

Tuesday

L.O. Explore the order of operations.

What do you already know?

BODMAS or BIDMAS

Brackets, order, division, multiplication, addition, subtraction.

$$5 + 3 \times 2 =$$

$$5 + 3 \times 2 =$$

5 $15 - 3 \times 2$

6 $24 \div 4 + 2$

7 $60 - 20 \div 5$

8 $12 \times 3 + 7$

9 $97 - 8 \times 9 + 11$

10 $30 \div 6 + 4 \times 5$

11 $4 + 16 \div 2 + 15$

12 $10 \times 2 + 4 \times 3$

1 $(55 - 4) \times (5 + 5)$

2 $55 - 4 \times 5 + 5$

3 $(20 + 12) \div 4 - 1$

4 $20 + 12 \div 4 - 1$

Here is a repeating pattern of shapes. Each shape is numbered.



The pattern continues in the same way. Write the numbers of the next two stars in the pattern. Explain why shape 35 must be a circle.

If I add two consecutive triangular numbers they make a square number.
Is this statement **always true**, **sometimes true** or **never true**?

L.O. Generate and describe number sequences.

What is a formula?

A mathematical relationship or rule that links variables.

What formula do you know?

area of rectangles is

area of a square is

area of a triangle is

perimeter of rectangles is

perimeter of an equilateral triangle is

volume of cuboids is



L.O. Generate and describe number sequences.

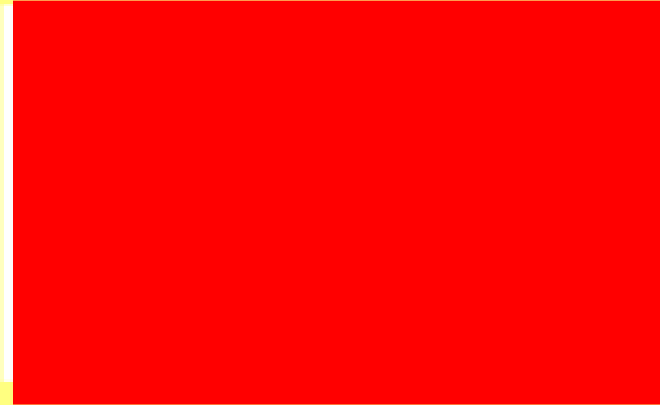
To find the rule that
links the numbers
study the gaps.

The rule is:

The n th term is:

1st 2nd 3rd 4th

1	3	5	7
3	0	-3	-6
$\frac{4}{9}$	$\frac{8}{9}$	$1\frac{3}{9}$	$1\frac{7}{9}$



Can you create your own sequence?

What is the rule for the n th term?

This video should really help you.

<https://www.youtube.com/watch?v=qnVVTBAfNu4>

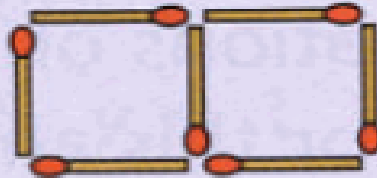
L.O. Generate and describe number sequences.

What do you notice about these patterns?

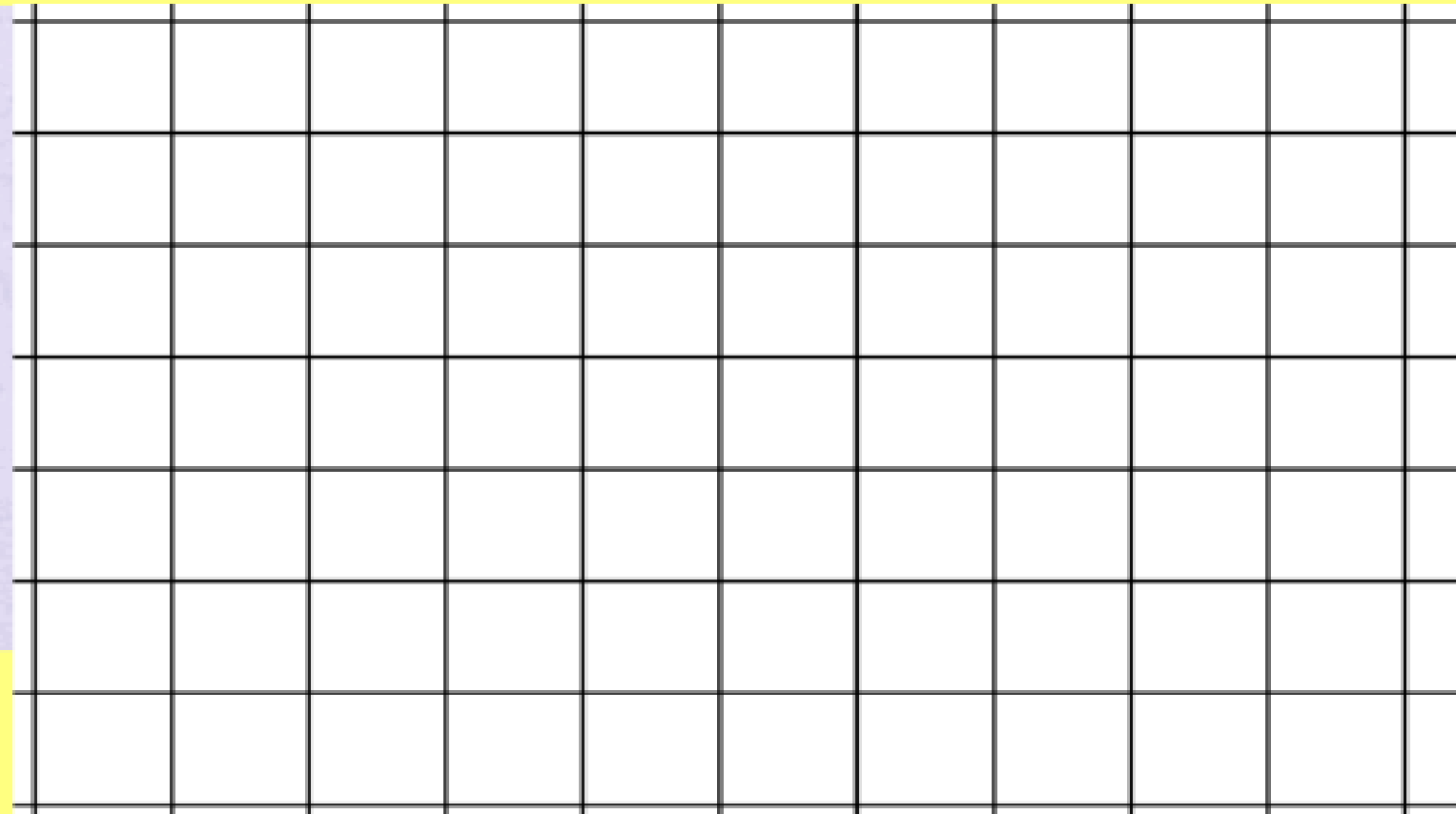
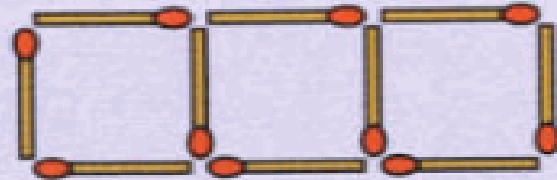
Pattern 1



Pattern 2



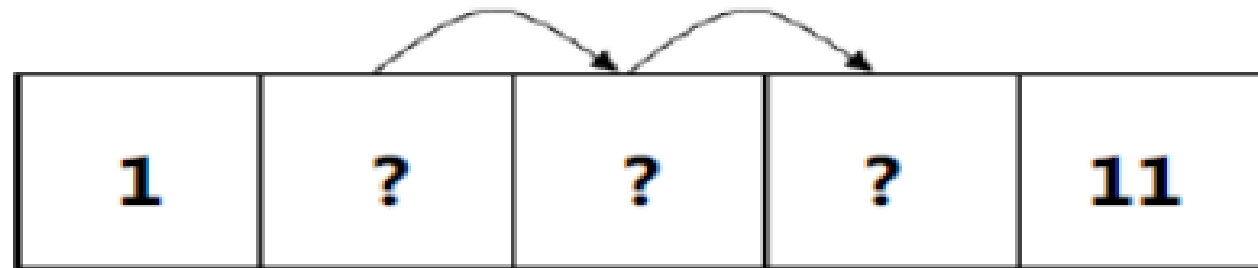
Pattern 3



What does pattern 4, 5 & 6 look like?

What is the formula for the n th term?

L.O. Generate and describe number sequences.



Three missing numbers but four steps
from the first to the last number.

L.O. Generate and describe number sequences.

a) , 7, 10, 13, 16, ,

b) 9.8, 9.1, 8.4, 7.7, ,

c) , 4, 8, 16, 32, ,

L.O. Generate and describe number sequences.

A

Pattern 1



Pattern 2



Pattern 3



- 1 Draw the next two diagrams in the above pattern.

- 2 Copy and complete the table.

Pattern	Matches
1	4
2	
3	
4	
5	

- 3 Copy and complete this sentence.

The rule for the number of matches is ____ times the pattern number.

- 4 How many matches would there be in:
- a) the 7th pattern
 - b) the 10th pattern
 - c) the 30th pattern
 - d) the 50th pattern?

B

Pattern 1



Pattern 2



Pattern 3



- 1 Draw the next two diagrams in the above pattern.

- 2 Copy and complete the table.

Pattern	Dots
1	5
2	
3	
4	
5	

- 3 Copy and complete.

The rule for the number of dots is ____ times the pattern number plus ____.

- 4 How many dots would there be in:

- a) the 10th pattern
- b) the 15th pattern
- c) the 43rd pattern?

- 5 Which pattern has:

- a) 23 dots
- b) 38 dots
- c) 56 dots?

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Tri & Pen A & B

Hex B & C

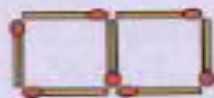
L.O. Generate and describe number sequences.

C

Pattern 1



Pattern 2



Pattern 3



- 1 How many matches would there be in:
- a) the 9th pattern
 - b) the 17th pattern
 - c) the 28th pattern?

- 2 Which pattern has
- a) 40 matches
 - b) 67 matches
 - c) 100 matches?

3

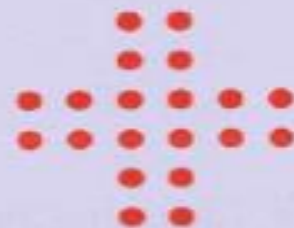
Pattern 1



Pattern 2



Pattern 3



Copy and complete.

The rule for the number of dots is ____ times the pattern number minus ____.

- 4 How many dots would there be in the 25th pattern?
- 5 Which pattern has:
- a) 60 dots
 - b) 92 dots?

ANSWERS

A

- 1 Pattern 4 16 matches, four in each side
Pattern 5 20 matches, five in each side

2

Pattern	Matches
1	4
2	8
3	12
4	16
5	20

- 3 ... is four times the number of patterns.
4 a) 28 b) 40 c) 120 d) 200

B

- 1 Pattern 4 14 dots
Pattern 5 17 dots

2

Pattern	Dots
1	5
2	8
3	11
4	14
5	17

- 3 ... is three times the number of the pattern plus two.
4 a) 32 5 a) 7th
b) 47 b) 12th
c) 131 c) 18th

C

- 1 a) 28 2 a) 13th
b) 52 b) 22nd
c) 85 c) 33rd

- 3 ... is eight times the number of patterns minus four.
4 196
5 a) 8th b) 12th