

Arithmetic Sequence — n th Term

Core Worksheet

Worked Examples & Guided Practice

I Do (Teacher Model) Find an expression, in terms of n , for the n th term of the sequence 7, 11, 15, 19, 23, ...

We Do (Guided Practice) Find an expression, in terms of n , for the n th term of the sequence 3, 8, 13, 18, 23, ...

You Do (Independent Practice) Find an expression, in terms of n , for the n th term of the sequence 14, 11, 8, 5, 2, ...

Challenge (Extension) Here are the first four terms of an arithmetic sequence: 5, 11, 17, 23, ... Is 143 a term in this sequence? Show your working.

Practice Perfect Questions

Q1. Find the n th term of 4, 10, 16, 22, ...

Q2. Find the n th term of 9, 13, 17, 21, ...

Q3. Find the n th term of 20, 16, 12, 8, ...

Q4. The n th term of a sequence is $5n - 3$. Find the 20th term.

Q5. Is 87 a term in the sequence with n th term $4n + 3$? Explain your answer.

Q6. Find the first negative term in the sequence 52, 45, 38, 31, ...

Answers & Worked Solutions

Model Solutions

- **I Do:** $4n + 3$
- **We Do:** $5n - 2$
- **You Do:** $-3n + 17$ (or $17 - 3n$)
- **Challenge:** $6n - 1 = 143 \implies 6n = 144 \implies n = 24$ (Integer $\implies$ Yes, 24th term)

Practice Perfect Questions Solutions

Q1. $6n - 2$

Q2. $4n + 5$

Q3. $-4n + 24$

Q4. $5(20) - 3 = 97$

Q5. $4n + 3 = 87 \implies n = 21$. Yes, 21st term.

Q6. $-7n + 59 \implies n = 9 \implies -4$