EXAM-STYLE CLASS TEST

MARKS	DURATION	QUESTIONS
25	40 minutes	2

Name: _____ Class: _____

Date: _____

MARK ____ / 25

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 gradient of a line with an angle of inclination of $45°$ is ... (1)

A) $\sqrt{3}$ **B)** 0

C) 1 **D)** 45

1.2 A line has gradient $\sqrt{3}$. Its angle of inclination is ... (1)

A) $120°$ **B)** $30°$

C) $45°$ **D)** $60°$

1.3 A line has gradient -1. Its angle of inclination is ... (1)

A) $225°$ **B)** $45°$

C) $-45°$ **D)** $135°$

1.4 The line through $(2\ ;\ 3)$ with gradient 4 has equation ... (1)

A) $y = 4x + 5$ **B)** $y = 4x - 5$

C) $y = 4x + 3$ **D)** $y = 2x + 3$

1.5 The line through A$(1\ ;\ 2)$ and B$(5\ ;\ 10)$ has gradient ... (1)

A) 2 **B)** 8

C) $\frac{1}{2}$ **D)** 4

1.6 A line perpendicular to $y = 3x - 1$ has gradient ... (1)

A) -3 **B)** $\frac{1}{3}$

C) $\frac{-1}{3}$ **D)** 3

1.7 The midpoint of A$(-1\ ;\ 4)$ and B$(5\ ;\ -2)$ is ... (1)

A) $(2\ ;\ 1)$ **B)** $(4\ ;\ 2)$

C) $(6\ ;\ -6)$ **D)** $(3\ ;\ 3)$

1.8 Two lines are PARALLEL when their angles of inclination are ... (1)

A) differing by $90°$ **B)** complementary

C) supplementary **D)** equal

1.9 The angle of inclination of the line $2y = 6x + 4$ is ... (1)

A) $18{,}43°$ **B)** $71{,}57°$

C) $60°$ **D)** $80{,}54°$

1.10 The line joining $(0\ ;\ 0)$ and $(3\ ;\ 3)$ makes an angle with the x-axis of ... (1)

A) $60°$ **B)** $45°$

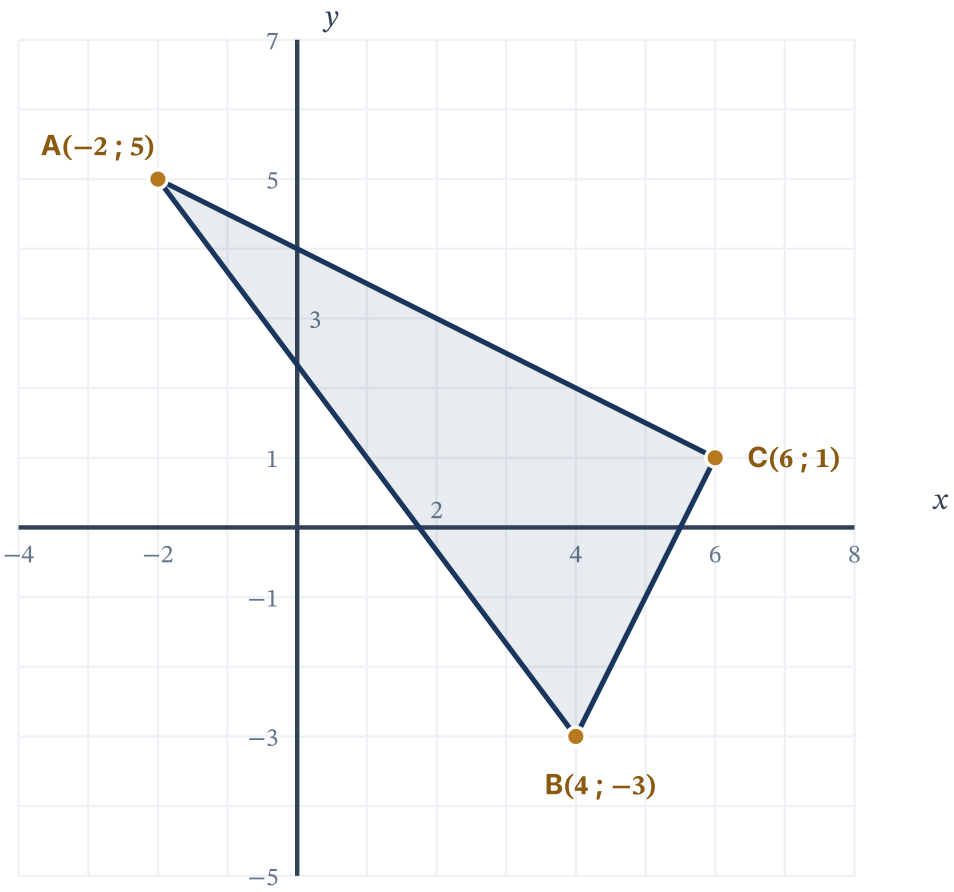
C) $30°$ **D)** $90°$

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 [15 MARKS]

In the diagram below, A$(-2\ ;\ 5)$, B$(4\ ;\ -3)$ and C$(6\ ;\ 1)$ are the vertices of $\triangle$ABC drawn in the Cartesian plane.



2.1 Calculate the length of AB. **(3)**

2.2 Calculate the gradient of AB, and hence the angle of inclination of AB, correct to TWO decimal places. **(5)**

2.3 Determine the equation of the line through C parallel to AB. **(4)**

2.4 Determine whether AB ⊥ BC. Show ALL your working. **(3)**

TOTAL: 25 marks

This question paper consists of 2 questions.

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