



If we were asked to find the 100th term in a sequence, we'd be here all day.

If we describe the sequence using algebra, we can quickly find any number in the sequence.

When we describe a sequence algebraically we call it the Nth term

Nth Term

Starter

State the rule for the following sequences

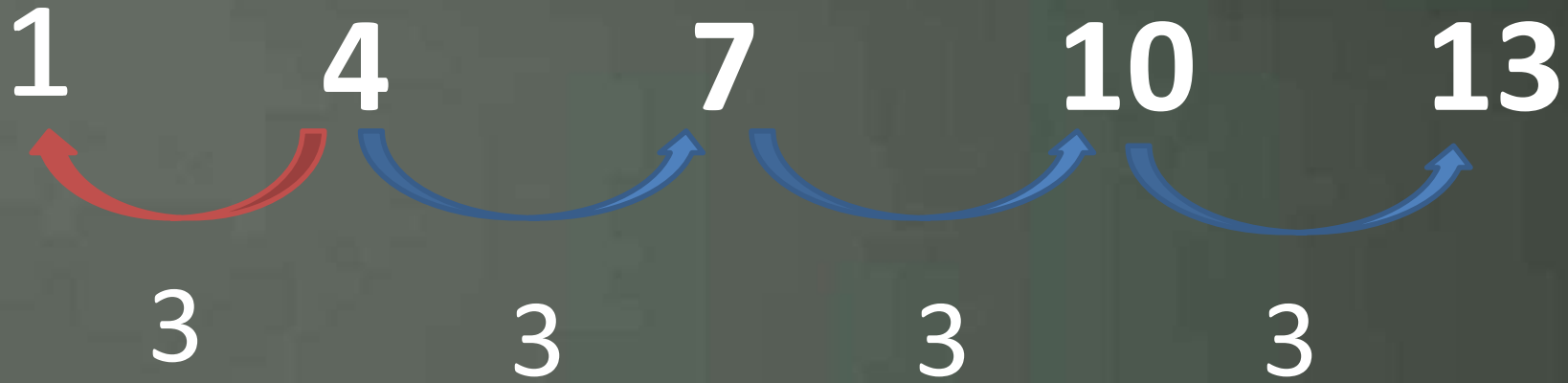
1. 16, 26, 36, 46, 56, ...
2. 8, 11, 14, 17, 20, ...
3. 9, 11, 13, 15, 17, ...
4. 0, 4, 8, 12, 16, ...
5. -1, 4, 9, 14, 19, ...

4 7 10 13

If we were asked to find the 100th term in this sequence, we'd be here all day.

If we describe the sequence using algebra, we can quickly find any number in the sequence.

When we describe a sequence algebraically we call it the Nth term



$$3n +$$

This is the nth term of the sequence

3

7

11

14

18



4

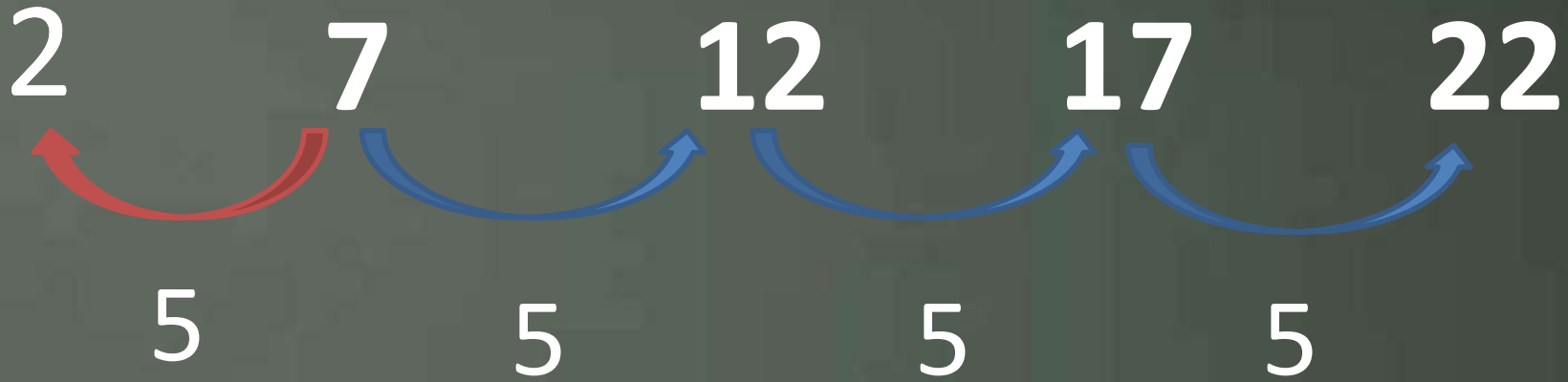
4

4

4

$$4n +$$

This is the nth term of the sequence



$$5n +$$

This is the nth term of the sequence



$$6n$$

This is the n th term of the sequence

Finding the Nth term

•1) Find the nth term of the following sequences:

a) 4	7	10	13	16
b) 2	7	12	17	22
c) 4	10	16	22	28
d) 13	24	35	46	57
e) 1	9	17	25	33
f) 3	5	7	9	11
g) 10	21	32	43	54

•Answers:

- a) $3n+1$
- b) $5n-3$
- c) $6n-2$
- d) $11n+2$
- e) $8n-7$
- f) $2n+1$
- g) $11n-1$

Using Nth term

- The rule of a sequence is $3n-2$
- Find the first 4 terms
 - $3 \times 1 - 2 = 1$
 - $3 \times 2 - 2 = 4$
 - $3 \times 3 - 2 = 7$
 - $3 \times 4 - 2 = 10$
- Find the 15th term
 - $3 \times 15 - 2$

Remember the n
tell you where you
are in the sequence
so if you see $n=100$,
it will be the 100th
number in the
sequence

How does this help us?

- If I know a sequence has a rule $3n$ how could I find the 100th term?
- If I know a sequence has a rule $5n - 3$ how could I find the 100th term?

What about when the sequence goes
down...

What is the n^{th} term of this sequence

2, 0, -2, -4, ...

0, -3, -6, -9, ...

To finish

- Someone has missed the lesson. You have to send them a text about what you learned in this lesson. Use 160 characters (a text message) to tell them what you learned today.