EXAM-STYLE CLASS TEST

MARKS	DURATION	QUESTIONS
31	50 minutes	3

Name: _____ Class: _____

Date: _____

MARK ____ / 31

INSTRUCTIONS AND INFORMATION

1. Answer **ALL** the questions in this question paper.
2. Answer QUESTION 1 by **circling** the letter (A–D) in the answer grid at the end of that section.
3. Show **ALL** calculations clearly.
4. Show all units where applicable.
5. Number the answers correctly according to the numbering system used in this question paper.
6. A non-programmable calculator may be used, unless stated otherwise.
7. Write neatly and legibly.

QUESTION 1 [10 MARKS]

Four options are given as possible answers to the following questions. Choose the correct answer and circle the letter (A–D) in the grid at the end of this section. If you want to change your choice, put a cross through the wrong letter and circle your new choice.

1.1 The next term of the pattern 4 ; 7 ; 10 ; 13 ; ... is ... (1)

A) 26 **B)** 16
C) 15 **D)** 17

1.2 The pattern 2 ; 6 ; 18 ; 54 ; ... is ... (1)

A) neither linear nor geometric **B)** geometric, multiplying by 3 each time
C) linear, adding 12 each time **D)** linear, adding 4 each time

1.3 Which pattern has a constant DIFFERENCE? (1)

A) 2 ; 6 ; 12 ; 20 **B)** 1 ; 2 ; 4 ; 8
C) 1 ; 4 ; 9 ; 16 **D)** 3 ; 8 ; 13 ; 18

1.4 The 6th term of the pattern 5 ; 9 ; 13 ; ... is ... (1)

A) 29 **B)** 17
C) 25 **D)** 21

1.5 A pattern starts at 100 and each term is HALF the one before. The 4th term is ... (1)

A) 25 **B)** 6,25
C) 50 **D)** 12,5

1.6 In the pattern 1 ; 4 ; 9 ; 16 ; ... each term is ... (1)

A) the position number SQUARED **B)** double the one before
C) the position number times 3 **D)** 3 more than the one before

1.7 A tile pattern goes 4 ; 7 ; 10 ; ... How many tiles are in the 10th pattern? (1)

A) 34 **B)** 31

C) 40 **D)** 30

1.8 Which one of the following patterns is DECREASING? (1)

A) 3 ; 6 ; 9 ; 12 **B)** 5 ; 5 ; 5 ; 5

C) 20 ; 16 ; 12 ; 8 **D)** 1 ; 2 ; 4 ; 8

1.9 The missing number in 2 ; 5 ; 10 ; ___ ; 26 is ... (1)

A) 17 **B)** 25

C) 15 **D)** 20

1.10 A pattern is geometric when consecutive terms have a constant ... (1)

A) sum **B)** difference

C) product **D)** ratio

ANSWER GRID — CIRCLE YOUR ANSWERS FOR QUESTION 1

1.1	A	B	C	D
1.2	A	B	C	D
1.3	A	B	C	D
1.4	A	B	C	D
1.5	A	B	C	D
1.6	A	B	C	D
1.7	A	B	C	D
1.8	A	B	C	D
1.9	A	B	C	D
1.10	A	B	C	D

QUESTION 2 [9 MARKS]

Write down the NEXT THREE terms of each pattern, and state the rule you used.

2.1 6; 11; 16; 21; ... (3)

2.2 45; 38; 31; 24; ... **(3)**

2.3 3; 9; 27; 81; ... **(3)**

QUESTION 3 [12 MARKS]

Study the pattern of tiles below and answer the questions that follow.



Term 1
4 tiles

Term 2
7 tiles

Term 3
10 tiles

3.1 Write down the number of tiles in the 4th AND the 5th pattern. **(3)**

3.2 Determine the number of tiles in the 8th pattern, and explain how you found it without drawing every pattern in between. **(3)**

3.3 Describe the pattern in your own words, and state how many tiles must be ADDED to the 8th pattern to build the 12th. **(3)**

3.4 Is this pattern linear or geometric? Give a reason for your answer, and write down the first THREE terms of a geometric pattern that also starts at 4. **(3)**

TOTAL: 31 marks

This question paper consists of 3 questions.

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