Task 1

TLHT interpret negative numbers in context, with counting forwards and backwards

Negative numbers in context

There are many real life situations which use negative numbers.
For example,

- Temperature

- Bank balances

  | Balance | -£34.52 |

- Measurements taken below sea level

- Games with negative scores.

https://mathsframe.co.uk/en/resources/resource/89/itp-thermometer

TLHT interpret negative numbers in context, with counting forwards and backwards

Positive and negative integers can be shown on a number line.

-10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10

Negative integers   **Positive integers**

What do you notice?

Can you count forwards and backwards?

°C

10
9
8
7
6
5
4
3
2
1
0
-1
-2
-3
-4
-5
-6
-7
-8
-9
-10
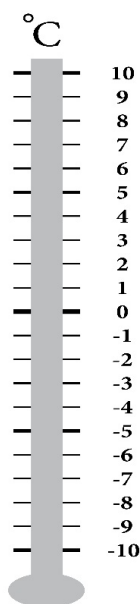
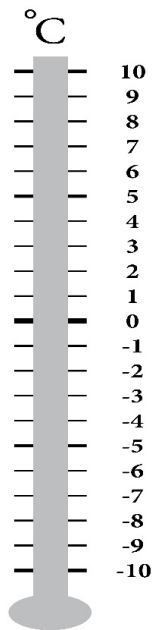We can also use a number line to help us write integers in order.

> Write the integers –2, 8, 2, –6, –9 and 5 in order from smallest to largest.

Look at the position of the integers on the number line:

Can you order them from smallest to biggest?

-10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10

Let's plot them to see which is the smallest!
This will help us order them smallest to biggest.

°C

We can also use a number line to help us write integers in order.

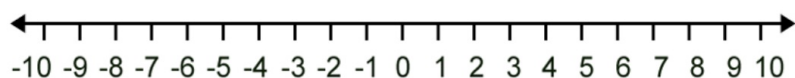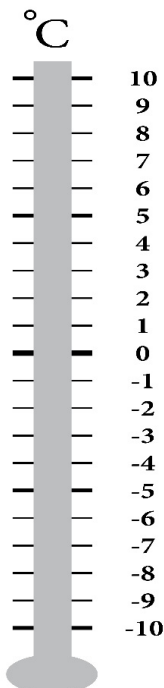Write the integers –2, 8, 2, –6, –9 and 5 in order from smallest to largest.

Look at the position of the integers on the number line:

-10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10
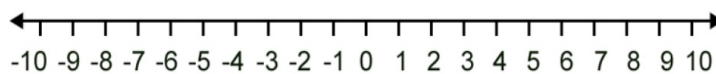
ANSWERS
From smallest to largest:

-9   -6   -2   2   5   8

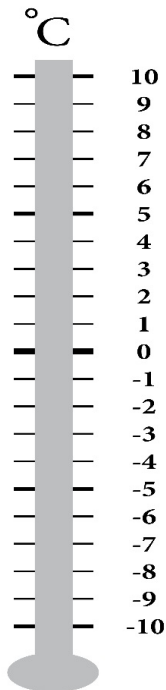°C

-10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10

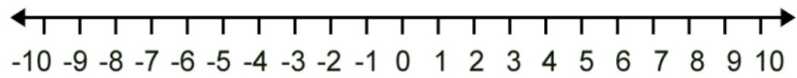a) What is the **difference** between 3 and -4?

(to work out difference, count the jumps in between)

b) The temperature was -2 and it rose by 7 degrees, what was the new temperature?

(if something 'rose' it would go up)

°C

ANSWERS

10
9
8
7
6
5
4
3
2
1
0
-1
-2
-3
-4
-5
-6
-7
-8
-9
-10

← -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10 →

a) What is the **difference** between 3 and -4?

The difference is 7.

b) The temperature was -2 and it rose by 7 degrees, what was the new temperature?

The new temperature would be 5 degrees.

Make sure you have cubes or draw a number line.

5

The table shows the temperature of different cities on one day in **November**.

Estonia	Iceland	London	Canada	Moscow
- 8° C	-12°C	4 C°	- 10°C	- 12°C

The temperature goes up in Estonia by 5 degrees. What is the temperature now? _____

The temperature goes down in Moscow by 7 degrees. What is the temperature now? _____

The temperature goes up in Iceland by 11 degrees. What is the temperature now? _____

The temperature goes up in London by 5 degrees. What is the temperature now? _____

The temperature goes down in Canada by 6 degrees. What is the temperature now? _____

Which cities are below freezing in November?

ANSWERS

The table shows the temperature of different cities on one day in **November**.

Estonia	Iceland	London	Canada	Moscow
- 8° C	-12°C	4 C°	- 10°C	- 12°C

The temperature goes up in Estonia by 5 degrees. What is the temperature now? __-3 degrees__

The temperature goes down in Moscow by 7 degrees. What is the temperature now? __-19 degrees__

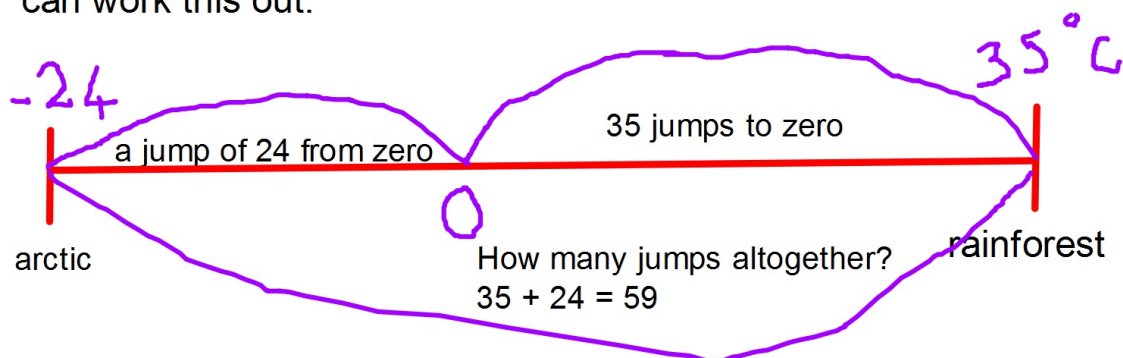The temperature goes up in Iceland by 11 degrees. What is the temperature now? __-1 degrees__

The temperature goes up in London by 5 degrees. What is the temperature now? __9 degrees__

The temperature goes down in Canada by 6 degrees. What is the temperature now? __-16 degrees__

Which cities are below freezing in November? Estonia, Iceland, Canada, Moscow
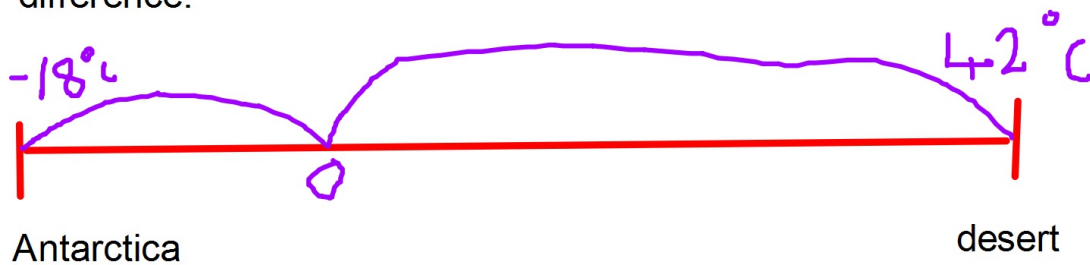
Look through the steps to see how you can work this out.

1) get to zero
2) work out what is left to take away
3) subtract that

-24

35°C

a jump of 24 from zero

35 jumps to zero

arctic

How many jumps altogether?
35 + 24 = 59

rainforest

The rainforest has a tempertaure of 35 degrees.
The artcic has a temeperature of -24 degrees.
Show the difference in temperature on a number line

Can you have a go?
Draw a line and place the
desert and Antartica on there!
Use the steps to work out the
difference.

1) get to zero
2) work out what is
left to take away
3) subtract that

−18°C   42°C

Antarctica   desert

The desert has a tempertaure of 42 degrees.
Antarctica has a temeperature of -18 degrees.
Show the difference in temperature on a number line

Can you have a go?
Draw a line and place the
desert and Antartica on there!
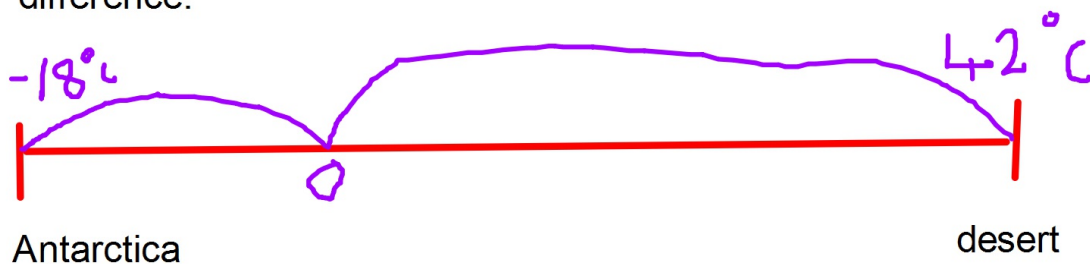Use the steps to work out the
difference.

1) get to zero
2) work out what is
left to take away
3) subtract that

−18°C   42°C

Antarctica   desert

The desert has a tempertaure of 42 degrees.
Antarctica has a temeperature of -18 degrees.
Show the difference in temperature on a number line
ANSWER: 42 JUMPS ADD 18 JUMPS= 60