Number Patterns: Linear Sequences (Grade 10)

WORKSHEET

Name: ..... Class: .....

Date: .....

MARK ____ / 24

Answer all questions. Show all your working — marks are awarded for method as well as the final answer.

1 Write down the constant difference of $5 ; 8 ; 11 ; 14 ; \ldots$ **(1)**

2 Determine the general term T_n of $5 ; 8 ; 11 ; 14 ; \ldots$ **(3)**

3 Calculate T_{50} for the sequence $5 ; 8 ; 11 ; \ldots$ **(2)**

4 Which term of $5 ; 8 ; 11 ; \ldots$ is equal to 47? **(2)**

5 Is 100 a term of the sequence 5 ; 8 ; 11 ; ...? Justify. (3)

6 Determine the general term of 7 ; 11 ; 15 ; 19 ; ... (2)

7 Determine the general term of 20 ; 17 ; 14 ; 11 ; ... (2)

8 Explain why a linear sequence plots as a straight line. (2)

9 Which is the first term of 5 ; 8 ; 11 ; ... that is greater than 200? (3)

10 Square tables are placed in a row, with chairs around them: 1 table seats 4, 2 tables seat 6 and 3 tables seat 8. How many tables are needed to seat 60 people? **(4)**

TOTAL: 24 marks

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