it from your account**!

# Positive and Negative Numbers

Look at the number line.

Can you find the missing numbers?

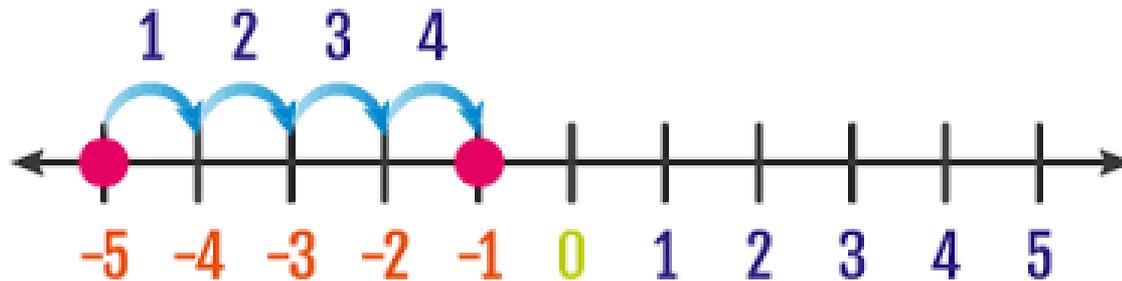


# How do we figure out the difference between numbers?

- If I asked you “what is the difference between -5 (negative 5) and -1 (negative 1) ?”
- All you need to do is find -5 on the number line and count the jumps until you land on -1.
- So, the difference between -5 and -1 is 4

If I wrote this as a sum it would be;

$$-5 - -1 = 4$$



# How do we read sums with positive and negative numbers?

- When calculating with directed numbers, we don't use the words 'plus and minus' when we are reading our sums and our answers.
- This is based on what you are learning on pg.123 of Busy at Maths 6.

➤ **For example:** in this sum  $+3 - -5$

We **say** "positive 3 minus negative 5".

We **don't say** "plus three minus minus five"

- This is particularly important when we are adding and subtracting positive and negative numbers.

➤ **For example:**  $-3 + +9$

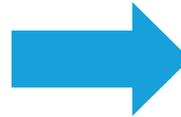
➤ We **say** "negative three plus positive nine"

➤ We **don't say** "minus 3 plus plus 9".

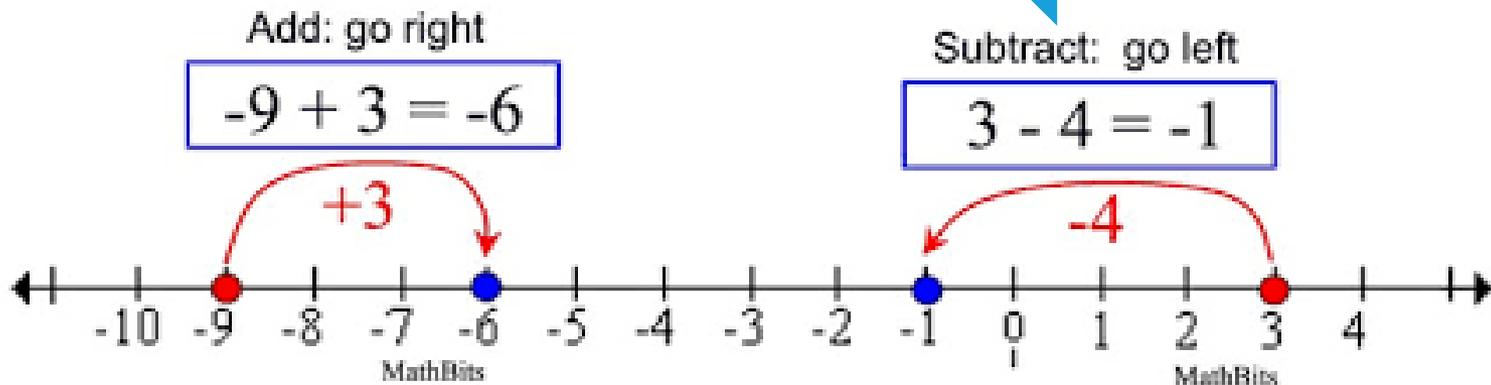
# Adding and Subtracting directed numbers

- On pg.123 of Busy at Maths 6, you will be adding and subtracting positive and negative numbers.
- Here is a good trick to help you work them out;

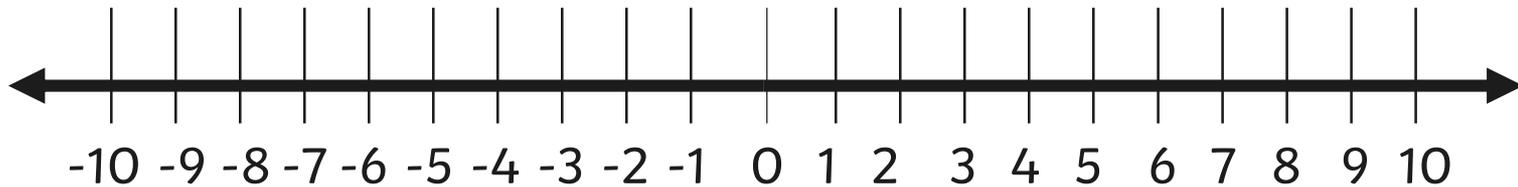
**Addition:** go **right** on the numberline



**Subtraction:** go **left** on the numberline



# Positive and Negative Numbers



What is the difference between -2 and +4?

This sum can also be written like this;  
 $-2 - +4 = ?$

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What is the difference between +5 and -1?

This sum can also be written like this;  
 $+5 - -1 = ?$

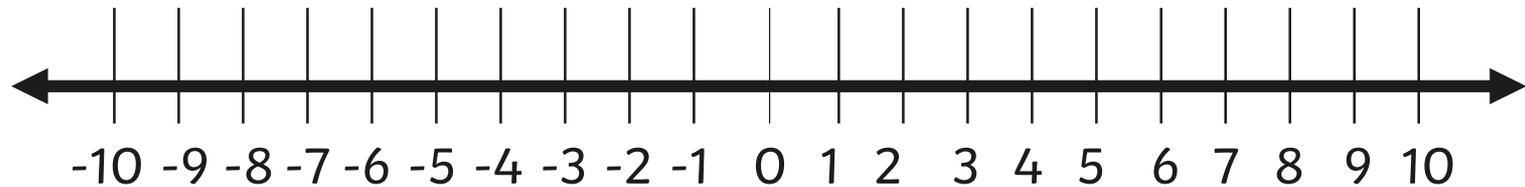
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What is the difference between -6 and +3?

This sum can also be written like this;  
 $-6 - +3 = ?$

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# Positive and Negative Numbers



What is the difference between -3 and +2?

**5**

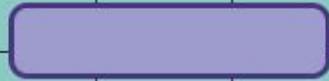
What is the difference between +7 and -2?

**9**

What is the difference between -4 and +1?

**5**

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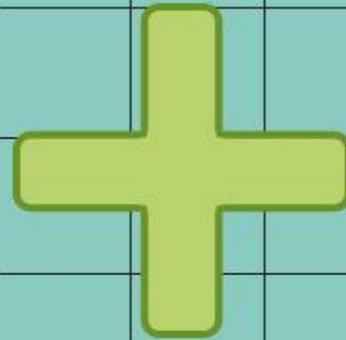
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