

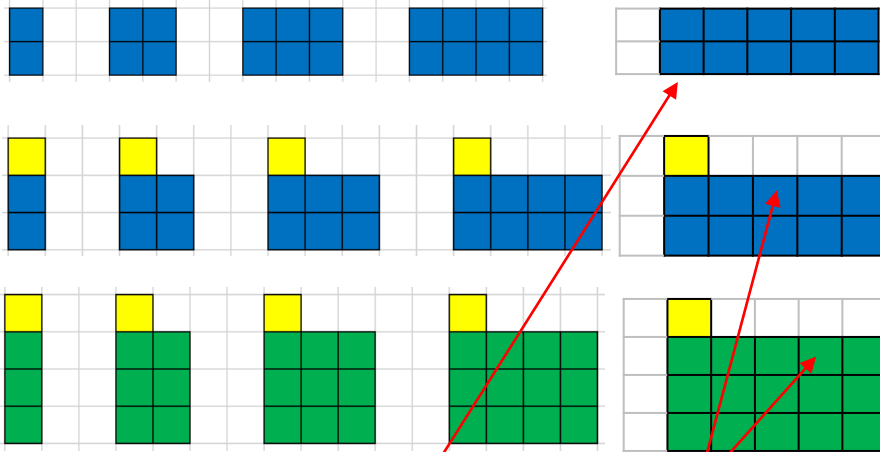
Summer Term Maths Year 10

Find the n th term of a linear sequence

Day 3

Week 12

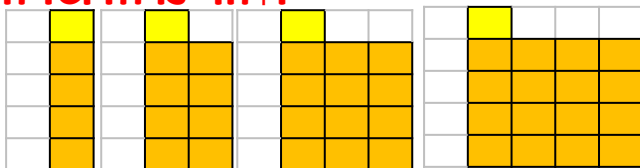
1 Here are 3 sequences.



- a) Draw the 5th term for each sequence.
- b) Match each sequence to its expression for the n th term.

$2n$ $3n+1$ $2n+1$

c) n th term is $4n+1$



2 Here is a sequence

7, 12, 17, 22, 27 ...

- a) What is the common difference between each term? **5**
- b) Which of the following is an expression for finding the n th term of the sequence?

$5n+7$ **$5n+2$** $n+5$ $5n+5$

Explain your answer. **Common difference is 5**

so therefore $5n$. First term, $n = 1$ and so $5 \times 1 + 2 = 7$

3 Here is a sequence: 24, 21, 18, 15, ...

Olu says the n th term is $3n + 27$ because the common difference is 3.

Why is Olu's expression not right?

As the common difference is **-3** and the expression should be **$-3n+27$ or $27-3n$**

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5 Here is a sequence.

11, 13, 15, 17, 19



The n th term of the sequence is $n + 2$

What mistake has Dexter made?

Why do you think he might have made this mistake? He should have $2n + 9$ and has used the common difference for the constant term

6 Find the n th term of each of the sequences.

a) 0, 2, 4, 6, ... $2n-2$

b) 4, 6, 8, 10, ... $2n+2$

c) 7, 9, 11, 13, ... $2n+5$

What do you notice? All have common a difference of 2

7 Find the n th term of each of the following sequences.

a) 11, 15, 19, 23, 27 $4n+7$

b) 5, 10, 15, 20, 25 $5n$

c) 1, 4, 7, 10, 13 $3n-2$

d) 9, 10, 11, 12, 13 $n+8$

e) -3, -1, 1, 3, 5 $2n-5$

f) 10, 7, 4, 1, -2 $13-3n$

g) 11, 9, 7, 5, 3 $13-2n$

h) 0.7, 1.5, 2.3, 3.1, 3.9 $0.8n-0.1$