

# KS2 MATHS

# Number

## Number & Place value

Count backwards through zero to include negative numbers



20 PDF  
Printables



26 Slide  
Presentation



PDF Printable  
Answer Pack



**YEAR 4**

**NEW - 2014  
curriculum**

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Katrina Hodson & Jacqueline Kirton

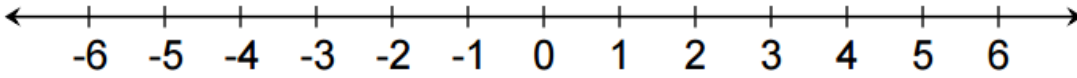
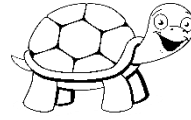
Thanks to: [Artiflex](#) & [Spouting in Second](#)

# Worksheets

# LO: I can count forwards and backwards in increments

TOTAL

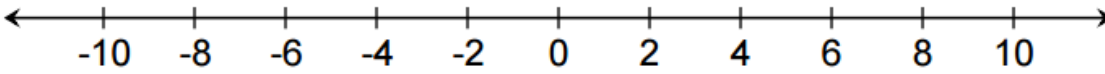
- 1 State the increments the number line increases by.  
The first one has been done for you.



The number line goes up in increments of:

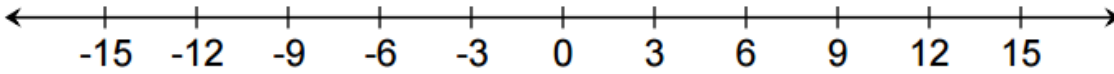
1

1 mark



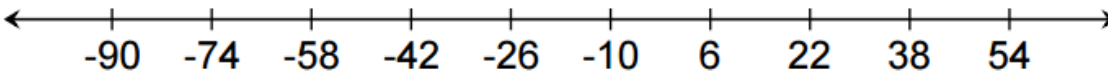
The number line goes up in increments of:

1 mark



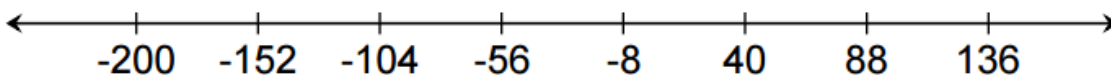
The number line goes up in increments of:

1 mark



The number line goes up in increments of:

1 mark



The number line goes up in increments of:

1 mark

# LO: I can order negative numbers

TOTAL

1 Order these sets of numbers from smallest to largest.

1            -2            0            -1            2

--	--	--	--	--

1 mark

-3            0            -5            4            1

--	--	--	--	--

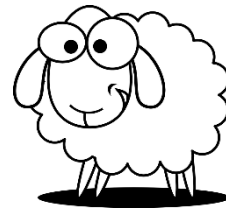
1 mark

0            1            -3            -1            3

--	--	--	--	--

1 mark

2 Order these sets of numbers from largest to smallest.



20            -10            -5            50            -1

--	--	--	--	--

1 mark

-15            3            -30            70            4

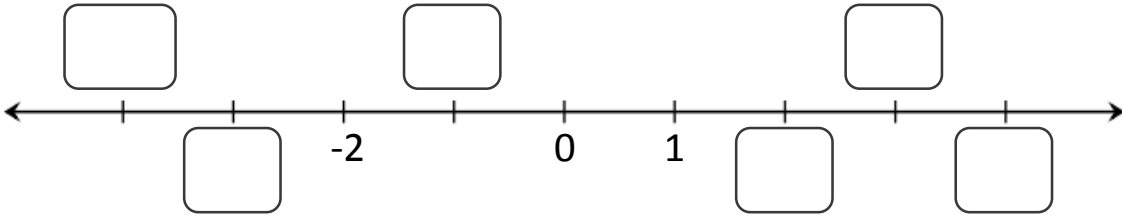
--	--	--	--	--

1 mark

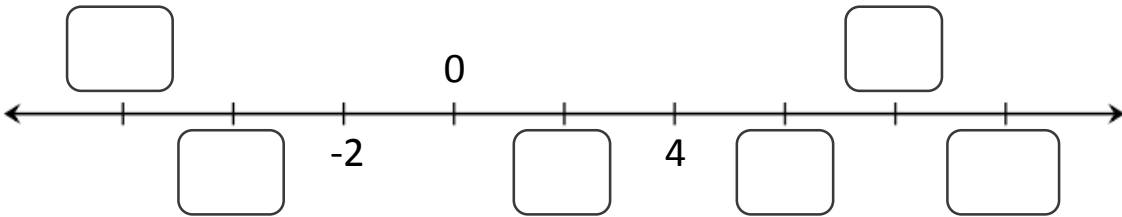
# LO: I can count forwards or backwards using negative numbers

TOTAL

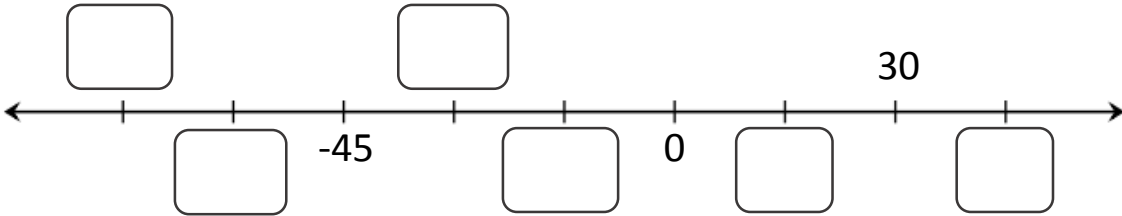
1 Fill in the missing numbers on the number lines below.



6 marks

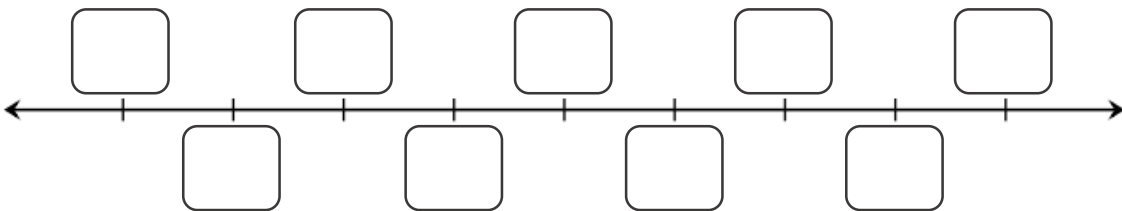


6 marks



6 marks

2 Create your own number line that goes up in increments of 20. You can choose any starting number but you must include negative numbers.



9 marks

# LO: I can count forwards or backwards using negative numbers

TOTAL

1 Determine what each number increases by and carry on the sequence.

-8 → -7 → -6



1 mark

-1 → 0 → 1



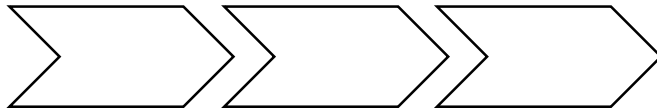
1 mark

-10 → -8 → -6



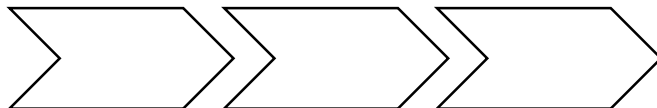
1 mark

-8 → -5 → -2



1 mark

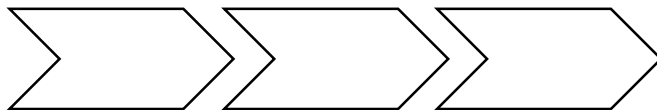
-10 → -7 → -4



1 mark

2 Determine what each number decreases by and carry on the sequence.

0 → -1 → -2



1 mark

5 → 0 → -5



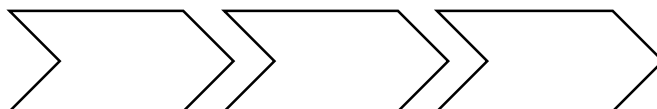
1 mark

-16 → -18 → -20



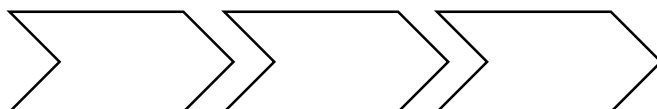
1 mark

-50 → -60 → -70



1 mark

-15 → -30 → -45



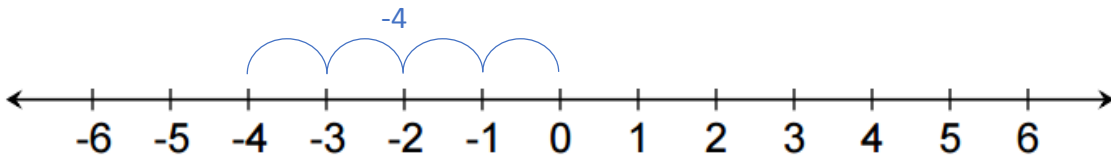
1 mark

# LO: I can interpret negative numbers in context

TOTAL

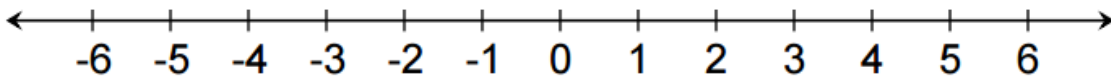
1

For each question, use the number line to help you answer the sums.  
The first one has been done for you.

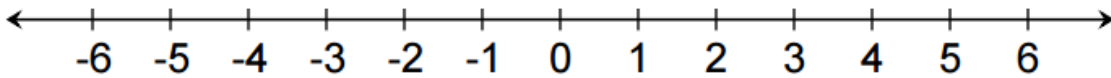


$0 - 4 =$

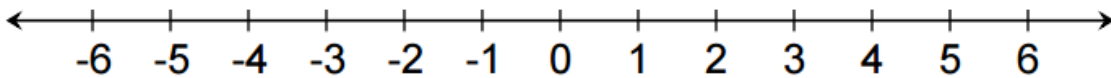
-4



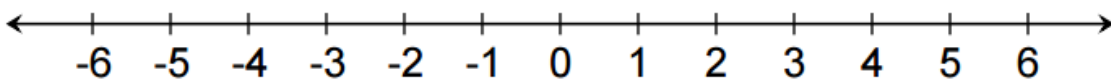
$6 - 10 =$



$-4 + 7 =$



$-3 - 3 =$



$-1 - 6 =$

1 mark

1 mark

1 mark

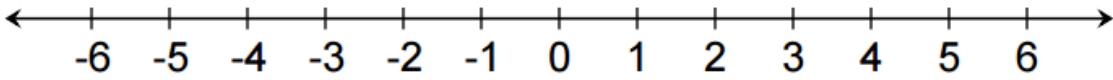
1 mark



# LO: I can interpret negative numbers in context

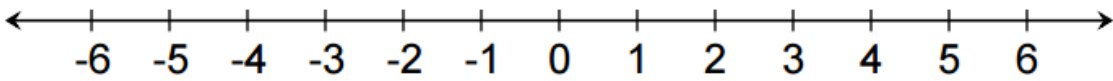
TOTAL

1 For each question, use the number line to help you answer the sums.



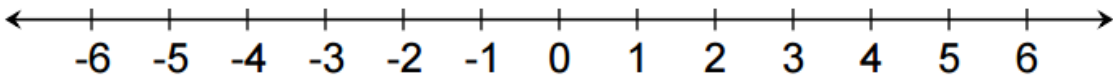
$$-5 + 8 = \boxed{\phantom{00}}$$

1 mark



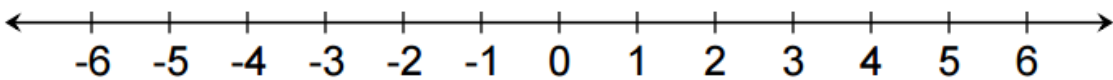
$$-2 - 3 = \boxed{\phantom{00}}$$

1 mark



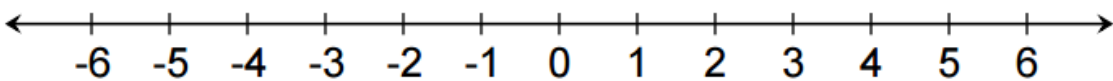
$$-3 + 7 = \boxed{\phantom{00}}$$

1 mark



$$6 - 11 = \boxed{\phantom{00}}$$

1 mark



$$-1 - 1 = \boxed{\phantom{00}}$$

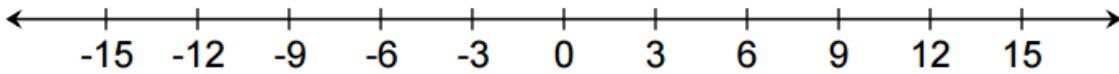
1 mark

# LO: I can interpret negative numbers in context

TOTAL

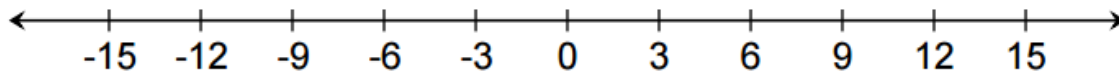
1

For each question, use the number line to help you answer the sums.  
Hint: Firstly, work out what the number line goes up and down by.



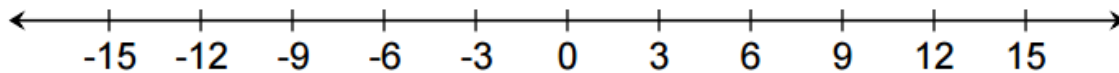
$$15 - 18 = \boxed{\phantom{000}}$$

1 mark



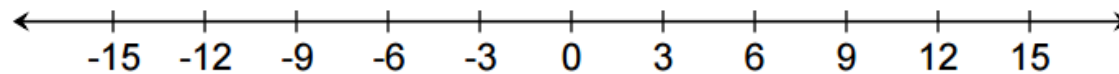
$$-12 + 9 = \boxed{\phantom{000}}$$

1 mark



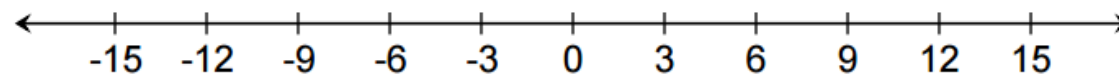
$$-9 + 21 = \boxed{\phantom{000}}$$

1 mark



$$9 - 18 = \boxed{\phantom{000}}$$

1 mark



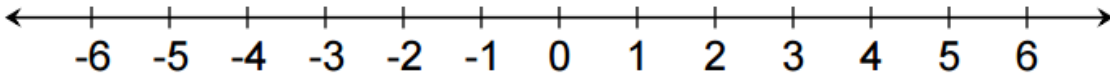
$$-15 + 30 = \boxed{\phantom{000}}$$

1 mark

# LO: I can interpret negative numbers in context

TOTAL

1 Use the number line below to help you answer the following sums.



$0 - 3 =$

$-3 + 6 =$

$-2 - 4 =$

$4 - 8 =$

$-3 + 1 =$

$-3 - 3 =$

$-1 + 5 =$

$-6 + 4 =$

$6 - 8 =$

$-1 + 7 =$

2 Answer the following sums without using a number line.



$3 - 10 =$

$-37 + 44 =$

$-20 - 6 =$

$75 - 8 =$

$-15 + 10 =$

$-31 - 20 =$

$-25 + 42 =$

$-6 - 30 =$

$20 - 50 =$

$-5 + 18 =$

10 marks

10 marks

# LO: I can interpret negative numbers in context

TOTAL

1 Fill in the table below using your knowledge of negative numbers.

	+ 6	- 3	-15	+ 50
-5				
-10				
-30				
-12				
+7				
+50				
-45				

28 marks

2 Use inequality signs to compare the numbers below.  
The first one has been done for you.



$(2 - 10)$    $(-14 + 5)$

$(-32 - 6)$    $(19 - 52)$

$(-45 + 10)$    $(-21 - 12)$

$(-15 + 52)$    $(-6 + 40)$

$(10 - 40)$    $(-5 + 35)$

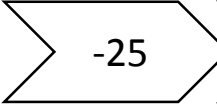


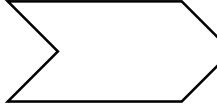
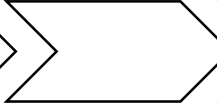




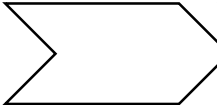





5 marks

# LO: I can count forwards or backwards using negative numbers

TOTAL

1

Use the following rules on each row to continue the starting number. The first one has been started for you.

-30	→	Increase by 5			
1	→	Decrease by 2			
-20	→	Increase by 4			
17	→	Decrease by 10			
-10	→	Increase by 5			

1 mark

1 mark










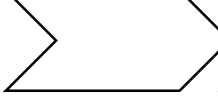
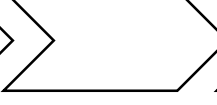
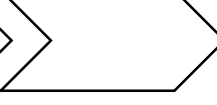
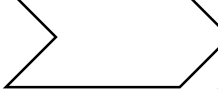
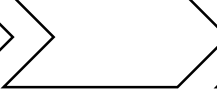
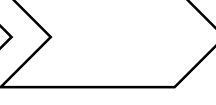
1 mark

1 mark

1 mark

2

Using your knowledge of the questions above, complete the sequences. However, this time it is a little trickier.

-36	→	Increase by 12			
12	→	Decrease by 20			
-40	→	Increase by 32			
30	→	Decrease by 55			
-120	→	Increase by 100			

1 mark

1 mark

1 mark

1 mark

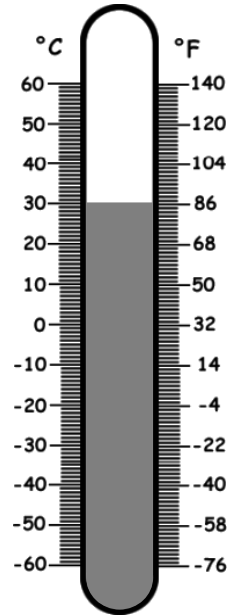
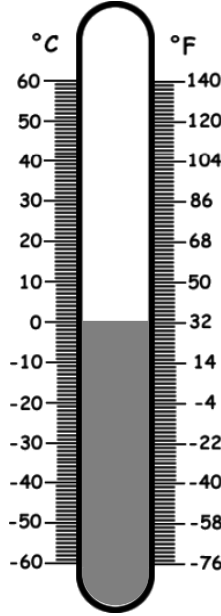
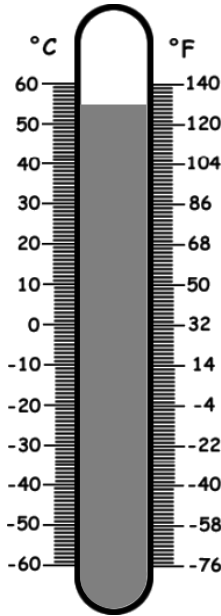
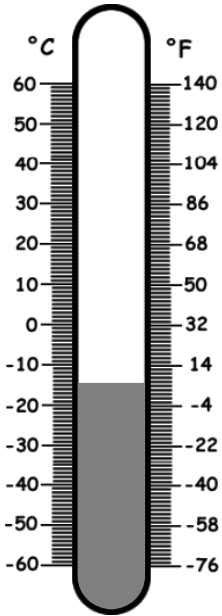
1 mark

# LO: I can interpret negative numbers in context

TOTAL

1

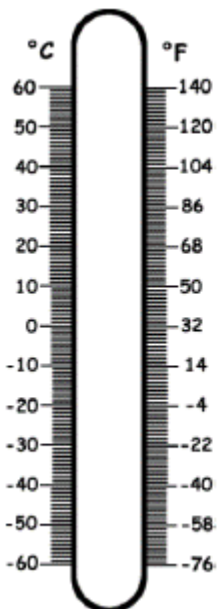
Using your knowledge of negative numbers, read the temperature of the thermometer and write your answer in degrees Celsius.



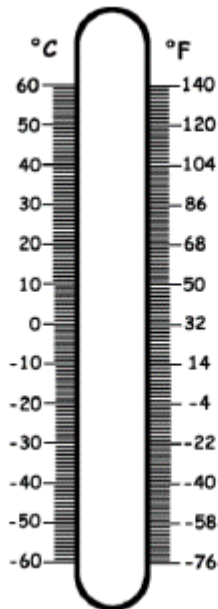
4 marks

2

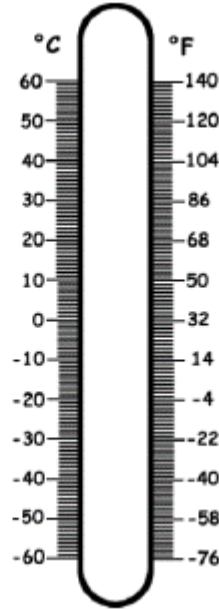
Using your knowledge of negative numbers, colour in the correct temperature for each thermometer.



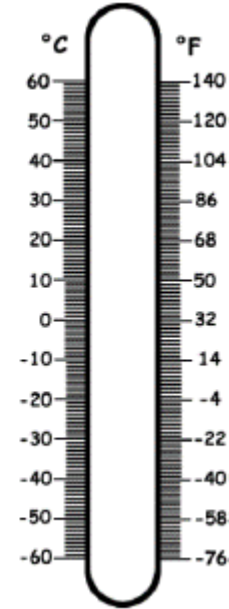
-20°C



-40°F



-5°C



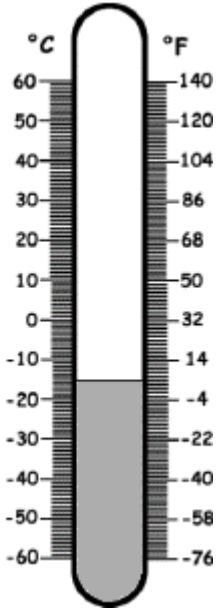
-22°F

4 marks

# LO: I can interpret negative numbers in context

TOTAL

1 Use your knowledge of negative numbers to answer the following questions.



What temperature is shown in degrees Celsius?

1 mark

What temperature is shown in degrees Fahrenheit?

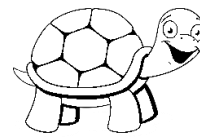
1 mark

The temperature increased by  $5^{\circ}\text{C}$ .  
What is the new temperature in  $^{\circ}\text{C}$ ?

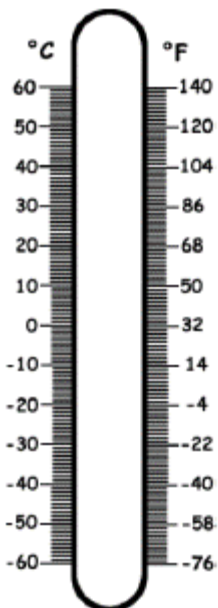
1 mark

The temperature then decreased by  $5^{\circ}\text{F}$ .  
What is the new temperature in  $^{\circ}\text{F}$ ?

1 mark



2 Colour the thermometer to show a temperature of  $-50^{\circ}\text{C}$ .  
Use your knowledge of negative numbers to answer the following questions.



What is the temperature in degrees Fahrenheit?

1 mark

The temperature increased by  $10^{\circ}\text{C}$ .  
What is the new temperature in  $^{\circ}\text{C}$ ?

1 mark

Show the new temperature by colouring the increase in a different colour on the thermometer.

1 mark

# LO: I can use problem solving skills involving negative numbers

TOTAL

1

Use your knowledge of negative numbers to answer the following questions on temperature.

If the temperature is  $15^{\circ}\text{C}$  and it dropped by 25 degrees. What temperature is it now?

1 mark

If the temperature is  $-5^{\circ}\text{C}$  and it increased by 10 degrees. What temperature is it now?

1 mark

A cake mix placed in the oven measured  $15^{\circ}\text{C}$ . When removed from the oven it measured  $95^{\circ}\text{C}$ . How many degrees did it increase by?

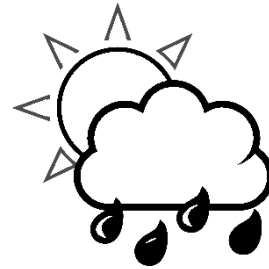
1 mark

A cup of water that measured  $60^{\circ}\text{C}$  was placed in a freezer. It fell by 30 degrees every 30 minutes. How many minutes would it take to reach freezing point?

1 mark

2

Find the difference between the temperatures below.



Temperature A is  $30^{\circ}\text{C}$   
Temperature B is  $-16^{\circ}\text{C}$   
What is the difference between the temperatures?

1 mark

Temperature A is  $-2^{\circ}\text{C}$   
Temperature B is  $14^{\circ}\text{C}$   
What is the difference between the temperatures?

1 mark



# LO: I can use problem solving and reasoning skills involving negative numbers

TOTAL

1 Jack started at  $10^{\circ}\text{C}$ . He counted down  $5^{\circ}\text{C}$  each time. What is the:

3<sup>rd</sup> number he will count to ?

5<sup>th</sup> number he will count to ?

10<sup>th</sup> number he will count to ?

What would the 20<sup>th</sup> number be? Explain how you would work this out.

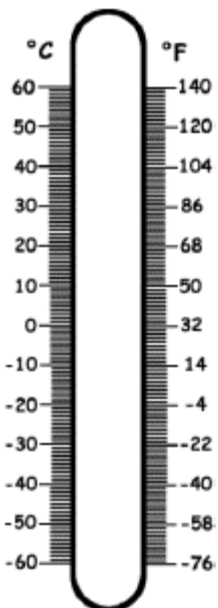
3 marks

2 marks

2

Colour the thermometer to show a temperature of  $-30^{\circ}\text{C}$ .

Use your knowledge of negative numbers to answer the following questions.



What is the temperature in degrees Fahrenheit?

1 mark

1 mark

The temperature increased by  $20^{\circ}\text{C}$ . What is the new temperature in  $^{\circ}\text{C}$ ?

1 mark

Show this by colouring the increase in a different colour on the thermometer.

1 mark

# **Mastery & Extension Cards**

# Instructions

These extension and mastery activities can be used as partnered or group tasks.  
Alternatively, these cards can be cut and glued into pupils' books.

**Give your partner a 2-digit negative number:**

Ask them to add on 7 each time until you get to a 2-digit positive number.



**Spot the mistake in the number track:**

-1	-3	-6	-9	-12
----	----	----	----	-----

What should the correct answer be?

Explain how you know.

**True or False?**  
**Is the following statement true or false? Explain your answer:**

18 less than 2 is -17.



**True or False?**  
**Is the following statement true or false? Explain your answer:**

30 more than -22 is 8.



**If I count back in 15s from 5:**

Will I reach -55?  
Explain how you know.  
Do you notice a pattern?  
Explain what you notice.



**If I count up in 25s from -125:**

Will I reach 5?  
Explain how you know.  
Do you notice a pattern?  
Explain what you notice.



# Instructions

These extension and mastery activities can be used as partnered or group tasks.  
Alternatively, these cards can be cut and glued into pupils' books.

**The temperature of a cup was  $25^{\circ}\text{C}$  :**

It fell by 4 degrees every 5 minutes.  
What was the temperature after 10 minutes?



**The temperature of a cup was  $-12^{\circ}\text{C}$  :**

It increased by 7 degrees every 3 minutes.  
What was the temperature after 9 minutes?



**If we counted on in steps of 10 from  $-35$ :**

What is the first positive 2-digit number you would make?  
Show your working.



**If we counted back in steps of 5 from 62:**

What is the first negative number you would make?  
Show your working.



**Give your partner a 2-digit negative number to count up or down in steps of your choice.**

They must work out the closest number to 0 they will reach.

Take turns



**Spot the mistake in the number track:**

17	2	-13	-27	-43
----	---	-----	-----	-----

**What should the correct answer be?**

**Explain how you know.**

# Instructions

These extension and mastery activities can be used as partnered or group tasks.  
Alternatively, these cards can be cut and glued into pupils' books.

**Temperature 1 =  $-18^{\circ}\text{C}$**   
**Temperature 2 =  $-44^{\circ}\text{C}$**

What is the difference between the two temperatures?  
Show your working.



**Temperature 1 =  $12^{\circ}\text{C}$**   
**Temperature 2 =  $-52^{\circ}\text{C}$**

What is the difference between the two temperatures?  
Show your working.



**The temperature was  $18^{\circ}\text{C}$  :**

It fell by 6 degrees every 5 minutes.  
How many minutes did it take to reach  $-6^{\circ}\text{C}$ ?



**The temperature of a cup was  $-27^{\circ}\text{C}$  :**

It increased by 9 degrees every 3 minutes.  
How many minutes did it take to reach  $9^{\circ}\text{C}$ ?



**Answer the following:**

What temperature is the:

- a) boiling point of water?
- b) freezing point of water?



**Is the following statement true or false? Explain your reasoning:**

If I counted on in steps of 11 from -33, I would eventually reach 33.



# **Display Cards & Resources**



1



2



3



4



5



6

7

8

9

0

°C

°F





**Degrees  
Celsius**

**Degrees  
Fahrenheit**

**Increased  
by**

**Decreased  
by**