

Negative Numbers

Adding and Subtracting

Use number lines to add or subtract negative numbers.

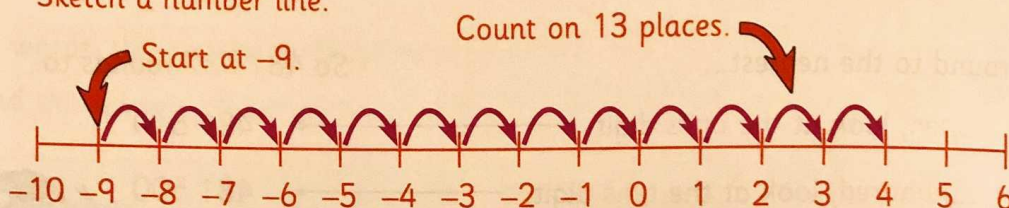
To add, start at the negative number and count **on**.



EXAMPLE

Work out $-9 + 13$.

Sketch a number line.



So $-9 + 13 = 4$.



Real-Life Problems

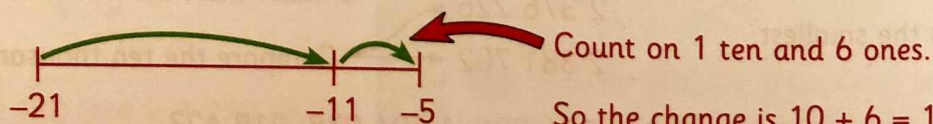
In real-life problems with negative numbers, you'll often have to find the difference between two numbers.

A 'change' is just the **difference** between the numbers at the start and end.



EXAMPLE

The temperature at midnight was -21°C . It was -5°C at noon.
Find the change in temperature.



So the change is $10 + 6 = 16^{\circ}\text{C}$.



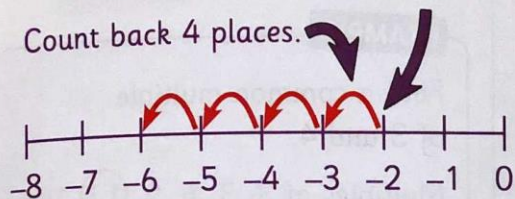
To subtract, count **back**.

EXAMPLE

What is $-2 - 4$?

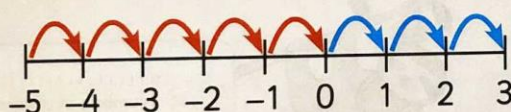
Start at -2 .

Count back 4 places.



So $-2 - 4 = -6$.

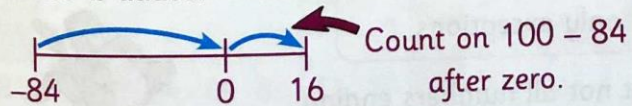
If you have to cross zero, count the places **to** and **after zero**, then add them together.



There are **5 places** from -5 to 0 and **3 places** from 0 to 3 , so the difference between -5 and 3 is $5 + 3 = 8$.

EXAMPLE

A bank account has $-\pounds 84$ in it. $\pounds 100$ is added. How much is in it now?



$100 - 84 = 16$, so it has $\pounds 16$ in it now.

Finding Differences

To work out differences between negative numbers:

- 1 Sketch a number line.
- 2 Count the places between the two numbers.

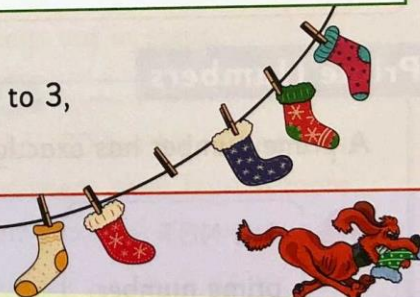
EXAMPLE

Find the difference between -36 and -12 .

Count on 2 tens and 4 ones.



The difference is $20 + 4 = 24$.



A negative temperature is just a temperature **below 0°C** .

A negative bank balance means you **owe money** to the bank.