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 Solve for x: $3x - 5 > 7$ (1)

A) $x < 4$ **B)** $x > 2$

C) $x \geq 4$ **D)** $x > 4$

1.2 Solve for x: $-2x > 6$ (1)

A) $x > -3$ **B)** $x > 3$

C) $x < 3$ **D)** $x < -3$

1.3 Write $x \geq -2$ in interval notation. (1)

A) $[-2\,;\,\infty)$ **B)** $(-\infty\,;\,-2]$

C) $[-2\,;\,\infty]$ **D)** $(-2\,;\,\infty)$

1.4 Solve for x: $-1 \leq 2x - 1 < 5$ (1)

A) $0 < x \leq 3$ **B)** $0 \leq x < 3$

C) $-1 \leq x < 5$ **D)** $-2 \leq x < 4$

1.5 List the integers satisfying $-2 < x \leq 3$. (1)

A) $-1\,;\,0\,;\,1\,;\,2\,;\,3$ **B)** $-2\,;\,-1\,;\,0\,;\,1\,;\,2\,;\,3$

C) $-2\,;\,-1\,;\,0\,;\,1\,;\,2$ **D)** $-1\,;\,0\,;\,1\,;\,2$

1.6 Solve for x: $\frac{x}{3} + 1 < 4$ (1)

A) $x < 11$ **B)** $x < 3$

C) $x < 12$ **D)** $x < 9$

1.7 A taxi charges R12 plus R7 per kilometre. For the fare to stay UNDER R75, the trip must be ... (1)

A) more than 9 km **B)** less than 9 km

C) less than 10,71 km **D)** less than 63 km

1.8 Solve for x: $5 - x \geq 2$ (1)

A) $x \leq 3$ **B)** $x \geq -3$

C) $x \geq 3$ **D)** $x \leq 7$

1.9 The interval $(2\ ;\ 7]$ means ... (1)

A) $x > 2$ and $x < 7$ **B)** $x \geq 2$ and $x < 7$

C) $x > 2$ and $x \leq 7$ **D)** $x \geq 2$ and $x \leq 7$

1.10 Solve for x: $4(x - 1) \leq 2x + 6$ (1)

A) $x \geq 5$ **B)** $x \leq 3{,}5$

C) $x \leq 5$ **D)** $x \leq 10$

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]

Solve for x, where $x \in \mathbb{R}$. Show your answers on a number line and in interval notation where asked.

2.1 $-3 \leq \frac{2x-1}{3} < -1$ (5)

2.2 $-2x > 10$ (3)

2.3 $3 - 2x \geq 11$ (4)

QUESTION 3 [11 MARKS]

Answer the questions below.

3.1 Write $-2 \leq x < 7$ in interval notation, and describe what the two different bracket types mean. (3)

3.2 Write $(-\infty\ ;\ 3]$ as an inequality, and explain why ∞ never takes a square bracket. **(3)**

3.3 The perimeter of a rectangle with length $(x + 4)$ cm and breadth 3 cm is at most 26 cm. Determine the largest possible value of x. **(5)**

TOTAL: 33 marks

This question paper consists of 3 questions.

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