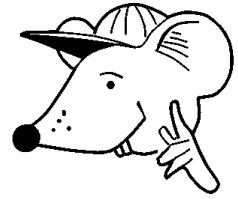


MATHEMATICS



N.S. Yr. 4 P.14

Recognise and order negative numbers.

Equipment

Pencil and paper, positive and negative cards (cut from pages 12 and 13 - photocopy onto card if you wish), strip thermometer.

MathSphere

© MathSphere P.O. Box 1234 Worthing BN13 2UJ www.mathsphere.co.uk

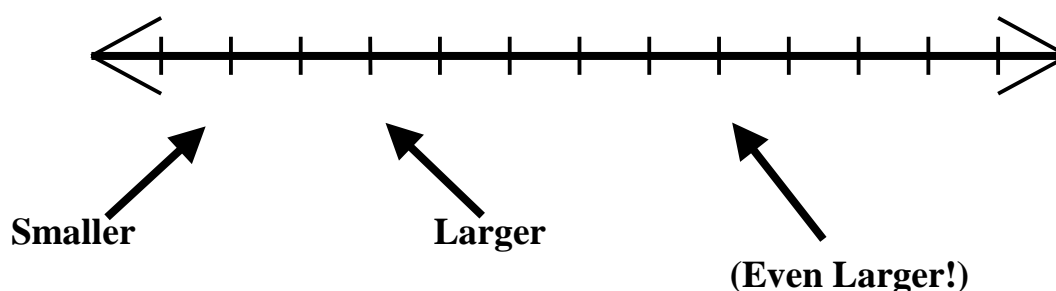
Concepts

When used to indicate a negative number, the sign may be written level with the middle of the number, as in -4 , and sometimes it is raised, as in $^{-}5$. Both forms are used in Mathsphere units to familiarise children with the two types of usage.

Larger or Smaller

When trying to decide which of two numbers is the larger, especially if at least one of them is negative, imagine the numbers on a number line with negatives to the left and positives to the right. **The number to the right is always the larger of the two:**

Eg. Which is larger, -4 or -2 ?



If this is still not clear, imagine the number line on its side with negative numbers below and positive numbers above as in a thermometer. The further up the thermometer a number is, the higher is the number, whether it is positive or negative. After all, a temperature of -3 is warmer than a temperature of -12 !

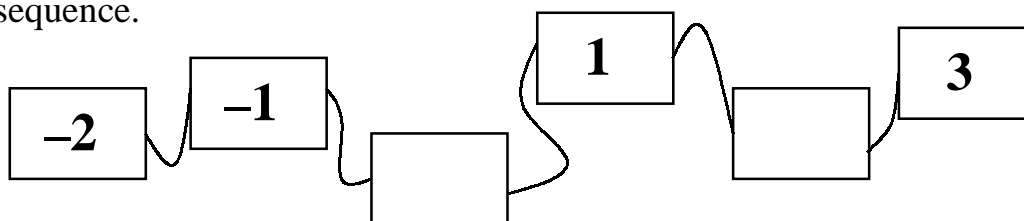
Vocabulary

Know the meanings of: *integer, positive, negative, minus, above zero, below zero.*

1. a) Use the pack of positive and negative number cards and put all the numbers in order, smallest first.
b) Put all the even numbers in order, smallest first. Miss out the odd numbers.
c) Put all the three times table in order, smallest first. Miss out the other numbers.

2. Practise counting backwards from 5 to -5 . Can you do this without making a mistake?

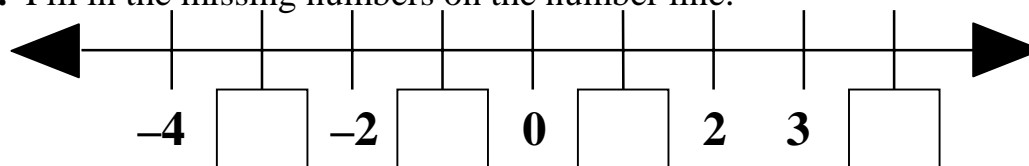
3. Put the missing numbers on the rectangles, so that the numbers are in sequence.



No problem!



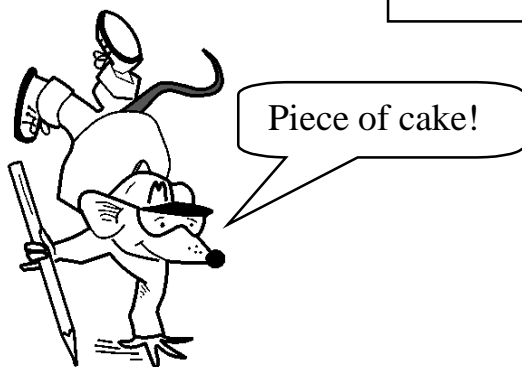
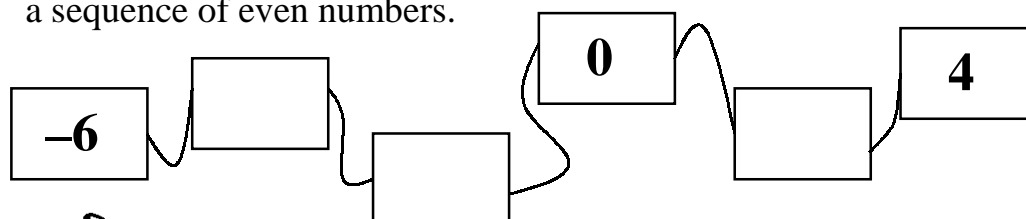
4. Fill in the missing numbers on the number line.



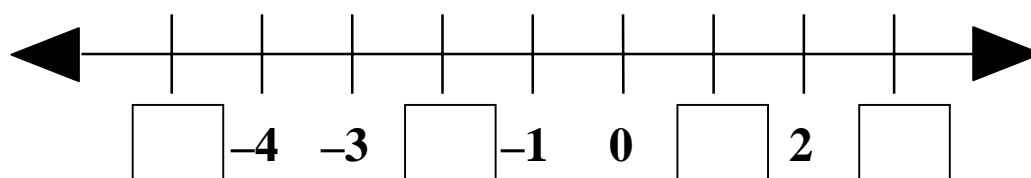
1. a) Use the pack of positive and negative number cards and put all the numbers in order, largest first.
b) Put all the odd numbers in order, largest first. Miss out the even numbers.
c) Put all the four times table in order, largest first. Miss out the other numbers.

2. Practise counting backwards from 6 to -6 in twos. Can you do this without making a mistake?

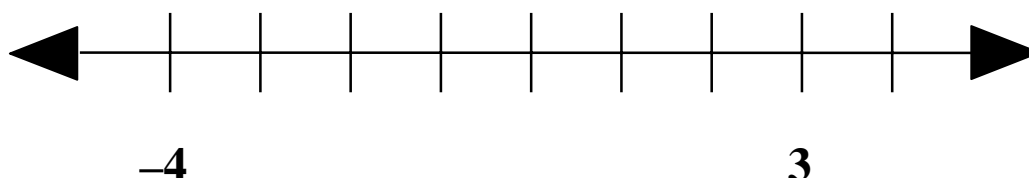
3. Put the missing numbers on the rectangles, so that the numbers are in a sequence of even numbers.



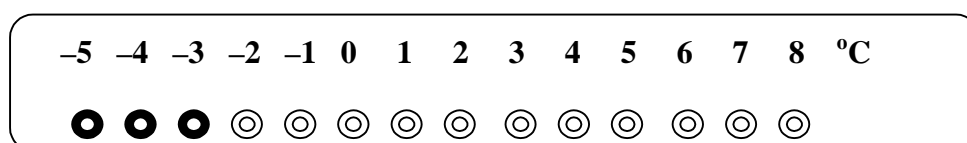
4. Fill in the missing numbers on the number line.



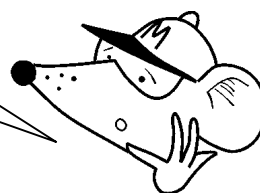
1. Draw an arrow pointing to -1 .



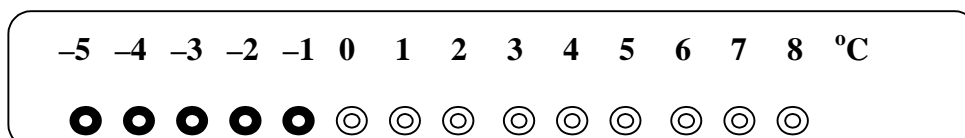
2. This thermometer shows a temperature of -3°C .



Who's turned off the heating?



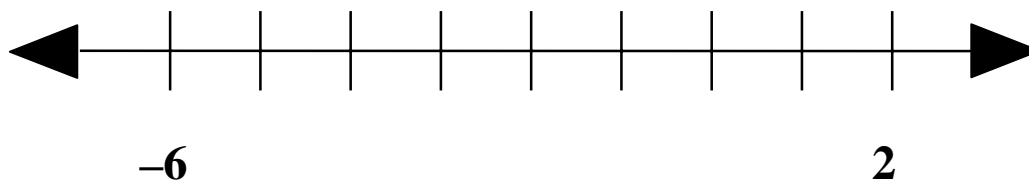
What temperature does this thermometer show?



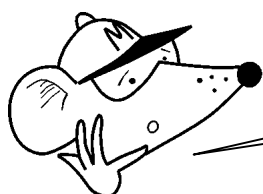
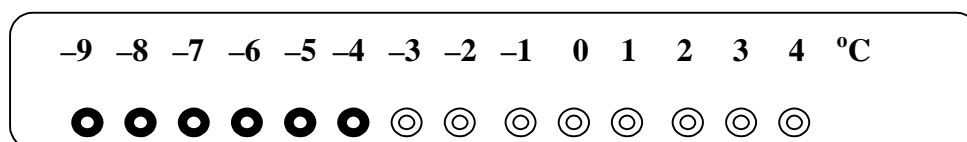
3. Measure some cold temperatures yourself using a strip thermometer. If it is a warm day, ask your teacher or parent if you may put some things in the freezer for a few minutes. What is the temperature inside your fridge?

4. Which temperature is greater: -6°C or -3°C ?

1. Draw an arrow pointing to -3 .

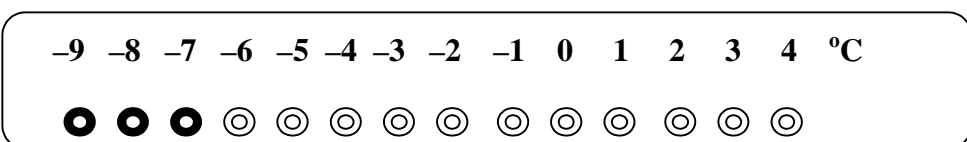


2. This thermometer shows a temperature of -4°C .



OK, this has gone far enough!
It's getting cold in here.

What temperature does this thermometer show?

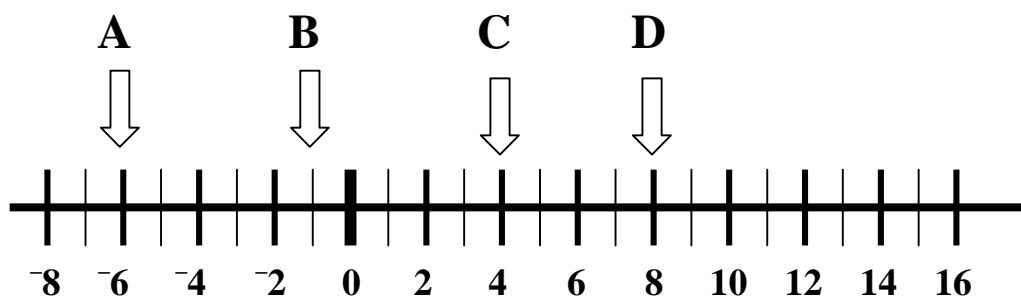


3. Ask your teacher or parent if you may put a solid object such as a piece of wood in the freezer for a while. Take it out and measure its temperature every ten minutes using a strip thermometer. Put your results in a table.

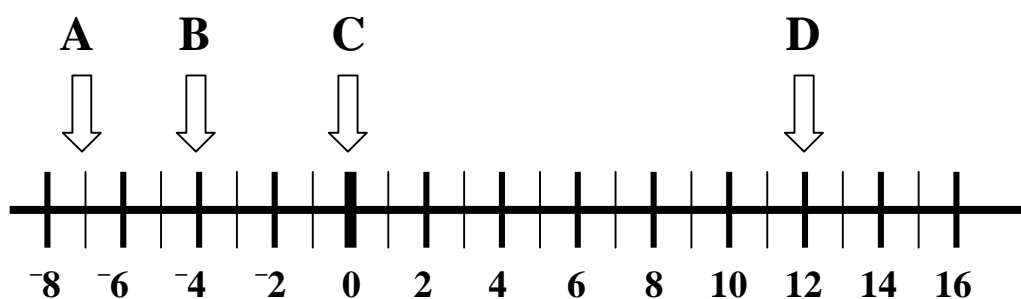
4. Put these temperatures in order, lowest first:

-1°C , 0°C , -5°C , 2°C , -4°C , -3°C

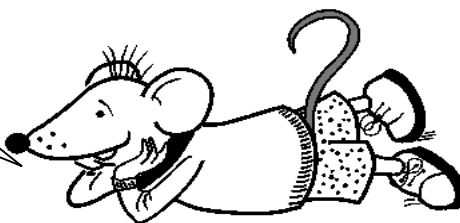
1. What numbers are the arrows pointing at?



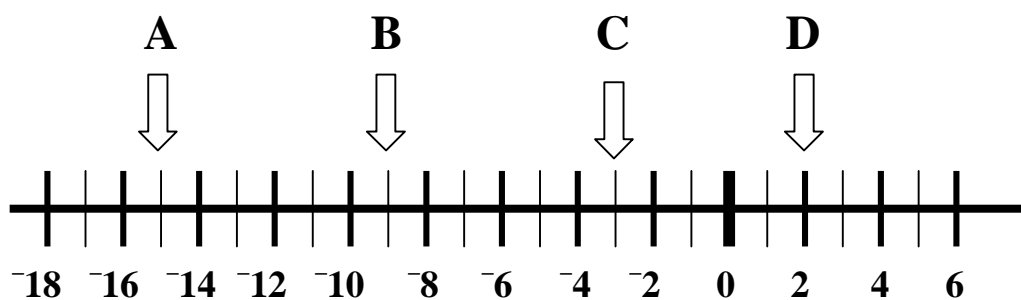
2. What numbers are the arrows pointing at?



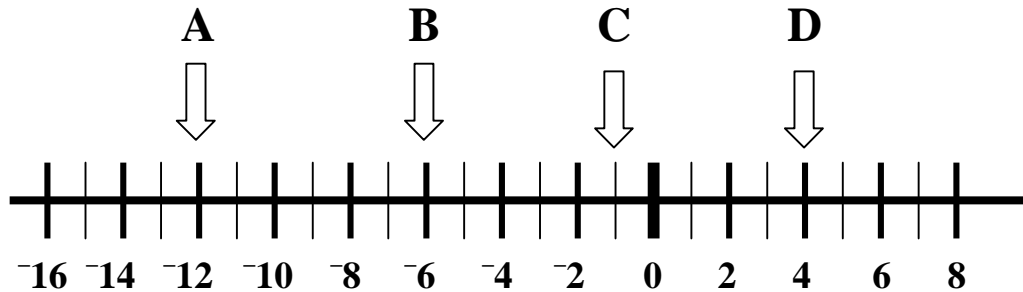
I can do these
lying down.



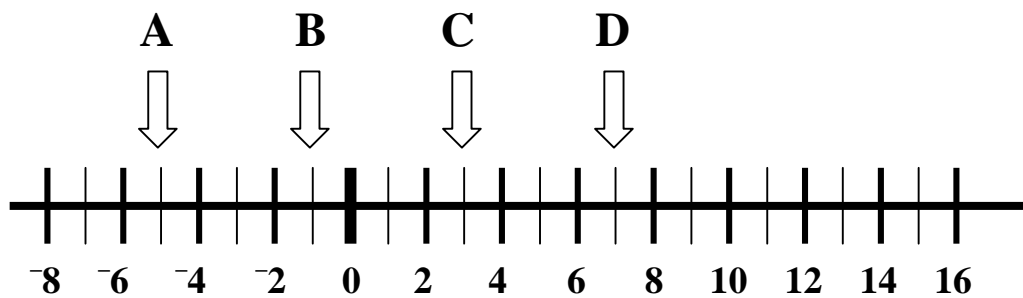
3. What numbers are the arrows pointing at?



1. What numbers are the arrows pointing at?



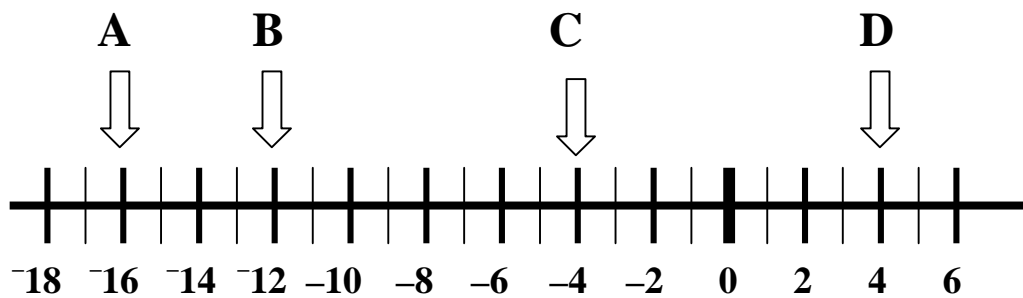
2. What numbers are the arrows pointing at?



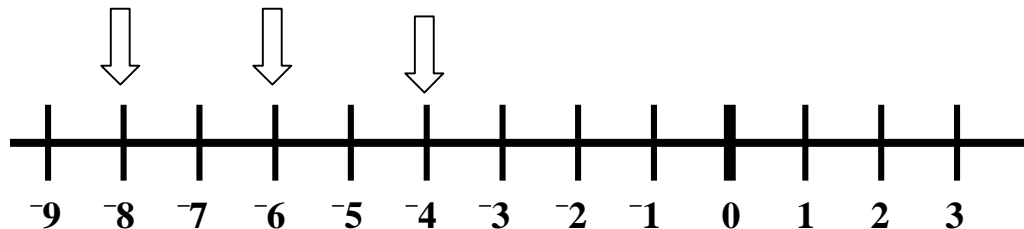
Maths is so
relaxing.



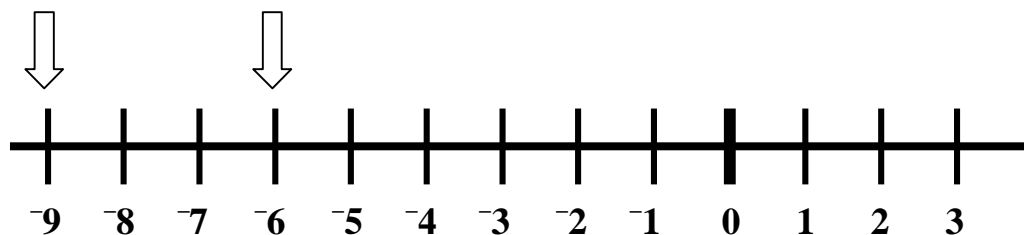
3. What numbers are the arrows pointing at?



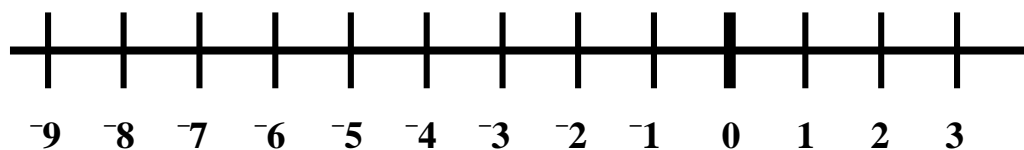
1. Put arrows on the even numbers. The first three have been done for you.



2. Put arrows on the three times table. The first two have been done for you.

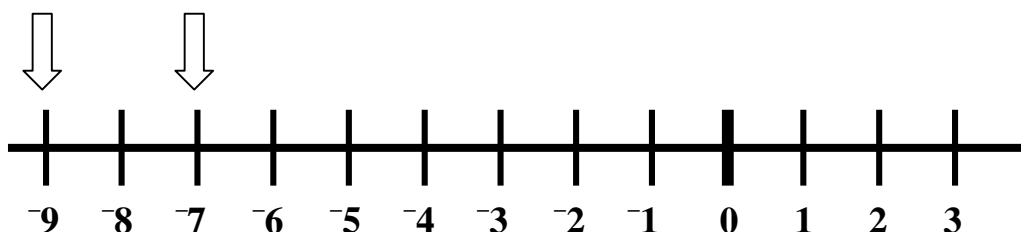


3. Put arrows on the four times table.

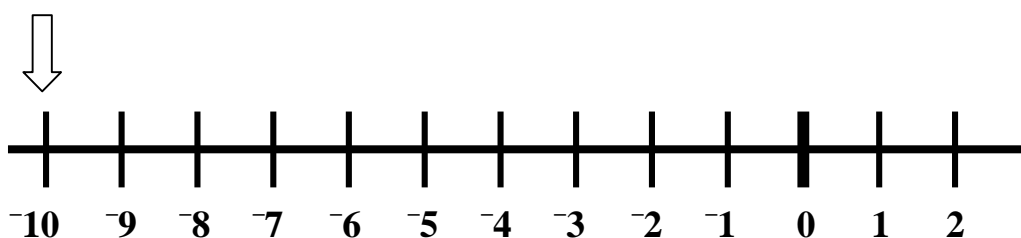


Tables in the negative numbers, eh?
Very interesting.

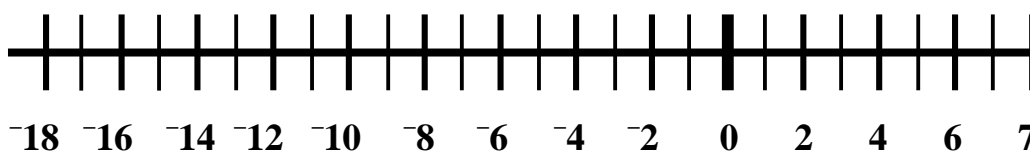
1. Put arrows on the odd numbers. The first two have been done for you.



2. Put arrows on the five times table. The first one has been done for you.



3. Put arrows on the seven times table.



You will be asking me to learn my negative two times table next!



Answers

Page 3.

3. -2, -1, 0, 1, 2, 3

4. -4, -3, -2, -1, 0, 1, 2, 3, 4

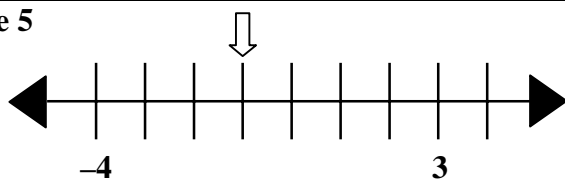
Page 4

3. -6, -4, -2, 0, 2, 4

4. -5, -4, -3, -2, -1, 0, 1, 2, 3

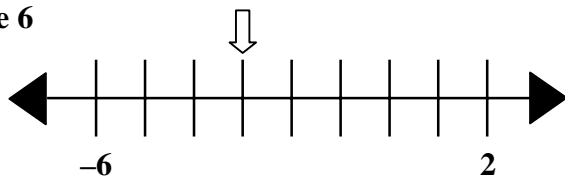
Page 5

1.

2. -1°C 4. -3°C

Page 6

1.

2. -7°C 4. -5°C , -4°C , -3°C , -1°C , 0°C , 2°C

Page 7

1. A -6, B -1 C 4 D 8

2. A -7, B -4 C 0 D 12

3. A -15, B -9 C -3 D 2

Page 8

1. A -12, B -6 C -1 D 4

2. A -5, B -1 C 3 D 7

3. A -16, B -12 C -4 D 4

Page 9

1. Arrows on -8, -6, -4, -2, 0, 2

2. Arrows on -9, -6, -3, 0, 3

3. Arrows on -8, -4, 0,

Page 10

1. Arrows on -9, -7, -5, -3, -1, 1, 3

2. Arrows on -10, -5, 0

3. Arrows on -14, -7, 0, 7

-11	-10	-9	-8
-7	-6	-5	-4
-3	-2	-1	0
1	2	3	4
5	6	7	8
9	10	11	12

Extension Number Cards

-22	-21	-20	-19
-18	-17	-16	-15
-14	-13	-12	13
14	15	16	17
18	19	20	21
22	23	24	25