

FORM 2

CHAPTER 1

Summative Practice

Section A

1 Answer: C

2 2, 4, 8, 16, ...

$$\begin{array}{c} \text{---} \quad \text{---} \quad \text{---} \\ \times 2 \quad \times 2 \quad \times 2 \end{array}$$

Answer: B

3 $T_1 = 100$

$$T_2 = 100 - 8(1) = 92$$

$$T_3 = 100 - 8(2) = 84$$

$$\therefore T_n = 100 - 8(n-1)$$

$$T_6 = 100 - 8(5) = 60$$

Answer: B

4 $T_3 - T_1 = T_5 - T_3 = T_7 - T_5 = 12$

$$x = T_4 = 23 + \frac{12}{2}$$

$$= 23 + 6$$

$$= 29$$

Answer: C

5 Divide the previous term with 3.

$$\frac{27}{3} = 9$$

Answer: A

6 Multiply $\frac{3}{2}$ to the next term.

$$\frac{3}{2} \times \frac{81}{2} = \frac{243}{2} \text{ (not 81)}$$

Answer: D

7 $T_{16} = \frac{1}{2} \times 16 + 5$

$$= 8 + 5$$

$$= 13$$

Answer: A

8 $38 = \frac{1}{3}n^2 - 10$

$$n^2 = 3(38 + 10)$$

$$= 144$$

$$n = 12$$

Answer: C

9 $20 = 5\sqrt{(n+3)}$

$$n + 3 = 4^2$$

$$n = 16 - 3$$

$$= 13$$

Answer: A

10 Answer: B

Section B

1 (a) 4, 6, 8, 10

$$\begin{array}{c} \text{---} \quad \text{---} \quad \text{---} \\ +2 \quad +2 \quad +2 \end{array}$$

(i) $T_5 = 10 + 2 = 12$

$$T_6 = 12 + 2 = 14$$

$$\therefore T_6 = 14$$

(ii) $T_3 = 6 + 2 = 8$

$$T_4 = 8 + 2 = 10$$

$$T_5 = 10 + 2 = 12$$

$$\therefore T_n = 2(n+1)$$

(b) $T_n = n\left(\frac{n}{2} + 3\right)$

(i) $T_4 = 4\left(\frac{4}{2} + 3\right)$

$$T_4 = 4(5)$$

$$T_4 = 20$$

(ii) $T_8 = 8\left(\frac{8}{2} + 3\right)$

$$T_8 = 8(7)$$

$$T_8 = 56$$

2 1, 4, 7, 10, \dots , p , \dots , q

$$\begin{array}{c} \text{---} \quad \text{---} \quad \text{---} \quad \text{---} \quad \text{---} \quad \text{---} \quad \text{---} \\ +3 \quad +3 \quad +3 \quad +3 \quad +3 \quad +3 \quad +3 \end{array}$$

(a) $p = 10 + 6$

$$= 16$$

(b) $q = 16 + 9$

$$= 25$$

(c) $n = 1 \rightarrow 1 = 1 + 3(0)$

$$n = 2 \rightarrow 4 = 1 + 3(1)$$

$$n = 3 \rightarrow 7 = 1 + 3(2)$$

$$n = 4 \rightarrow 10 = 1 + 3(3)$$

$$\therefore T_n = 1 + 3(n-1) = 3n - 2$$

(d) $T_{37} = 1 + 3(36)$

$$= 1 + 108$$

$$= 109$$

Section C

1 (a) (i) $T_n = 4n - 7$

$$T_{25} = 4 \times 25 - 7$$

$$= 100 - 7$$

$$= 93$$

(ii) $69 = 4n - 7$

$$4n = 69 + 7$$

$$= 76$$

$$n = \frac{76}{4}$$

$$= 19$$

(b) 200, 185, 170, 155, ...

$$\begin{array}{c} \text{---} \quad \text{---} \quad \text{---} \\ -15 \quad -15 \quad -15 \end{array}$$

(i) $p = 185, q = 170$

(ii) $n = 1 \rightarrow 200 = 200 - 15(0)$

$$n = 2 \rightarrow 185 = 200 - 15(1)$$

$$n = 3 \rightarrow 170 = 200 - 15(2)$$

$$\therefore T_n = 200 - 15(n-1)$$

(iii) $T_8 = 200 - 15(8-1)$

$$= 200 - 105$$

$$= 95$$