

Negative numbers

Copy and complete the table.



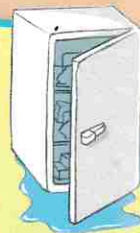
Place	Start temperature		Up 2°		Down 5°		Up 1°		Down 2°
Warsaw	-6°C	→	-4°C	→	-9°C	→	-8°C	→	
Paris		→	3°C	→		→		→	
Birmingham	4°C	→		→		→		→	
Dublin		→		→	-6°C	→		→	
Berlin		→		→		→	3°C	→	
Brussels		→	2°C	→		→		→	
Madrid		→		→		→	6°C	→	

True or false?

1 The temperature in Moscow is -20°C . It rises 10° , then falls 10° . It is now -10°C .



3 When the freezer breaks down it is at -18°C . It rises 1° every 30 minutes. After 5 hours it is -10°C .



4 Tom gets £1 each day. He owes his dad £50. After 4 weeks he has $-\text{£}22$.



5 Jane owes Jenny £6 and Jack £8. She has £10 in her purse but really she only has negative £4.



Explore

Write the difference between:

a 5 and -8

b 10 and -4

c 6 and -3


Negative numbers

Complete the missing temperatures.

1. up 3° = -2° , ... 



Sofia:	up 3° = <input type="text"/>	fall 2° = <input type="text"/>	fall 12° = <input type="text"/>	up 5° = <input type="text"/>
Edinburgh:	up 6° = <input type="text"/>	up 3° = <input type="text"/>	fall 5° = <input type="text"/>	up 1° = <input type="text"/>
Amsterdam:	fall 4° = <input type="text"/>	fall 5° = <input type="text"/>	up 6° = <input type="text"/>	fall 4° = <input type="text"/>
Porto:	up 8° = <input type="text"/>	up 1° = <input type="text"/>	fall 9° = <input type="text"/>	up 6° = <input type="text"/>
Minsk:	fall 2° = <input type="text"/>	fall 9° = <input type="text"/>	fall 4° = <input type="text"/>	fall 3° = <input type="text"/>
Venice:	up 3° = <input type="text"/>	up 3° = <input type="text"/>	up 5° = <input type="text"/>	up 12° = <input type="text"/>
Oslo:	fall 5° = <input type="text"/>	fall 4° = <input type="text"/>	fall 7° = <input type="text"/>	up 8° = <input type="text"/>

 How many journeys from one city to another can you find where the temperature change is greater than 20° ? (Use the start temperatures.)

... monster owes £10. Write their debt.

8. $-\pounds 7$ 





Using your calculator

Imagine you can only use these buttons on your calculator:



What calculations can you use to make each number between -10 and 20?

1 Copy and complete this table to show how you can make each number. The first one has been done for you.

Number	Calculation	Number	Calculation	Number	Calculation
-10	$5 - 5 - 5 - 5 =$	1		11	
-9		2		12	
-8		3		13	
-7		4		14	
-6		5		15	
-5		6		16	
-4		7		17	
-3		8		18	
-2		9		19	
-1		10		20	

Now imagine you can only use these buttons on your calculator:



2 Copy and complete this table to show how you can make each of these numbers.

Number	Calculation
60	
59	
63	
80	
1480	



I dropped my calculator and broke the 1 key.

Help me make each of these numbers without using 1. Is there more than one way to make each number?



101

210

5161