

NAME: _____ SCHOOL _____

THYOLO DISTRICT SECONDARY SCHOOLS EXAMINATIONS

2026 JUNIOR CERTIFICATE MOCK EXAMINATION

MATHEMATICS

Monday, 30 March

Subject Number: J0131
Time allowed: 2 hours
8:00 am – 10:00 am

(100 marks)

Instructions

1. This paper contains 12 pages. Please
2. Answer **all** the questions in this paper.
3. The maximum number of marks for each is indicated against each question.
4. Write your answers in the space provided each question.
5. Calculators may be used.
6. The blank answer sheet provided at the end of the question paper can be used if required.
7. All working must be clearly shown.
8. Write **your name** and name of your school on all pages of the question paper in the spaces provided.
9. In the table provided on this page, tick the question number you have answered.

Question Number	Tick if answered	Do not write in these columns		check.
1				
2				
3				
4				answer
5				
6				for
7				
8				
9				
10				of the
11				
12				
13				
14				on all
15				
16				
17				against
18				
19				
20				
Total				

Answer **all** the **twenty** questions



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1. a. Given that $a = 4$, $b = -2$ and $c = -3$, evaluate $\frac{ab-c}{b+c}$.

(3 marks)

b. Add 1232_4 to 2233_4 giving your answer in base 4.

(4 marks)

2. a. Simplify $(4m - 3n) - (m + 3n)$ to the lowest term.

(3 marks) b. Evaluate

$$\frac{p-3q}{5r} \div \frac{3p-9q}{10t}$$

(4 marks)



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3. a. Make m subject of the formula in $P = \frac{mv - mu}{t}$ (3 marks)

b. Simplify $(x^3)^5 \div x^6$ (3 marks)

4. Figure 1 shows a Venn diagram

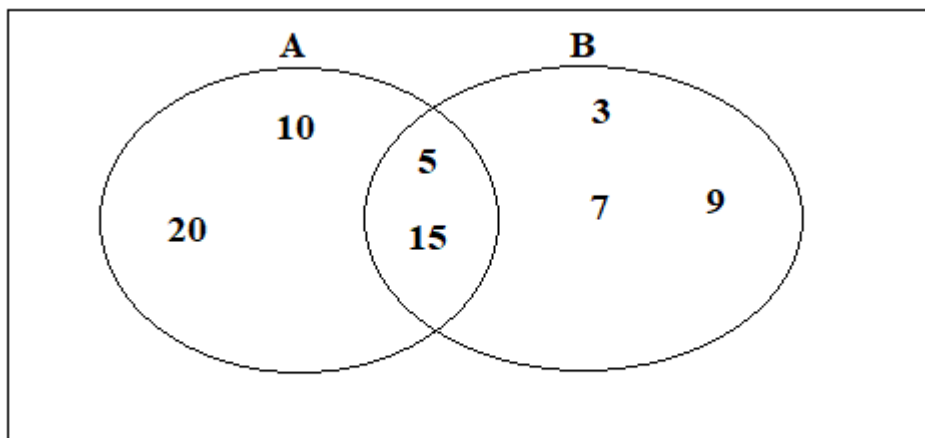


Figure 1

(i) Write a set representing $A \cup B$

(3 marks)

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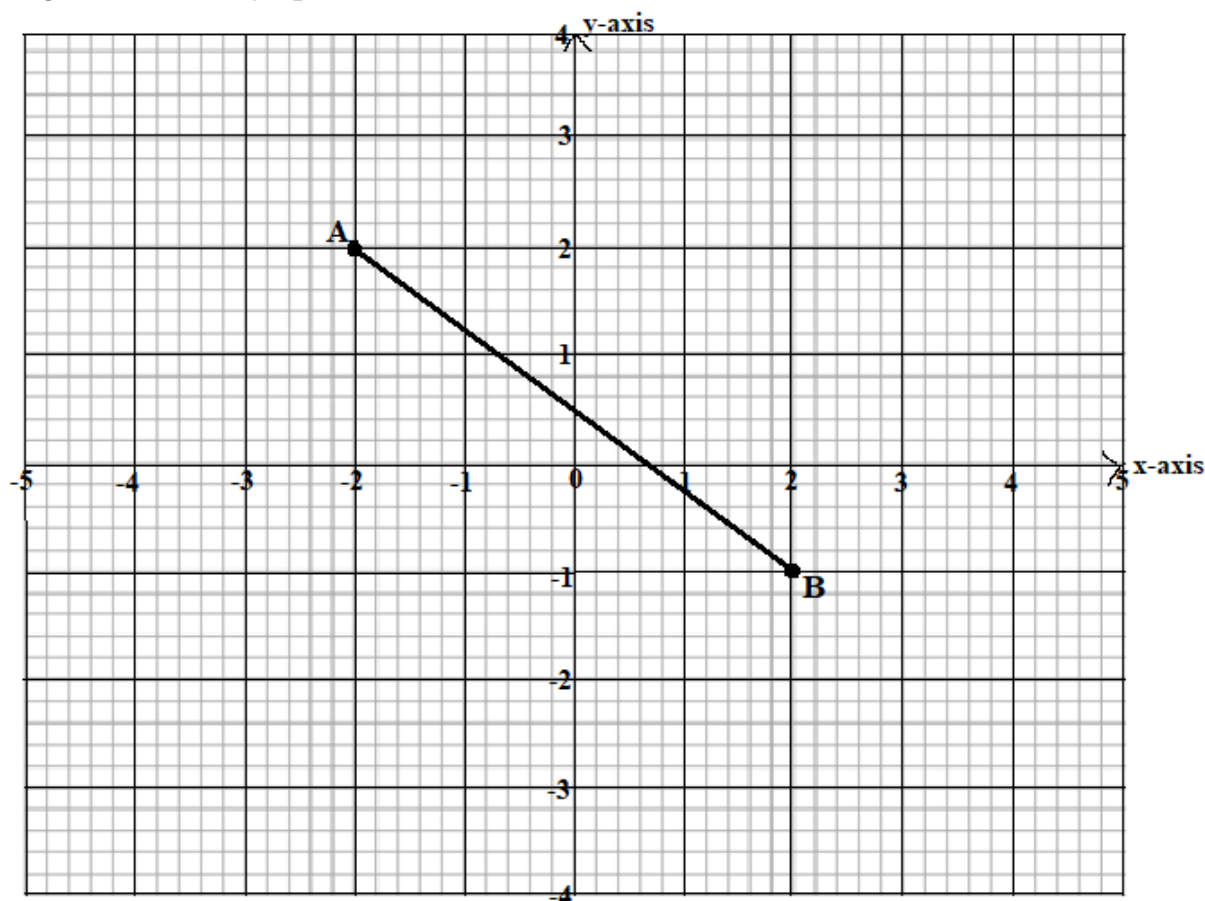
(ii) Write a set showing elements in set B only.

(1 mark)

5. The size of each interior angle of a regular convex polygon is $(x^2 + 20)^\circ$ and its exterior angle is $(x^2 - 40)^\circ$. Calculate the number of sides of the polygon.

(5 marks)

6. Figure 2 shows graph of line AB



Draw reflection of line AB along the y-axis

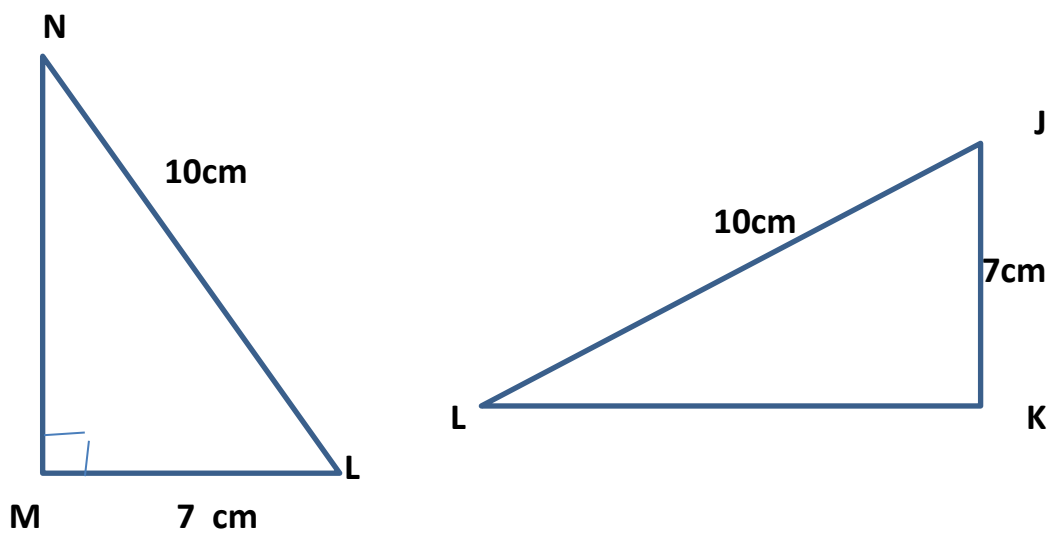
(3 marks)



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7. Solve the equation $x^2 - 9x = -14$ (4 marks)

8. Figure 3 shows two triangles LMN and triangle JKL right angled at M and K



Prove that triangle LMN is congruent to triangle JKL (4 marks)

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9. Solve the inequality $5 - 2x \leq x - 1$ and show your answer on a number line.

(6 marks)

10. Mr Tonde works with Ministry of Education in Malawi. He grossly earns K465,500 monthly and pays tax (PAYE) calculated as follows

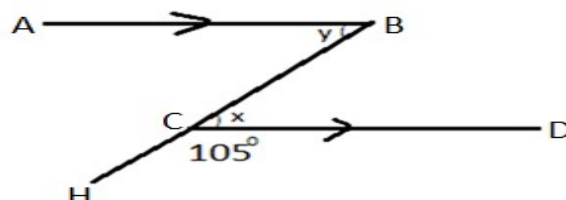
Table 2

Amount (MK)	Rate (%)
100 000 below	0
Next 300 000	25
Excess of 300 000	30

Calculate the net salary Mr Tonde earns per month

(5 marks)

11. In **Figure 4** below AB is parallel to CD. BCH is a straight line.



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Calculate the values of angles marked x and y given that angle HCD = 105°
(4 marks)

12. Solve the simultaneous linear equations below:

$$5n + 2m = 10$$

$$3m + 7n = 29$$

(5 marks)

13. Betina has 42Kg of rice costing K650 per Kg. How many kilograms of rice costing K820 will she add in order to have a mixture costing K760 per Kg.
(5 marks)



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14. In one Mathematics continuous assessment which was marked out of 40, the following marks were obtained by top ten performing students

37, 36, 37 35, 37, 35, 37, 36, 38, 36

- (i) Draw a bar graph to illustrate the given information (4 marks)

- (ii) Find the median for the given marks (3 mark)

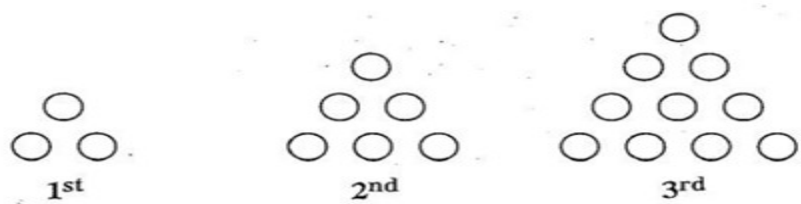
15. Using a ruler and a pair of compasses only construct in the same diagram:

- (a) A triangle ABC such that $AB = 4\text{cm}$ $BC = 6\text{cm}$ and angle $ABC = 60^\circ$.
(b) Construct the circumscribe circle to the triangle above. (6 marks)



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16. Figure below shows a pattern of marbles in a sequence. Calculate the number of marbles on the 10th term.



(4 marks)

17. Figure 4 shows a trapezium **ABCD** and a parallelogram **ABCE**

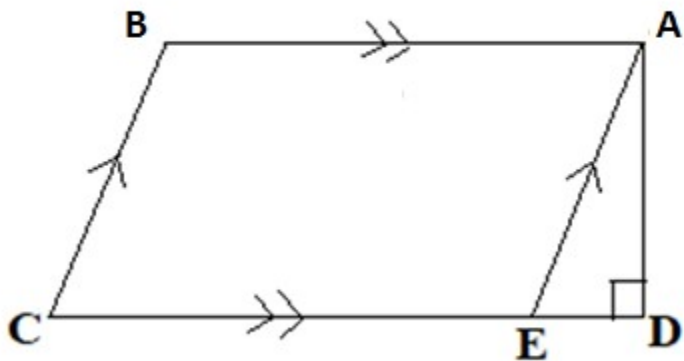


Figure 4

If side **AB** = 6cm, **AD** = 5cm and **CD** = 9 cm, find the length of side **AC**
(5 marks)

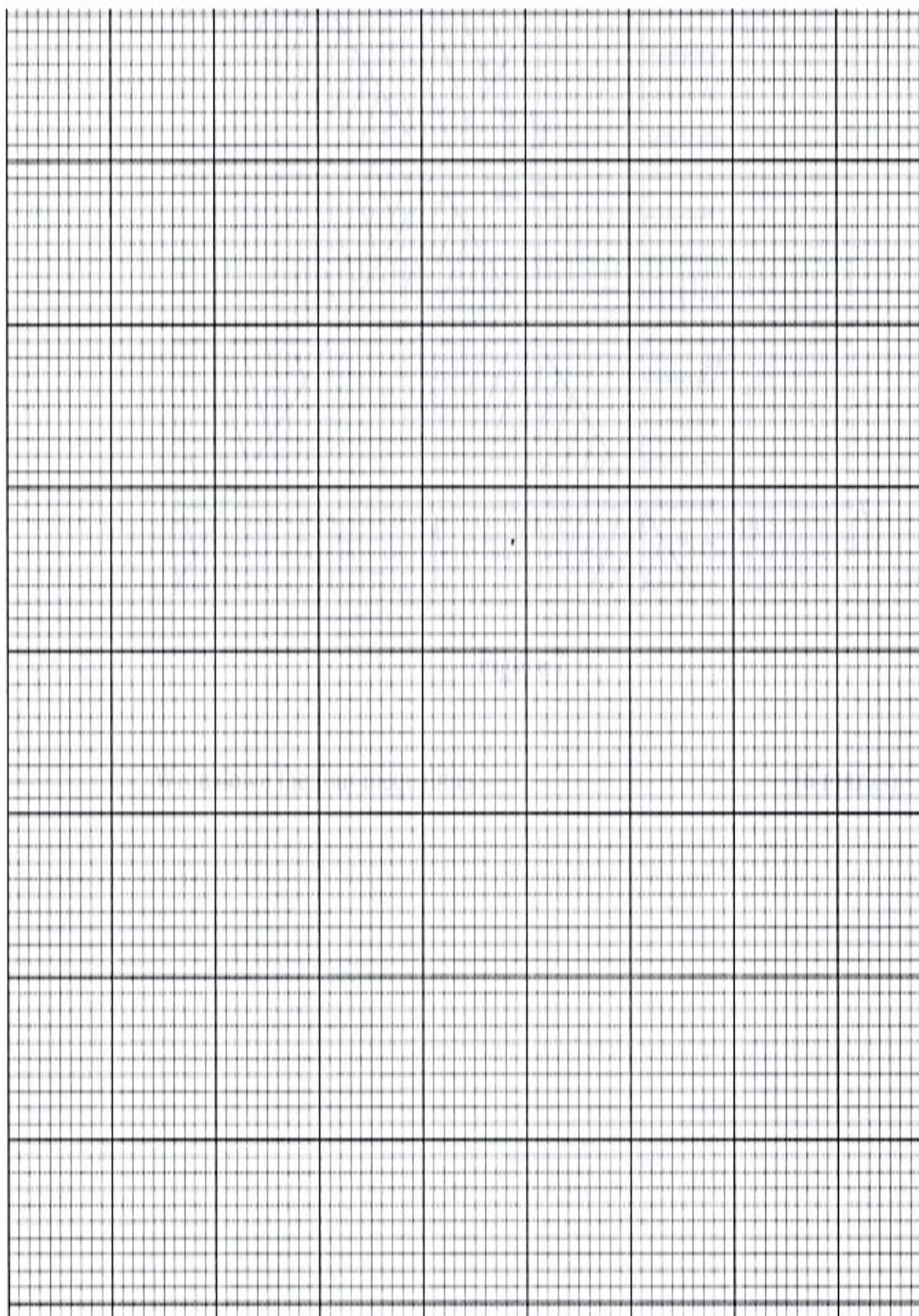
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18. A cyclist left point A at 6:30 am for point C, which is 20 km away. At 7:00 am he stopped at point B for 1.5 hours having covered a distance of 12 km. He then continued at a speed of 16 km/h.

a. Using a scale of 2 cm to represent 4 km on the vertical axis and 2 cm to represent 30 minutes on the horizontal axis, draw the distance-time graph for the cyclist. **(5 marks)**



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- b. Using your graph, find the time taken for the cyclist to reach his destination.
(3 marks)

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19. The Volume of a cylinder is 3585 cm^3 . Given that its diameter is 15 cm, calculate the height of the cylinder (take $\pi = 3.14$) **(4 marks)**

20. A plastic bag has 9 blue sweets and 6 yellow sweets. A student picked a sweet at random from the bag. Calculate the probability that it is a yellow sweet. **(4 marks)**

END OF QUESTION PAPER

NB: This paper contains 12 printed pages

