EXAM-STYLE CLASS TEST

MARKS	DURATION	QUESTIONS
40	1 hour	4

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

Date: .....

MARK ____ / 40

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 volume of a rectangular prism 6 cm by 4 cm by 5 cm is ... (1)

A) 30 cm^3 **B)** 148 cm^3
C) 15 cm^3 **D)** 120 cm^3

1.2 The surface area of that same prism is ... (1)

A) 120 cm^2 **B)** 74 cm^2
C) 148 cm^2 **D)** 15 cm^2

1.3 A cube has sides of 4 cm. Its volume is ... (1)

A) 64 cm^3 **B)** 96 cm^3
C) 16 cm^3 **D)** 12 cm^3

1.4 The surface area of that cube is ... (1)

A) 16 cm^2 **B)** 64 cm^2
C) 24 cm^2 **D)** 96 cm^2

1.5 The volume of ANY prism is ... (1)

A) area of the cross-section × length **B)** length × breadth × height, always
C) perimeter × length **D)** half the base × height

1.6 A triangular prism has a cross-section of area 20 cm^2 and a length of 12 cm. Its volume is ... (1)

A) 480 cm^3 **B)** 32 cm^3
C) 240 cm^3 **D)** 120 cm^3

1.7 Volume is measured in cm^3 but surface area in cm^2 because ... (1)

A) area is always smaller
B) volume is bigger
C) the units are interchangeable
D) volume fills THREE dimensions and area covers two

1.8 $1\ cm^3$ is the same as ... (1)

A) 1 mℓ
B) 1 ℓ
C) 10 mℓ
D) $1\ 000$ ℓ

1.9 A box holds $2\ 000\ cm^3$. In litres that is ... (1)

A) 20 ℓ
B) 2 ℓ
C) 200 ℓ
D) $0{,}2$ ℓ

1.10 If ALL the dimensions of a box are doubled, its volume is multiplied by ... (1)

A) 4
B) 8
C) 6
D) 2

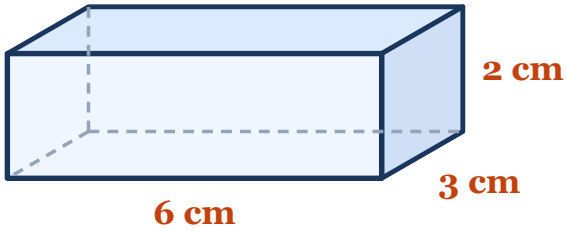
ANSWER GRID — CIRCLE YOUR ANSWERS FOR QUESTION 1

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

[10 MARKS]

The diagram below shows a rectangular prism (a box).



2.1 Write down the formula for the volume of a rectangular prism, and explain why its SURFACE AREA needs a different formula. **(3)**

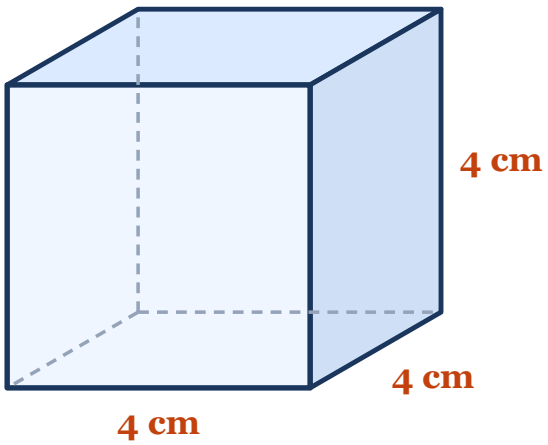
2.2 Calculate the volume of the box. **(3)**

2.3 A different box measures 5 cm by 4 cm by 2 cm. Calculate its surface area. **(4)**

QUESTION 3

[11 MARKS]

The diagram below shows a cube with sides of 4 cm.



3.1 Calculate the volume of the cube. **(3)**

3.2 Calculate the surface area of the cube. **(3)**

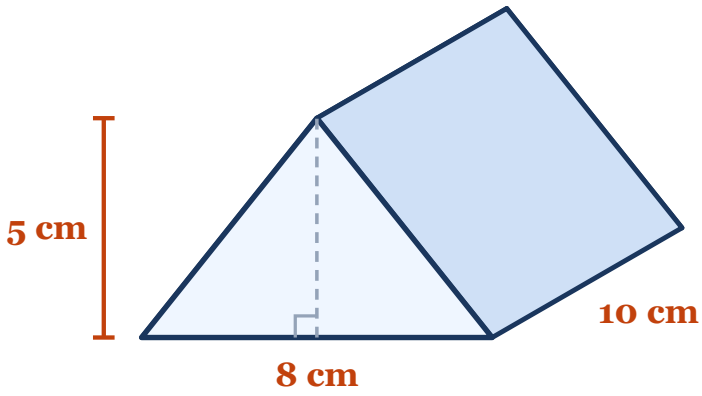
3.3 The cube is filled with water. Determine the capacity of the cube in millilitres. **(3)**

3.4 Explain why volume is measured in cm^3 but surface area in cm^2. **(2)**

QUESTION 4

[9 MARKS]

The diagram below shows a triangular prism.



4.1 Calculate the area of the triangular cross-section, and state which of the two measurements you used is the perpendicular height. **(3)**

4.2 Hence calculate the volume of the prism. **(3)**

4.3 A different prism has a cross-sectional area of 15 cm^2 and a volume of 120 cm^3. Calculate its length, and state what happens to the volume if that length is doubled. **(3)**

TOTAL: 40 marks

This question paper consists of 4 questions.

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