

NEW ZEALAND MATHEMATICS 7
CHAPTER 11, TEST A

- 1 Write down the first five numbers in the pattern described by
- a starting at 5 and increasing by 9 each time
 - b starting at 100 and decreasing by 9 each time. [2 marks]

2 Describe in words the pattern rule for the sequence 2, 13, 24, 35, 46, [1 mark]

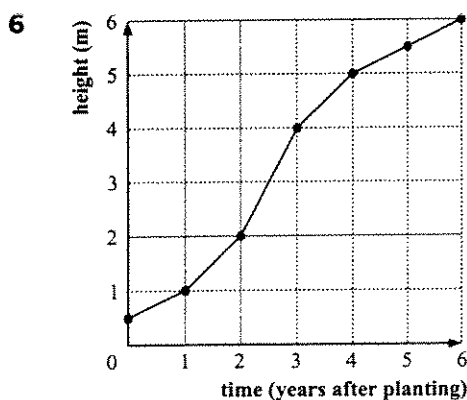
3 a Look at the pattern and draw the next two diagrams in the pattern:



- b List the number of dots in each pattern for the first 5 members.
- c Construct a table with headings *Diagram number* and *Number of dots*.
- d Predict the number of dots in the
 - i 10th
 - ii 15th pattern without drawing it. [5 marks]

- 4 a i Give in sentence form a rule to find the next member of
 $46 \rightarrow 37 \rightarrow 28 \rightarrow 19 \rightarrow \square$
- ii Find the next number.
- b i Find the rule in sentence form for 11, 19, 27, \square , 43
 ii Find the missing term. [4 marks]

- 5 “*The more you read the better you will read*”.
- Georgina wants to improve her reading. She reads for 20 minutes each day for a week. Each week she will increase her daily reading by 5 minutes.
- a Write Georgina’s daily reading times for the first 4 weeks.
 - b Write a rule to give Georgina’s daily reading time for any week.
 Use R to represent the reading time and w to represent the number of weeks.
 - c How many weeks from the start of Georgina’s reading program will it take her to reach 1 hour of reading per day? [3 marks]



- The graph alongside shows the height of a tree in the first few years after it was planted.
- a Find the height of the tree after 4 years.
 - b How high was the tree when it was planted?
- [2 marks]

- 7 Liquid is being filled into litre containers. The liquid weighs 1 kilogram and the container weighs 150 gm. Find the total weight of
- a 5 filled containers
 - b 105 filled containers. [3 marks]

Total: 20 marks