# EXAM-STYLE CLASS TEST

| MARKS | DURATION | QUESTIONS |
|---|---|---|
| 34 | 55 minutes | 3 |

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

Date: .....

MARK ____ / 34

## 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** For $y = 3x + 2$, the gradient is ... (1)

**A)** $2$ **B)** $3x$

**C)** $3$ **D)** $\frac{2}{3}$

**1.2** For $y = 4x - 7$, the $y$-intercept is ... (1)

**A)** $4$ **B)** $-7$

**C)** $7$ **D)** $1{,}75$

**1.3** The $x$-intercept of $y = 2x - 6$ is ... (1)

**A)** $6$ **B)** $3$

**C)** $-3$ **D)** $-6$

**1.4** A line with a gradient of $0$ is ... (1)

**A)** at $45°$ **B)** vertical

**C)** horizontal **D)** impossible

**1.5** The line through $(0\ ;\ -4)$ and $(2\ ;\ 0)$ has a gradient of ... (1)

**A)** $2$ **B)** $4$

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

**1.6** Which line is PARALLEL to $y = 3x + 1$? (1)

**A)** $y = \frac{1}{3}x$ **B)** $y = -3x + 1$

**C)** $y = x + 3$ **D)** $y = 3x - 5$

**1.7** A line rises from left to right. Its gradient is ... (1)

**A)** positive **B)** undefined

**C)** zero **D)** negative

**1.8** The graph of $y = -2x + 6$ cuts the $x$-axis at ... (1)

**A)** $(6\ ;\ 0)$ **B)** $(-3\ ;\ 0)$

**C)** $(0\ ;\ 6)$ **D)** $(3\ ;\ 0)$

**1.9** Which equation has a NEGATIVE gradient and a positive $y$-intercept? (1)

**A)** $y = 2x - 3$ **B)** $y = -2x + 3$

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

**1.10** The point $(2\ ;\ 7)$ lies on which one of the following lines? (1)

**A)** $y = x + 7$ **B)** $y = 7x + 2$

**C)** $y = 3x + 1$ **D)** $y = 2x + 7$

**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 [12 MARKS]

Answer the questions below on straight-line graphs of the form $y = mx + c$.

**2.1** For $y = 3x + 2$, write down the gradient and the $y$-intercept, and hence determine the value of $y$ when $x = 4$. (3)

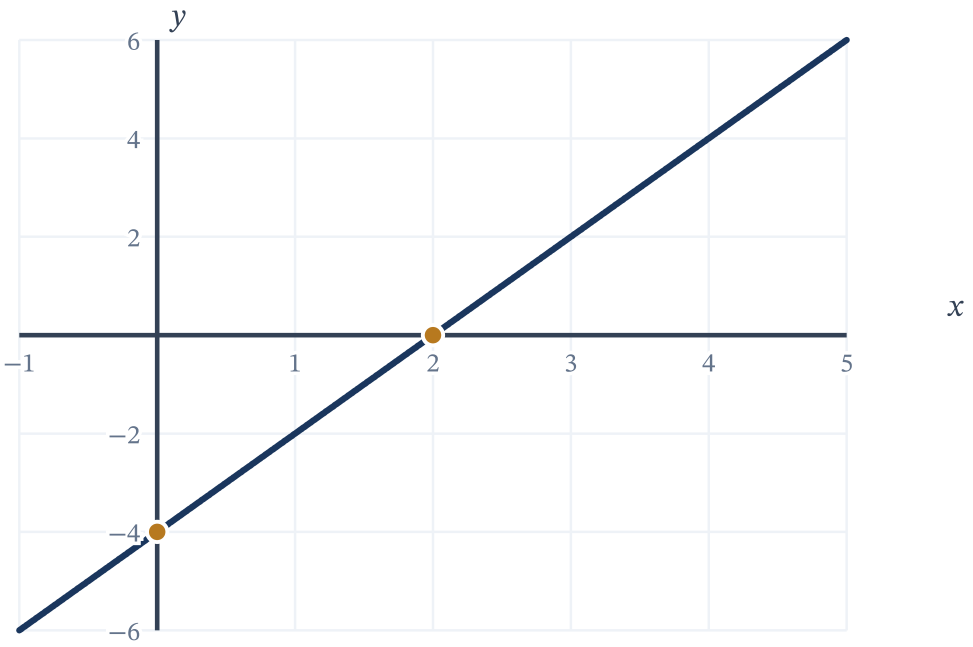
**2.2** Write down the $y$-intercept of $y = 4x - 7$, and determine its $x$-intercept. **(3)**

**2.3** Determine the $x$-intercept of $y = 2x - 6$. **(3)**

**2.4** Describe what the graph of a line with a gradient of $0$ looks like, and write down the equation of the horizontal line through $(0\ ;\ 5)$. **(3)**

**QUESTION 3** **[12 MARKS]**

The graph of a straight line is drawn below.




**3.1** Write down the coordinates of the $y$-intercept and of the $x$-intercept, and explain how each one is read from the graph. **(4)**

**3.2** Determine the gradient of the line. **(3)**

**3.3** Hence determine the equation of the line in the form $y = mx + c$. **(3)**

**3.4** State whether the gradient is positive or negative, and explain how the graph shows this. **(2)**

**TOTAL: 34 marks**

*This question paper consists of 3 questions.*

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