

Exercise walk-through

3.1

Sequences

Pearson Edexcel · International GCSE · Mathematics A

Exercises 2.1·2.3

2.1 (Foundation) For $a=5, d=3$, find u_8 .

2.2 (Foundation) At what position does 62 occur in $u_n=3n+2$?

2.3 (Foundation) Find u_4 for $u_n=3n+2$.

Exercises 2.1·2.3

2.1 (Foundation) For $a=5, d=3$, find u_8 .

2.1 $u_8 = 5 + (8-1) \times 3 = 26$.

2.2 (Foundation) At what position does 62 occur in $u_n = 3n + 2$?

2.2 Solve $3n + 2 = 62$: $3n = 60$, hence $n = 20$.

2.3 (Foundation) Find u_4 for $u_n = 3n + 2$.

2.3 $u_4 = 3 \times 4 + 2 = 14$.

Exercises 2.4·3.1

2.4 (Higher) Find the sum of the first 8 terms with $a=5, d=3$.

2.5 (Higher) Find the sum of the first four arithmetic terms 3,7,11,15.

3.1 Decide whether this claim is true. Justify with a concrete calculation or counterexample: The first term of a sequence always has index zero.

Exercises 2.4·3.1

2.4 (Higher) Find the sum of the first 8 terms with $a=5, d=3$.

$$\mathbf{2.4} \ S_8 = 8[2 \times 5 + 7 \times 3] / 2 = 124.$$

2.5 (Higher) Find the sum of the first four arithmetic terms 3, 7, 11, 15.

$$\mathbf{2.5} \ S_4 = 4(3 + 15) / 2 = 36.$$

3.1 Decide whether this claim is true. Justify with a concrete calculation or counterexample: The first term of a sequence always has index zero.

3.1 False. The convention $a_1=5, a_2=8, a_3=11$ indexes its first term by one. An initial value a_0 is possible only when explicitly specified.

Local review guidance: show the chosen method; give the checked result; explain the condition or failed shortcut. This is authored classroom guidance.