

INTRODUCTION TO ALGEBRA

Form 1 Regular Course
Vol 1B

Part 7B – General Term (B)

1. (a) $2(3)^{n-1}$ or $\frac{2}{3}(3^n)$

(b) $1250\left(\frac{1}{5}\right)^{n-1}$ or $6250\left(\frac{1}{5}\right)^n$

(c) $\frac{8}{3}\left(\frac{1}{4}\right)^{n-1}$ or $\frac{32}{3}\left(\frac{1}{4}\right)^n$

2. (a) (i) General term = $6 + 4n$
(ii) 124th term = $6 + 4(124) = 502$

(iii) $6 + 4x = 66$

$4x = 66 - 6$

$4x = 60$

$x = 15$

(b) General term = $6 + 4n$

The height on the 48th day = $6 + 4(48) = 198 \text{ cm} < 2 \text{ m}$,

\therefore Incorrect.

3. (a) General term = $1 + 4n$

(b) 18th term = $1 + 4(18) = 73$

4. (a) General term = n^2

(b) 10th term = $10^2 = 100$

(c) General term = $n^2 - 4$

5. (a) General term = n^3

(b) General term = $n^3 + 1$

6. (a) General term = $\frac{1}{1+n}$

(b) 11th term = $\frac{1}{1+11} = \frac{1}{12}$

7. C

8. D

Note that the sequence is 1, 3, 5, 7, ...

$$\text{General term} = -1 + 2n$$

$$10\text{th term} = -1 + 2(10) = 19$$

9. C

Note that the sequence is a triangular number sequence with 1, 3, 6, 10, ...

$$\text{General term} = \frac{1}{2}n(n+1)$$

$$10\text{th term} = \frac{1}{2}(10)(10+1) = 55$$

10. B

Note that the sequence is 5, 9, 13, 17, ...

$$\text{General term} = 1 + 4n$$

$$9\text{th term} = 1 + 4(9) = 37$$

11. D

Note that the sequence is 1, 4, 9, ...

$$\text{General term} = n^2$$

$$10\text{th term} = 10^2 = 100$$