



Integers

- Adding and subtracting positive and negative integers
- Multiplying and dividing positive and negative integers

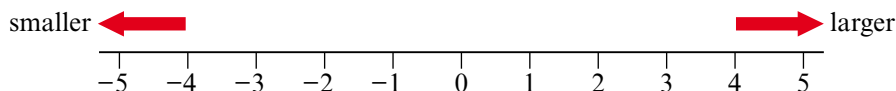
Keywords

You should know

explanation 1

- 1** Use the number line to help you.
Sort the numbers 4, -1, 3, -5 and 2 into two groups.

- a** Numbers smaller than 0.
b Numbers larger than 0.



- 2 a** Copy the number line and make it longer so you can show 7 on the line.
b Now make your number line longer so you can show -6 on the line.

- 3** Which number in each pair is smaller?

- | | | | |
|----------------|-----------------|----------------|-----------------|
| a 3, 5 | b 4, -2 | c 5, -6 | d -4, -3 |
| e 2, -7 | f -5, -6 | g 1, 9 | h -1, -9 |

- 4** Put these numbers in order from smallest to largest.

- a** -1, 3, 0, -5, 4 **b** 5, -5, 3, -3, -2, 2 **c** -6, 14, -17, 3, -1

- 5** Write down three positive numbers and three negative numbers.
Now put them in order from smallest to largest.

- 6** Write the correct sign ($>$ or $<$) between each pair.

- | | | |
|-------------------------------------|------------------------------------|--------------------------------------|
| a 3 <input type="text"/> 5 | b 4 <input type="text"/> 1 | c -5 <input type="text"/> 5 |
| d -7 <input type="text"/> -2 | e 0 <input type="text"/> -3 | f -4 <input type="text"/> -10 |

explanation 2a
explanation 2b
explanation 2c

7 Copy and complete these.

a $7 + 2 = \square$

b $7 - 2 = \square$

c $7 + -2 = 7 \square 2 = \square$

d $7 - -2 = 7 \square 2 = \square$

e $11 - 6 = \square$

f $6 - 10 = \square$

g $-5 + -3 = -5 \square 3 = \square$

h $-5 - -4 = -5 \square 4 = \square$

8 Here is a sequence of five numbers. It starts with -3 . Two is added each time.
 $-3, -1, 1, 3, 5$

Make sequences of five numbers.

a Start with -10 and add 3 each time.

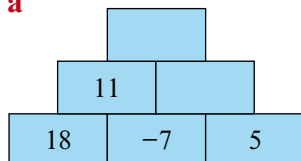
b Start with 15 and subtract 4 each time.

c Start with 15 and subtract -4 each time.

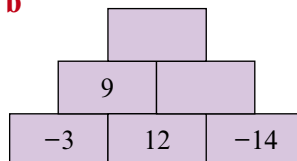
9 Copy and complete these number pyramids.

To find a missing number add the numbers on the two bricks below it.

a



b



10 Find the difference between these numbers.

a 10 and -4

b -7 and -3

c 1 and -5

d 4 and -6

e -2 and -9

f -3 and 7

g 0 and -4

h 10 and -3

11 In a card game, Sam scores 4 points if he wins a round, and -2 points if he loses. He plays eight rounds.

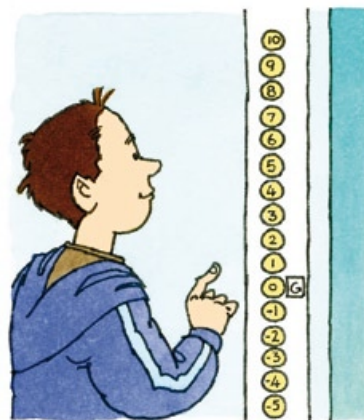
a He wins five rounds. How many points does he score?

b He loses three rounds. What does he score for these rounds?

c What is his final score?

- 12** The floors in a lift are marked 1 to 10 above the ground floor and -1 to -5 below the ground floor. The ground floor is called 0.

- a** Ben gets into the lift on the ground floor. He goes up to the 6th floor. He then goes down 2 floors. Which floor is he on now?
- b** From there he goes down 5 more floors then up again 3 floors. Which floor is he on now?
- c** The café is on the 10th floor. How many floors must he now go up to get to the café?



- 13 a** Sage has £15. She owes her mum £7. When she pays her mum how much is left?

- b** On Saturday, Ali was paid his allowance of £20. He earned £5 for his paper round, and he spent £7 in town. How much money did he have left?

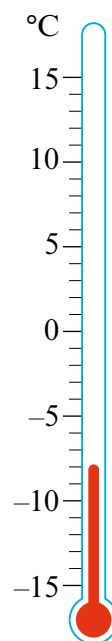
- c** Samia owed her brother £8. She earned £15 on Saturday. She bought a magazine for £3 and paid her brother. How much was left?



- 14 a** The temperature in the morning is 3°C and by 1pm it has risen by 6°C . What is the temperature at 1pm?
- b** During the afternoon the temperature falls by 8°C . What is the temperature at the end of the day?
 - c** The hottest temperature reached during the day is 11°C and the coldest temperature overnight is -2°C . What is the difference between these temperatures?

- 15 a** The temperature is -5°C . It falls by 7°C overnight. What is the new temperature?

- b** The temperature one morning is -2°C . During the day it rises by 11°C . What is the new temperature?
- c** The temperature in Iceland is -4°C . In Mexico, the temperature is 15°C . What is the difference between the temperature in Mexico and in Iceland?



explanation 3a

explanation 3b

- 16** Copy and complete the tables. Colour the positive answers red and the negative answers blue. Notice the pattern of positive and negative numbers.

4×3	3×3	2×3	1×3	0×3	-1×3	-2×3
				0	-3	

4×-3	3×-3	2×-3	1×-3	0×-3	-1×-3	-2×-3
-12				0		6

- 17** Work these out.

a 11×-2 **b** -10×-4 **c** -5×7 **d** -6×-5
e 8×3 **f** 6×-7 **g** -9×4 **h** -4×-7

- 18** Work these out.

a $6 \div 3$ **b** $9 \div -3$ **c** $-12 \div 3$ **d** $-3 \div -3$
e $15 \div 3$ **f** $15 \div -3$ **g** $-15 \div 3$ **h** $-15 \div -3$

- 19** Copy and complete these multiplication grids.

a

\times	2		-5
			5
-6		-24	
3			

b

\times	7		
4			-12
	-14	-20	
-9			27

- 20 a** How many times does -2 go into 16?
b How many times does 5 go into -20?
c How many times does -5 go into 20?
d How many times does 3 go into -27?

- 21** Write down two different multiplications that will give you each answer.

a 10 **b** 24 **c** -12 **d** -2