EXAM-STYLE CLASS TEST

MARKS	DURATION	QUESTIONS
36	55 minutes	4

Name: _____ Class: _____

Date: _____

MARK ____ / 36

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 In 5^3, the number 3 is called the ... (1)

A) coefficient **B)** product
C) base **D)** exponent

1.2 $5^3 = \ldots$ (1)

A) 53 **B)** 15
C) 125 **D)** 8

1.3 $2 \times 2 \times 2 \times 5 \times 5$ written in exponential form is ... (1)

A) $2^3 \times 5^2$ **B)** 10^5
C) 6×10 **D)** $2^2 \times 5^3$

1.4 $\sqrt{81} = \ldots$ (1)

A) 9 **B)** 40,5
C) 8 **D)** 6 561

1.5 Which one of the following numbers is a perfect square AND a perfect cube? (1)

A) 16 **B)** 64
C) 36 **D)** 81

1.6 $\sqrt[3]{64} = \ldots$ (1)

A) 4 **B)** 21,3
C) 16 **D)** 8

1.7 Written in scientific notation, $125\,000$ is ... (1)

A) $12{,}5 \times 10^4$ **B)** $1{,}25 \times 10^5$

C) 125×10^3 **D)** $1{,}25 \times 10^4$

1.8 $3^2 + 4^2 = \ldots$ (1)

A) 7^2 **B)** 14

C) 49 **D)** 25

1.9 A square has an area of 144 cm^2. Its PERIMETER is ... (1)

A) 576 cm **B)** 12 cm

C) 48 cm **D)** 36 cm

1.10 Which one of the following is the LARGEST? (1)

A) 4^2 **B)** 5^2

C) 2^5 **D)** 3^3

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]

Calculate the following WITHOUT using a calculator. Show all your working.

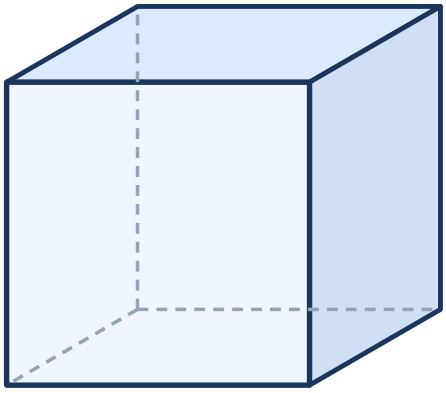
2.1 $\sqrt{81} + \sqrt[3]{125}$ (3)

2.2 $5^2 - 3^3 + \sqrt{49}$ **(3)**

2.3 Between which two consecutive whole numbers does $\sqrt{50}$ lie? Give a reason for your answer. **(3)**

QUESTION 3 [9 MARKS]

The diagram below shows a cube. The volume of the cube is 125 cm^3.



3.1 Determine the length of one edge of the cube. **(3)**

3.2 Hence calculate the total surface area of the cube. **(3)**

3.3 A square tile has an area of 144 cm^2. Calculate the perimeter of the tile. **(3)**

QUESTION 4 [8 MARKS]

Answer the following.

4.1 Write $2 \times 2 \times 2 \times 5 \times 5$ in exponential form. **(2)**

4.2 Hence calculate the value of the expression in the previous question. **(2)**

4.3 Only ONE of the numbers 16 ; 36 ; 64 ; 81 is both a perfect square AND a perfect cube. Write down that number and justify your answer. **(4)**

TOTAL: 36 marks

This question paper consists of 4 questions.

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