A reason is part of the answer. Say which row of differences became constant, and write it down.

1 Is $1,\ 2,\ 4,\ 8$ linear, quadratic or neither? Give a reason.

(2)

(2 marks)

2 Is $-5,\ -1,\ 3,\ 7$ linear, quadratic or neither? Give a reason.

(2)

(2 marks)

3 Is $0,\ 3,\ 8,\ 15$ linear, quadratic or neither? Give a reason.

(2)

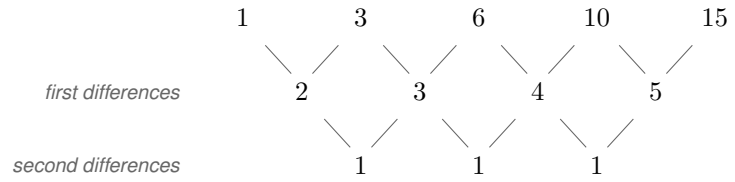
(2 marks)

4 Is $1,\ 4,\ 10,\ 22$ linear, quadratic or neither? Give a reason.

(2)

(2 marks)

5 These are the triangular numbers.

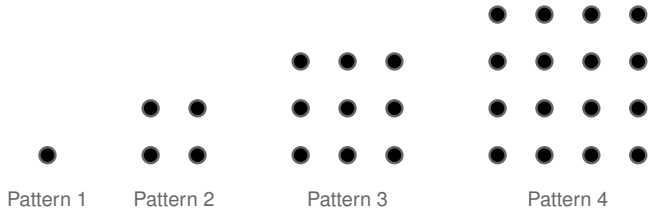


(a) Show that the sequence is quadratic (2)

(b) Write the next two terms (1)

(3 marks)

6 Each pattern is made of dots.



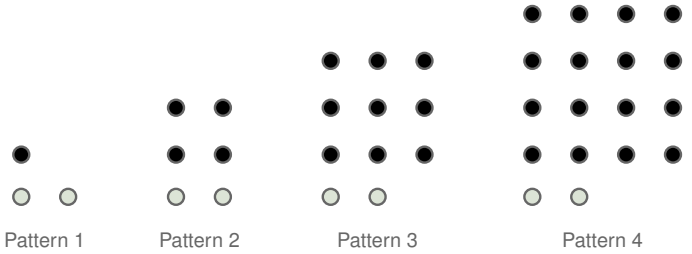
(a) Write down the number of dots in each of the four patterns (1)

(b) Is the sequence linear or quadratic? Give a reason (2)

(c) How many dots are in pattern 5? (1)

(4 marks)

7 Each pattern is a square of dots with two extra dots underneath it.



(a) Write down the number of dots in each of the four patterns (1)

(b) Show that the sequence is quadratic (2)

(c) How many dots are in pattern 6? (1)

(4 marks)