Go down the ladder, then come back up. Extend the constant row by one, add it to the last difference, then add that to the last term.

1 Write the next two terms of $1,\ 3,\ 6,\ 10,\ \ldots$

(2)

(2 marks)

2 Write the next two terms of $3,\ 12,\ 27,\ 48,\ \ldots$

(2)

(2 marks)

3 Write the next two terms of $2,\ 5,\ 10,\ 17,\ \ldots$

(2)

(2 marks)

4 Write the next two terms of $-2,\ -6,\ -10,\ -14,\ \ldots$

(2)

(2 marks)

5 Write the next two terms of $7,\ 10,\ 15,\ 22,\ \ldots$

(2)

(2 marks)

6 Write the next two terms of $10,\ 9,\ 6,\ 1,\ \ldots$

(2)

(2 marks)

7 The first term of a sequence is 2. The term-to-term rule is **"square the term, then subtract 1"**.

(a) Write the first four terms (2)

(b) Is this sequence quadratic? Give a reason. (2)

(4 marks)

8 The first term of a sequence is 6561. The term-to-term rule is **"find the square root"**.

(a) Write the first four terms (2)

(b) Write down the fifth term, correct to 2 decimal places (1)

(3 marks)

9 A quadratic sequence begins $2,\ ____,\ 10,\ 17,\ 26$.

(a) Find the missing term (1)

(b) Explain how you found it (2)

(3 marks)