END TERM 3 2026

GRADE 10

CORE MATHEMATICS

TIME: 2 HOURS 30 MINUTES

Name: _____

Assessment Number: _____

Class / Stream: _____

Date: _____

INSTRUCTIONS TO CANDIDATES

- Answer ALL questions.
- This is a cumulative assessment of the Grade 10 Core Mathematics Curriculum Design.
- Show all working clearly. Full working is required for questions involving calculations.
- Use a calculator where appropriate.
- Give answers to a suitable degree of accuracy where necessary.
- Use π = 22/7 unless otherwise stated.

EXAMINER'S USE ONLY

Section	Questions	Maximum Score	Score
A	1–2	20	
B	3–8	60	
C	9–12	20	
TOTAL		100	

GRADE 10 END TERM 3 2026 SUMMATIVE ASSESSMENT

SECTION A: NUMBERS AND ALGEBRA

1. (a) Classify $\sqrt{49}$, $\sqrt{7}$, 0.125 and π as rational or irrational. **(4 marks)**

(b) Find the reciprocal of 5/8. **(2 marks)**

(c) Evaluate $2^3 \times 2^{-1} \div 2^2$. **(2 marks)**

(d) Find $\log_{10} 1000$. **(2 marks)**

2. (a) Factorise $x^2 - 9x + 20$. **(3 marks)**

(b) Solve $x^2 - 7x + 12 = 0$ by factorisation. **(4 marks)**

(c) A rectangle has area 48 m² and length 2 m more than its width. Form a quadratic equation and determine its dimensions. **(3 marks)**

SECTION B: MEASUREMENTS AND GEOMETRY

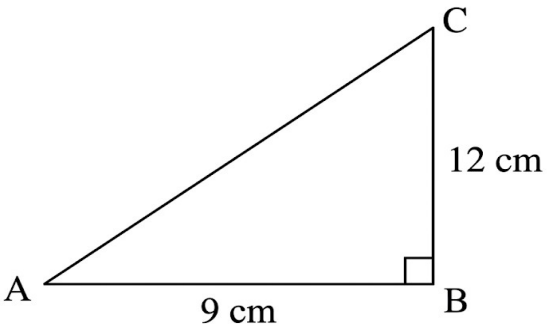
3. (a) Similar figures have corresponding lengths in the ratio 2:5. Find the ratio of their areas and volumes. **(4 marks)**

(b) Reflect A(3,2) in the y-axis and state A′. **(2 marks)**

(c) State the coordinate rule for a 90° anticlockwise rotation about the origin. **(2 marks)**

4. A vector is (6,8). (a) Find its magnitude. (b) If u=(2,−1) and v=(4,3), find u+v. (c) State the translation represented by (−3,5). **(6 marks)**

5. Study the figure below and answer questions that follow.



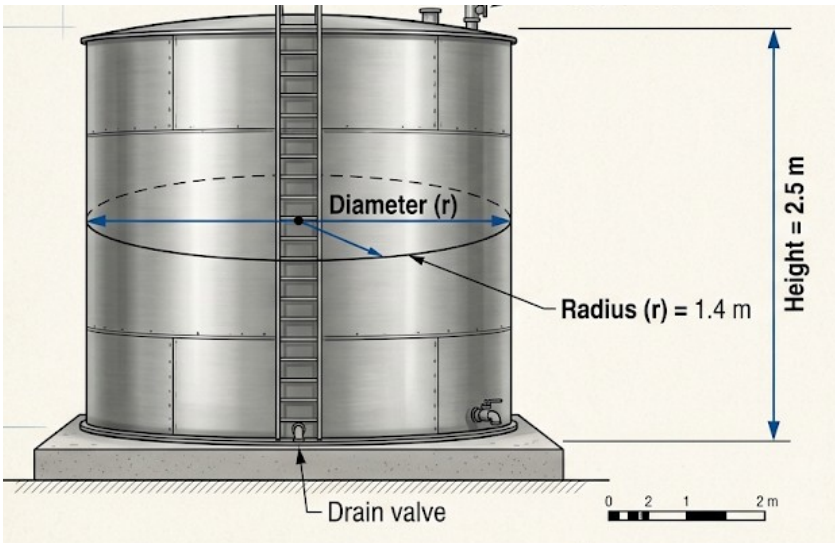
(a) Find the hypotenuse. **(2 marks)**

(b) For the angle opposite 9 cm, find sin θ, cos θ and tan θ. **(2 marks)**

(c) State exact values of sin30°, cos60° and tan45°. **(3 marks)**

6. (a) A triangle has sides 13 cm and 14 cm enclosing 30°. Find its area. (b) Find the area of a regular hexagon of side 8 cm. (c) A circle has radius 14 cm. Find the area of a 90° sector. **(8 marks)**

7. (a) Study the figure below. Find its volume. **(2 marks)**



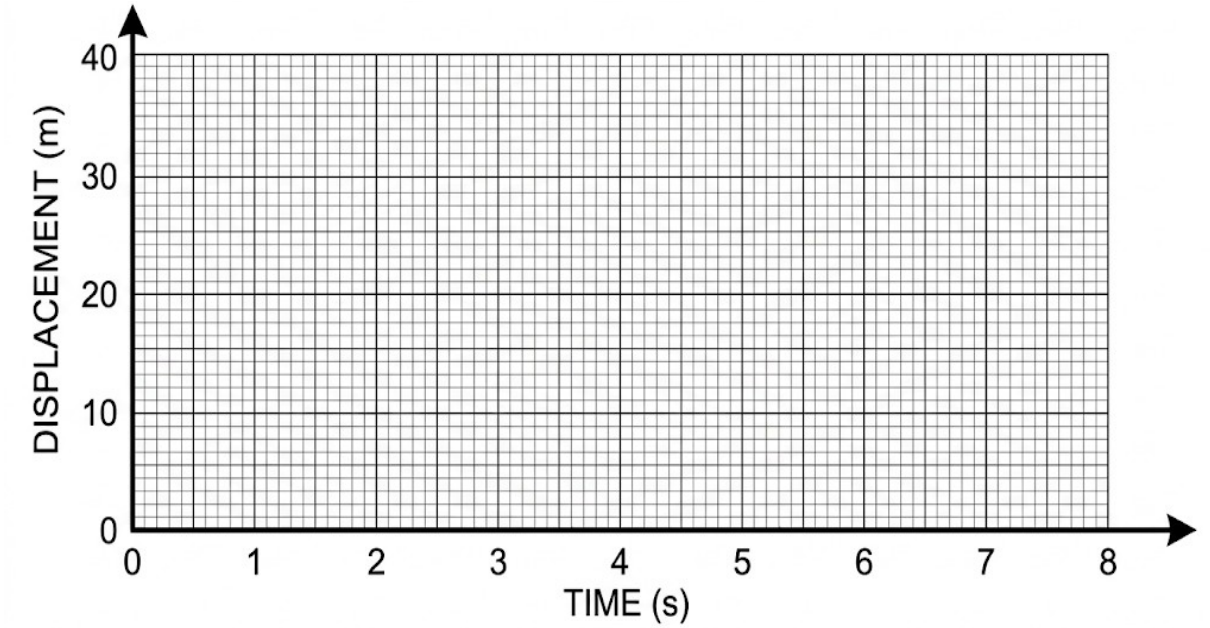
(b) A cuboid is 8 cm × 5 cm × 3 cm. Find its total surface area. **(2 marks)**

(c) State the information needed to calculate the volume of a frustum. **(3 marks)**

8. A car has the following displacement-time data. **(8 marks)**

Time (s)	**0**	**2**	**4**	**6**	**8**
Displacement (m)	0	10	20	30	40

(a) Plot a displacement-time graph.



(b) Determine the speed represented by the graph. **(2 marks)**

(c) A second car travels at 8 m/s in the same direction. Find the relative speed. **(3 marks)**

SECTION C: STATISTICS AND PROBABILITY

9. The numbers of books read by 12 learners are 2, 4, 3, 5, 2, 6, 4, 3, 2, 5, 4, 8. (a) Prepare a frequency table. (b) Find the mean, mode and median. **(8 marks)**

10. Test scores are grouped as follows. **(8 marks)**

Score	0–9	10–19	20–29	30–39	40–49
Frequency	3	7	12	6	2

(a) State the modal class. **(2 marks)**

(b) Find the total frequency. **(2 marks)**

(c) Explain two differences between a histogram and a frequency polygon. **(4 marks)**

11. A bag contains 4 red, 3 blue and 3 green balls. (a) Find P(red). (b) Find P(blue or green). (c) A fair die and fair coin are used. Find P(six and head). (d) State the range of probability. **(8 marks)**

12. Events W and B are independent, with P(W)=0.4 and P(B)=0.7. (a) Draw a probability tree. (b) Find P(W and B). (c) Find P(W and not B). (d) Explain why multiplication is appropriate. **(10 marks)**

END OF QUESTION PAPER