Day 1

Fab four!

1.) 285 x 2.4=

2.) <> or =

7/10 0.78

3.) 10mm = cm

4.) factors of 16

Mild

1.) 28 x4=

2.) <> or =

1/2 or 3/4

3.) 10mm = cm

4.) 5 x9=

Day 2

Fab four!

1.) 322x 1.4=

2.) <> or =

2/5 0.48

3.) 100mm = cm

4.) factors of 25

Mild

1.) 24 x3=

2.) <> or =

1/4 or 1/2

3.) 20mm = cm

4.) 6 x9=

Day 3

Fab four!

1.) 850x 3.1=

2.) <> or =

4/5 80%

3.) 1000mm = cm

4.) factors of 36

Mild

1.) 23 x7=

2.) <> or =

1/4 or 3/4

3.) 30mm = cm

4.) 12 x9=

Day 4

Fab four!

1.) 620x 2.1=

2.) <> or =

6/8 80%

3.) 6mm = cm

4.) factors of 30

Mild

1.) 27 x5=

2.) <> or =

1/3 or 2/3

3.) 50mm = cm

4.) 11 x9=

Day 5

Fab four!

1.) 615x 2.2=

2.) <> or =

3/9 30%

3.) 17mm = cm

4.) factors of 24

Mild

1.) 32 x5=

2.) <> or =

1/2 or 2/3

3.) 100mm = cm

4.) 6 x9=

LO:I can identify and use place value correctly.

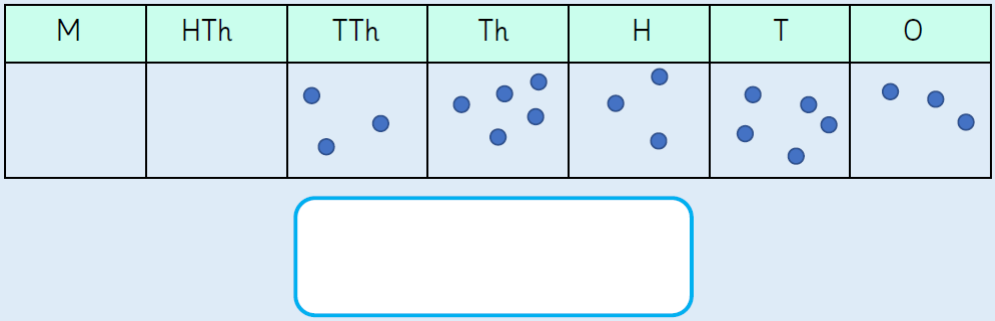
Key vocabulary

LO:I can identify and use place value correctly.

What numbers do the place value charts represent?

M	HTh	TTh	Th	H	T	O
● ● ●			● ● ●	● ● ●	● ●	●

LO:I can identify and use place value correctly.

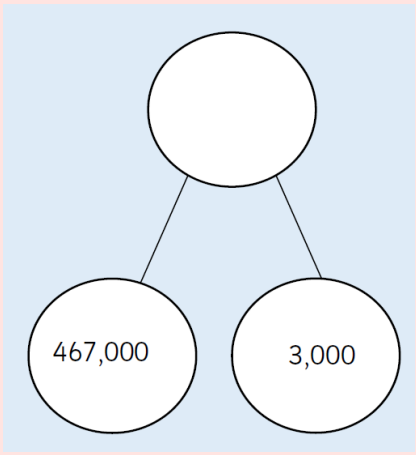


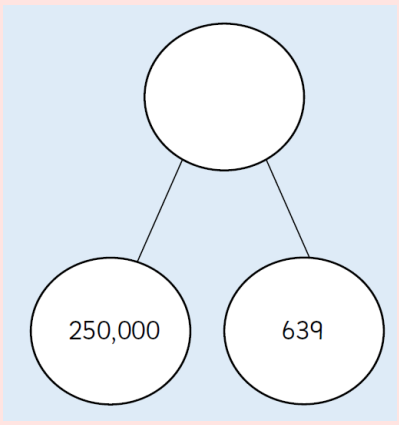
LO:I can identify and use place value correctly.

Match the words to the numbers in digits.

one million, four hundred and nine thousand, two hundred and sixteen	1,419,216
one hundred thousand, nine hundred and fifteen	1,409,216
one million, nine hundred and four thousand, five hundred and forty-eight.	10,915
one million, four hundred and nine thousand, six hundred and twelve.	100,915
	1,904,548
	1,409,612

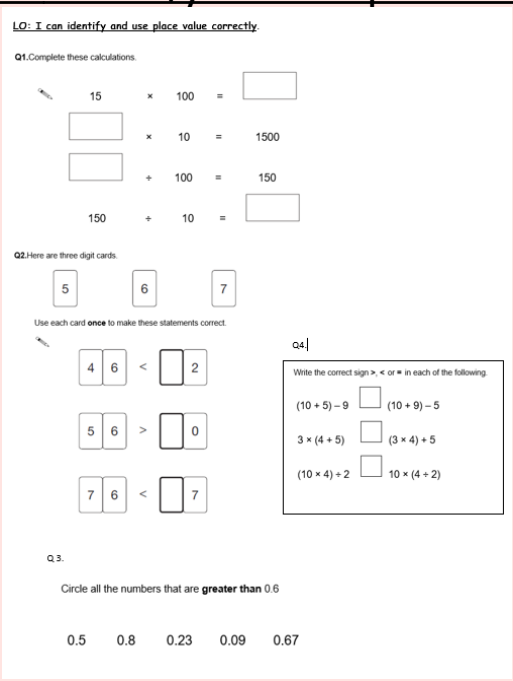
LO:I can identify and use place value correctly.





LO:I can identify and use place value correctly.

Mild



LO: I can identify and use place value correctly.

Q1.Complete these calculations.

15 × 100 = ☐

☐ × 10 = 1500

☐ ÷ 100 = 150

150 ÷ 10 = ☐

Q2.Here are three digit cards.

5 6 7

Use each card **once** to make these statements correct.

46 < ☐2

56 > ☐0

76 < ☐7

Q4.

Write the correct sign >, < or = in each of the following.

(10 + 5) – 9 ☐ (10 + 9) – 5

3 × (4 + 5) ☐ (3 × 4) + 5

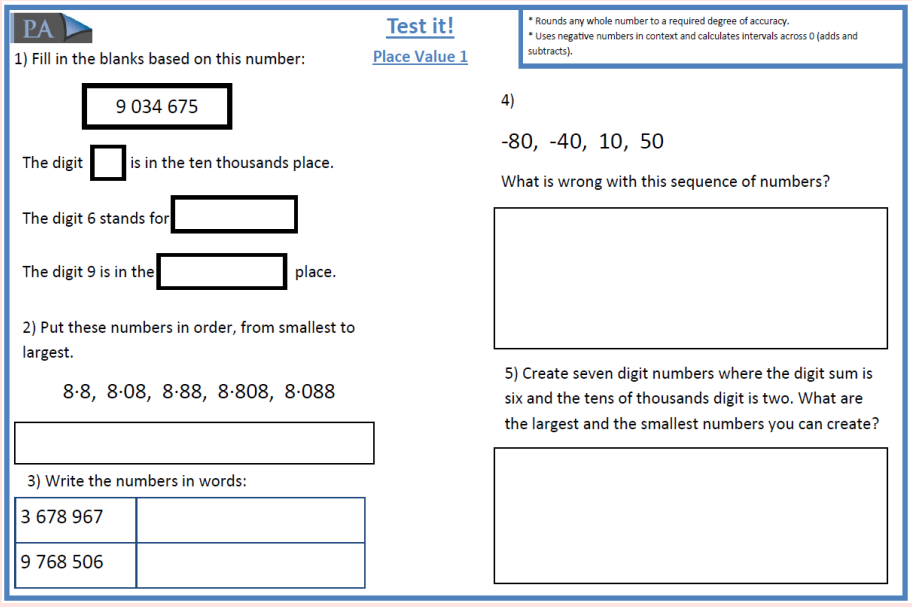
(10 × 4) ÷ 2 ☐ 10 × (4 ÷ 2)

Q 3.

Circle all the numbers that are **greater than** 0.6

0.5 0.8 0.23 0.09 0.67

LO:I can identify and use place value correctly.
Spicy



PA

Test it!

Place Value 1

* Rounds any whole number to a required degree of accuracy.
* Uses negative numbers in context and calculates intervals across 0 (adds and subtracts).

1) Fill in the blanks based on this number:

9 034 675

The digit ☐ is in the ten thousands place.

The digit 6 stands for ☐

The digit 9 is in the ☐ place.

2) Put these numbers in order, from smallest to largest.

8·8, 8·08, 8·88, 8·808, 8·088

3) Write the numbers in words:

3 678 967	
9 768 506	

4)

-80, -40, 10, 50

What is wrong with this sequence of numbers?

5) Create seven digit numbers where the digit sum is six and the tens of thousands digit is two. What are the largest and the smallest numbers you can create?

LO:I can identify and use place value correctly.

Hot

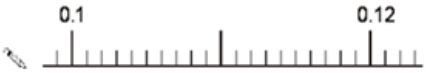
LO: I can identify and use place value correctly.

Q1. Place these numbers in order of size, starting with the **smallest.**

0.19 0.9 0.091 0.109

Q 2.

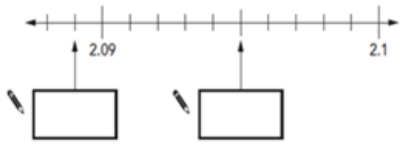
Draw an arrow to show the position of **0.111**



Q 3.

.This is part of a number line.

Write in the missing numbers.



Q 4.

Circle two different numbers which **multiply** together to make **1 million**.

10 100 1000 10 000 100 000

Q 5.

Leila knows that

65 × 3 = 195

Explain how she can **use this information** to find the answer to this multiplication:

165 × 3

LO:I can use negative numbers in context.

Which vocabulary will we need to use today?

Key vocabulary

LO:I can use negative numbers in context.

Which vocabulary will we need to use today?

Key vocabulary

temperature

scale

positive

integers

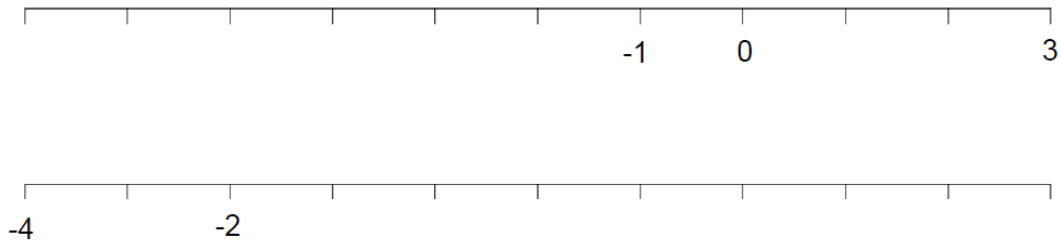
degrees

difference

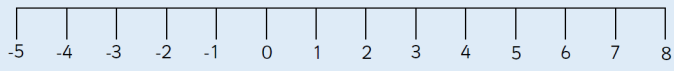
negative

LO:I can use negative numbers in context.

Can we complete this numberline?

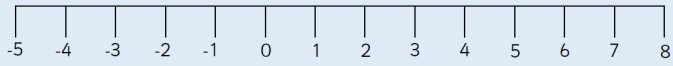


LO:I can use negative numbers in context.



If the temperature is -2 but it gets 3 degrees warmer, what will the new temperature be?

LO:I can use negative numbers in context.



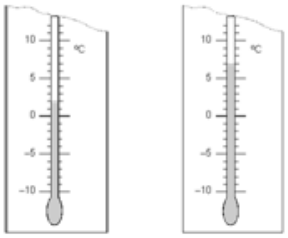
3 – 7 =	-4 + 7 =	-3 + - 3=
- 5 + 4 =	-3 + 8 =	7 – 11 =

LO:I can use negative numbers in context.

Answer the problems on your sheet/s. You can draw out a numberline to help you.

Mild

Q1. These are the temperatures in York and Rome on a day in winter.



How may degrees **colder** is it in York than in **Rome**?

°C

On another day, the temperature in York is **4°C**

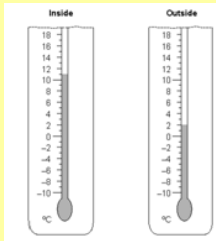
Rome is **7 degrees colder** than York.

What is the temperature in **Rome**?

°C

Q2. Circle **two numbers** which have a **difference of 2**

–1 –0.5 0 0.5 1 1.5



How many degrees **warmer** was it inside the greenhouse than outside?

°C

Later the temperatures were

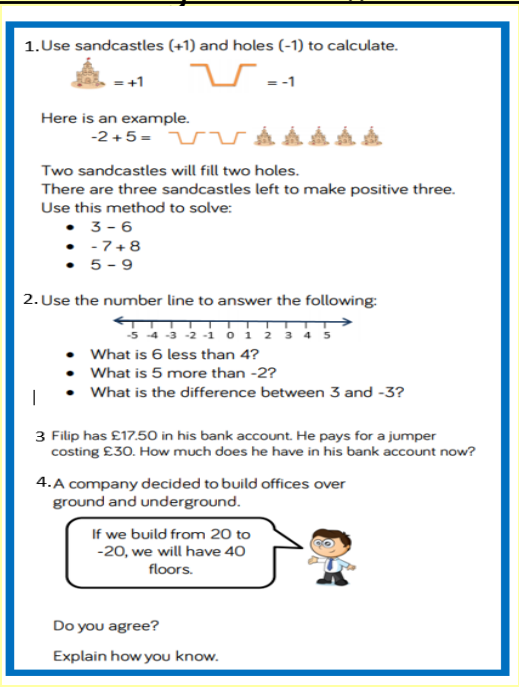
inside	outside
−1°C	−8°C

What is the difference between these two temperatures?

°C

LO:I can use negative numbers in context.

Spicy



1. Use sandcastles (+1) and holes (-1) to calculate.

= +1 = -1

Here is an example.

-2 + 5 =

Two sandcastles will fill two holes.
There are three sandcastles left to make positive three.
Use this method to solve:

- 3 – 6
- - 7 + 8
- 5 – 9

2. Use the number line to answer the following:

-5 -4 -3 -2 -1 0 1 2 3 4 5

- What is 6 less than 4?
- What is 5 more than -2?
- What is the difference between 3 and -3?

3 Filip has £17.50 in his bank account. He pays for a jumper costing £30. How much does he have in his bank account now?

4. A company decided to build offices over ground and underground.

If we build from 20 to -20, we will have 40 floors.

Do you agree?

Explain how you know.

LO:I can use negative numbers in context.

Hot 3

Q1. Paulo makes a sequence of numbers.

He chooses a starting number and then subtracts equal amounts each time.

The **third number** in his sequence is **45**

		45						–32

The **tenth number** is **–32**

What is the **first** number in the sequence?

Q2. I am thinking of a number that is not zero.

I **multiply** my number by **–5**

Tick (✓) the statement below that is true.

☐ The answer must be positive.

☐ The answer must be negative.

☐ The answer could be positive or negative.

Explain how you know.

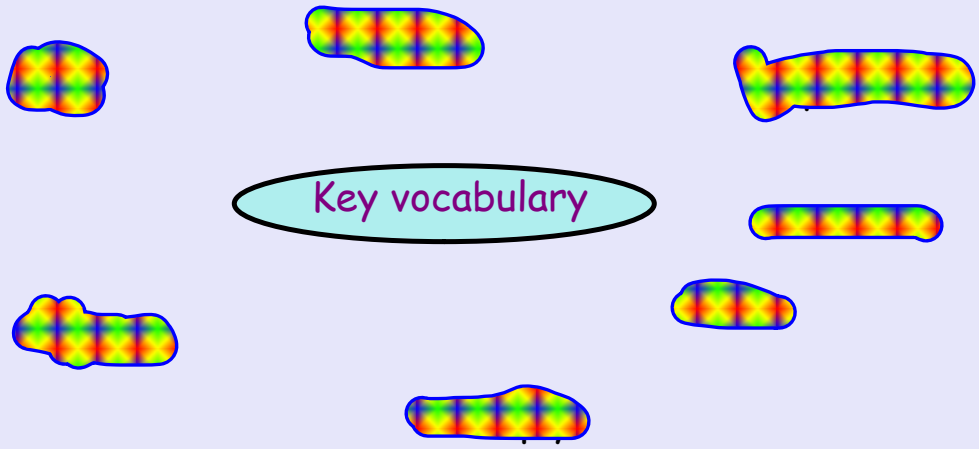
Q3 Jon makes a sequence of numbers.

His rule is to add the **same amount** each time.

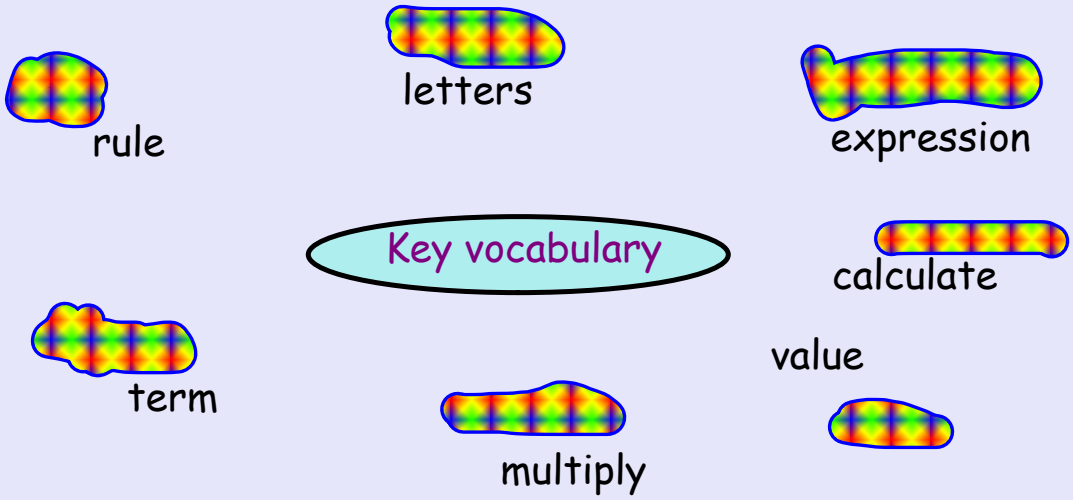
Write in the missing numbers.

–1				19

LO:I can solve number problems that involve algebra.



LO:I can solve number problems that involve algebra.



LO:I can solve number problems that involve algebra.

Finding pairs of numbers

1) Find three different possible pairs of whole number values for a and b in these equations:

$a - b = 6$

$cd = 16$

$50 - ef = 14$

LO:I can solve number problems that involve algebra.

Finding pairs of numbers

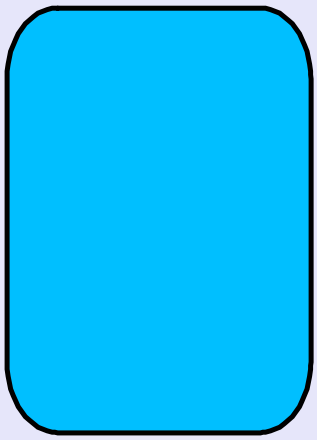
1) Find three different possible pairs of whole number values for *a* and *b* in these equations:

$a - b = 6$	$a = 10, b = 4$	$a = 9, b = 3$	$a = 8, b = 2$	
$cd = 16$	$c = 1, d = 16$	$c = 2, d = 8$	$c = 4, d = 4$	
$50 - ef = 14$	$e = 1, f = 36$	$e = 2, f = 18$	$e = 4, f = 9$	$e = 6, f = 6$

LO:I can solve number problems that involve algebra.

$i = j + 16, i + j = 24$

$k \div l = 3, kl = 48$



LO:I can solve number problems that involve algebra.

$i = j + 16, i + j = 24$	$i = 20, j = 4$
$k \div l = 3, kl = 48$	$k = 12, l = 4$

LO:I can solve number problems that involve algebra.

Mild

For each question, write 3 possible combinations of variables:

1. a + b = 14	7. a – b = 12	13. ab = 12	19. a÷b = 3
2. a + b = 21	8. b – a = 5	14. ab = 20	20. b÷a = 9
3. a + b = 26	9. a – b = 23	15. ab = 30	21. a÷b = 14
4. a = b + 7	10. a – 13 = b	16. a = 2b	22. a÷2 = b
5. a = b + 12	11. a = b – 6	17. b = 3a	23. b÷3 = a
6. b = 15 + a	12. b = 27 – a	18. 2a = 3b	24. 4÷b = a

Spicy

For each question, write 3 possible combinations of variables:

1. 3a – b = 12	7. 2a – b = 10	13. 2ab = 24	19. 2a÷b = 4
2. 6a + b = 25	8. 3a – b = 17	14. 5ab = 100	20. 4a÷3b = 10
3. 12a + 2b = 48	9. 7a – 2b = 14	15. 7ab = 105	21. 10b÷5a = 2
4. 8a = b + 17	10. a = 3b – 7	16. a = 5b	22. 2a÷15 = b
5. 4a = 5b + 23	11. 3a = 4b -3	17. 3a = 8b	23. 12a÷4 = b
6. 6a + 16 = 4b	12. 7a – 18 = 5b	18. 10a = 7b	24. 8a÷3 = 4b÷11

Complete at least 1-12, you can do more if you like.

LO:I can solve number problems that involve algebra.

Hot

1-8 of spicy, then copy and explain below. prove your answer with a calculation.

Which of the following statements do you agree with? Explain your decisions.

- There is a whole number that satisfies the symbol sentence $5 \times \square - 3 = 42$
- There is a whole number that satisfies the symbol sentence $5 + \square \times 3 = 42$
- There is a whole number that solves the equation $10 - x = 4x$
- There is a whole number that solves the equation $20 \div x = x$

LO:I can solve number problems that involve algebra.

a + b= 17

a=

b=

2a -b= 25

a=

b=

LO:I can solve number problems that involve algebra.

10 more than a number is 35. What is the number.

Can you write an algebraic expression for this?

35-10=25

n + 10 =35

22 less than a number is 15. What is the number?

LO:I can solve number problems that involve algebra.

10 more than a number is 35. What is the number.

Can you write an algebraic expression for this?

$n + 10 = 35$

25

22 less than a number is 15. What si the number?

$n - 22 = 15$

37

LO:I can solve number problems that involve algebra.

Mild

A)

1. Ten less than a number is 26. What is the number?

_____ n= _____

2. 16 is added to a number to make 35. What is the number?

_____ n= _____

3. Fifteen is subtracted from a number to make 26. What is the number?

_____ n= _____

4. Seventeen more than a number is 43. What is the number?

_____ n= _____

5. A number has thirteen added to it to make 42. What is the number?

_____ n= _____

B) 1.) $3b + 10 = 25$ so b=

2.) $4s - 2s = 12$ so s=

LO:I can solve number problems that involve algebra.

Spicy

1. Ten less than two times a number is 24. What is the number?

_____ _____

2. 15 is added to three times a number. What is the number?

_____ _____

3. Fifteen is subtracted from four times a number to make 29. What is the number?

_____ _____

4. Nineteen more than two times a number is 43. What is the number?

_____ _____

5. Five times a number has thirteen added to it to make 58. What is the number?

B) 1.) 4d + 2c= 28 so d= c=

2.) 5s - 2s + h= 22 so s= h=

LO:I can solve number problems that involve algebra.

Hot 1-3 of spicy, then questions below.

1. A tile shop sells tiles online. Tiles that cover a square metre cost £m. Delivery is charged at £d.
   The area to be covered is a.
   Using the variables m, d and a, express the cost of tiles to cover area a.
   8 square metres of wall needs to be covered. The cost of the tiles is £9 per square metre.
   Delivery is £5. Calculate the cost of the tiles. _____
   A tiler decides to compare the cost of tiles from different suppliers.
   He uses the following table to calculate the different costs.

Supplier	m	a	d	cost
1	£6.00	12	£9.00	
2	£7.00	12	£5.00	
3	£8.00	12	£6.00	
4	£6.50	12	£2.00	
5	£7.50	12	£3.00	

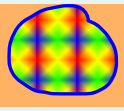
Which supplier is the cheapest?_____
If the tiler wants tiles to cover 15m2, does the cheapest supplier remain the same?

LO:I can solve number problems that involve algebra sequences.

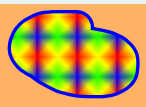
The formula **2n + 1** can be used to calculate the value of these terms in this sequence:

3 5 7 9 11 13

What is 2**n** + 1 when **n** = 13?



What is 2**n** + 1 when **n** = 50?



LO:I can solve number problems that involve algebra sequences.

The formula **2n + 1** can be used to calculate the value of these terms in this sequence:

3 5 7 9 11 13

What is 2**n** + 1 when **n** = 13?

27

What is 2**n** + 1 when **n** = 50?

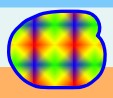
101

LO:I can solve number problems that involve algebra.

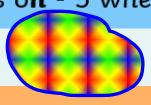
The formula **6n - 5** can be used to calculate the value of these terms in this sequence:

1 7 13 19 25 31

What is 6**n** - 5 when **n** = 15?



What is 6**n** - 5 when **n** = 90?



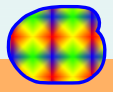
LO:I can solve number problems that involve algebra.

The formula **6n - 5** can be used to calculate the value of these terms in this sequence:

1 7 13 19 25 31

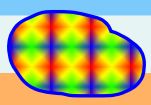
What is 6**n** - 5 when **n** = 15?

85



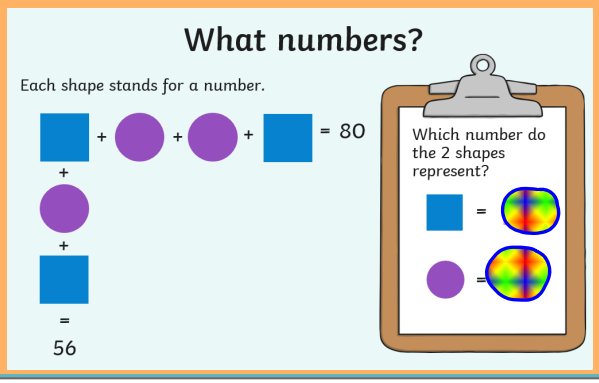
What is 6**n** - 5 when **n** = 90?

535



LO:I can solve number problems that involve algebra.

Mild/Spicy



Hot

Ramesh is exploring two sequence-generating rules.
Rule A is: 'Start at 2, and then add on 5, and another 5, and another 5, and so on.'
Rule B is: 'Write out the numbers that are in the five times table, and then subtract 2 from each number.'

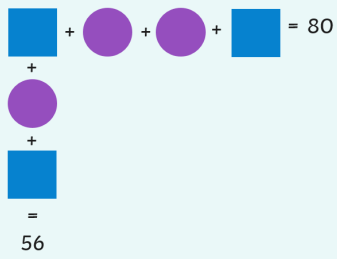
What's the same and what's different about the sequences generated by these two rules?

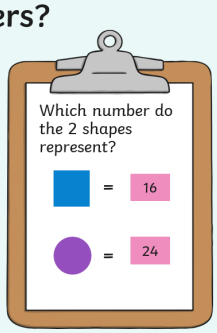
LO:I can solve number problems that involve algebra.

Mild/Spicy

What numbers?

Each shape stands for a number.





Hot

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Rule B is: 'Write out the numbers that are in the five times table, and then subtract 2 from each number.'

What's the same and what's different about the sequences generated by these two rules?

LO:I can solve number problems that involve algebra.

Here is a linear sequence:

2 7 12 17

The 1st term is:

The 4th term is:

The step is:

The 5th term will be:

The 10th term will be: