EXAM-STYLE CLASS TEST

MARKS	DURATION	QUESTIONS
33	50 minutes	3

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

Date: .....

MARK ____ / 33

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 distance between A$(1\ ;\ 2)$ and B$(4\ ;\ 6)$ is ... (1)

A) 2,65 **B)** 5

C) 25 **D)** 7

1.2 The midpoint of P$(-2\ ;\ 3)$ and Q$(6\ ;\ -1)$ is ... (1)

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

C) $(2\ ;\ 1)$ **D)** $(8\ ;\ -4)$

1.3 The gradient of the line through $(2\ ;\ 5)$ and $(6\ ;\ 13)$ is ... (1)

A) -2 **B)** $\frac{1}{2}$

C) 4 **D)** 2

1.4 If both gradients are defined, two lines are PERPENDICULAR when ... (1)

A) $m_1 \times m_2 = -1$ **B)** $m_1 + m_2 = 0$

C) $m_1 = m_2$ **D)** $m_1 \times m_2 = 1$

1.5 A line has gradient 3. A line perpendicular to it has gradient ... (1)

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

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

1.6 A$(1\ ;\ 2)$, B$(3\ ;\ 6)$ and C$(5\ ;\ 10)$ are collinear because ... (1)

A) they form a triangle
B) $m_{AB} = m_{BC} = 2$
C) AC is the longest of the three lengths
D) AB = BC

1.7 The line through $(0\ ;\ -3)$ with gradient 2 has equation ... (1)

A) $y = -3x + 2$
B) $y = 2x + 3$
C) $y = 2x - 3$
D) $y = 3x - 2$

1.8 P$(x\ ;\ 4)$ is 5 units from Q$(1\ ;\ 0)$. Then x = ... (1)

A) 3 or -3
B) 6 or -4
C) 4 only
D) 4 or -2

1.9 The distance from the origin to $(-6\ ;\ 8)$ is ... (1)

A) 14
B) 100
C) 2
D) 10

1.10 Line AB has gradient 4. A line PARALLEL to AB has gradient ... (1)

A) $\frac{-1}{4}$
B) 4
C) -4
D) $\frac{1}{4}$

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 [11 MARKS]

A$(2\ ;\ 10)$ and B$(6\ ;\ -2)$ are two points on the Cartesian plane.

2.1 Calculate the length of AB. Leave your answer in simplest surd form. (4)

2.2 Calculate the coordinates of M, the midpoint of AB. **(3)**

2.3 Calculate the gradient of AB, and hence write down the gradient of any line perpendicular to AB. **(4)**

QUESTION 3 [12 MARKS]

Answer the questions below.

3.1 Determine the equation of the line through A$(2\ ;\ 10)$ and B$(6\ ;\ -2)$ in the form $y = mx + c$. **(4)**

3.2 Determine whether the point C$(4\ ;\ 4)$ lies on the line AB. Show your working. **(3)**

3.3 Points P$(-8\ ;\ 0)$, Q$(-5\ ;\ -8)$ and R$(x\ ;\ -14)$ are collinear. Calculate the value of x. **(5)**

TOTAL: 33 marks

This question paper consists of 3 questions.

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