THE CRANES EXAMINATIONS BOARD
LAST PREDICTED SET 2025

MATHEMATICS

Time Allowed: 2 hours 30 Minutes

Random No.						Personal No.		

Candidate's Name: .....

Candidate's Signature: .....

District ID No.

Read the following instructions carefully:

1. Do not write your **school** or **district name** anywhere on this paper.
2. This paper has **two** sections **A** and **B**. Section **A** has **20** questions and section **B** has **12** questions. The paper has **15 printed pages**.
3. Answer **all** questions. **All** working for both sections **A** and **B** must be shown in the spaces provided.
4. **All** the working **must** be done using a **blue** or **black** ball point pen or ink. Any work done in pencil other than graphs and diagrams will **not** be marked.
5. **No calculators** are allowed in the examination room.
6. Unnecessary **changes** in your work and handwriting that cannot be read easily may lead to **loss of marks**.
7. Do not fill anything in the table indicated **"FOR EXAMINERS' USE ONLY"** and in the boxes inside the question paper.

FOR EXAMINERS' USE ONLY		
QN. NO.	MARKS	EXR'S NO.
1 - 5		
6 - 10		
11 - 15		
16 - 20		
21 - 22		
23 - 24		
25 - 26		
27 - 28		
29 - 30		
31 - 32		
TOTAL		

SECTION A: 40 MARKS

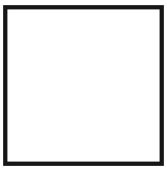
*Answer **all** questions in this section.*

*Questions **1** to **20** carry two marks each.*

1. Add: 49 + 9

2. Subtract $^{-}6$ from 9.

3. Solve $2(X - 3) = 12$.



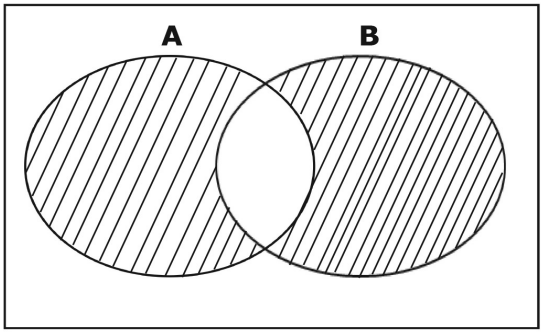
4. A forty minute lesson started at 8:40a.m, at what time did it end?

5. Find the sum of the next two numbers in the sequence:
   12, 5, 10, 17, _____, _____

6. Expand 321_{five} using powers.

7. Find the mean of 4, X + 3, 2X + 5 and X + 8.

8. Describe the shaded region.



9. Increase sh. 20000 in the ratio of $\frac{1}{2} \div \frac{1}{3}$

10. Change 20m/s to km/h.

11. Using a pair of compasses, pencil and a ruler only, construct an angle of 45^0.

12. Solve $100_n = 121_{three}$.

13. 3 books cost sh. 15000, what is the cost of 7 similar books?

14. Calculate the circumference of a circle whose diameter is 28m.

15. Write 11:02 p.m in military time.

TURN OVER

16. Express 60cm as a percentage of a metre.

17. Change $\frac{3}{4}$ to decimal.

18. If $F_{\mathbf{X}} = \{2_{\mathbf{1}}, 2_{\mathbf{2}}, 3_{\mathbf{1}}\}$, find **X**.

19. The average age of 5 boys is 24 years. Find the total age of the boys.

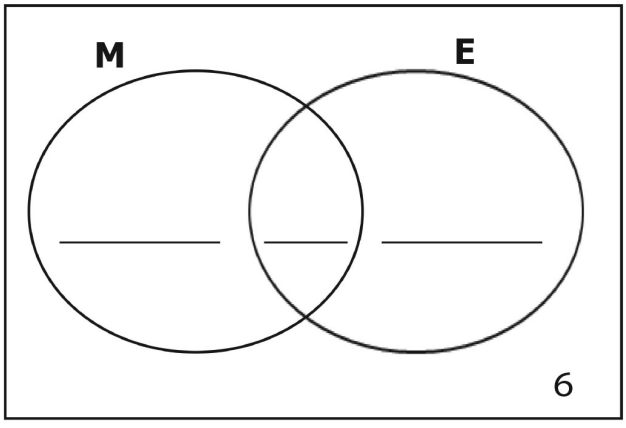
20. Workout: $\frac{0.36 + 0.12}{0.08}$

SECTION B: 60 MARKS

Answer **all** questions in this section.
Marks for each section are indicated in the brackets.

21. In a class of 72 pupils, 48 pupils like Mathematics(M), X pupils like English(E), 20 pupils like both subjects and 6 like neither of the subjects.

(a) Complete the Venn diagram below using the above information. (03 marks)



(b) Find the value of **X**. *(02 marks)*

(c) If a pupil was picked at random to be a class monitor, what is the probability that the pupil pupil likes only one subject? (01 mark)

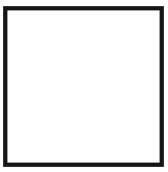
22. Alex, Ali and Andrew shared some money in the ratio of 2:3:5 respectively. If Andrew got sh. 45000 more than Alex, (03 marks)

(a) Find the total share for the three boys.

(b) How much money did each boy get? *(02 marks)*

23. Mariam went with a fifty thousand shilling note to a market and bought the following items;
2 kg of sugar at sh. 6000 each.

$1\frac{1}{2}$ litres of cooking oil at sh. 8000 a litre.



500gm of curry powder at sh. 8000 a kg
2 loaves of bread at sh. 10000.

(a) Find Mariam's total expenditure. *(03 marks)*

(b) If Mariam was given a discount of 10%, find Mariam's change. (01 marks)

24. The table below shows the travel time of Kabita bus travelling from Mbale to Kampala. Use it to answer questions that follow.

TOWN	ARRIVAL TIME	DEPARTURE TIME
Mbale		9:30am
Iganga	11:10am	11:45am
Jinja	12:30am	1:00pm
Kampala	2:30pm	

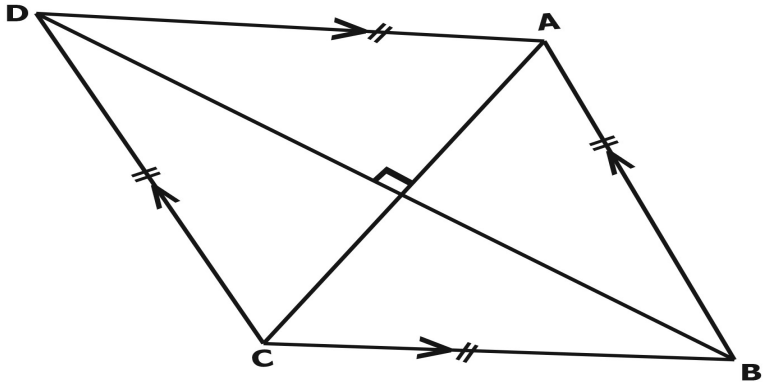
(a) At what time in 24 hour clock system did the bus arrive in Iganga? (01 mark)

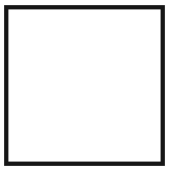
(b) How long did the bus wait in Jinja? (01 mark)

(c) How many stop overs did the bus make? (01 mark)

(d) If the distance from Kampala to Mbale is 250km, calculate the average speed of the bus for the whole journey. (02 marks)

25. ABCD is a rhombus whose perimeter is 52cm, diagonal AC = 10cm. Study it and answer questions that follow.

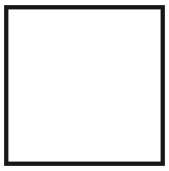




(a) Find the length of diagonal BD. (03 marks)

(b) Calculate the area of the rhombus ABCD. (01 marks)

26.(a) Using a pair of compasses, a pencil and a ruler only, construct a triangle PQR where angle PQR = 120^0, line PQ = 6cm and line QR = 5.8cm. (03 marks)



(b) Measure line PR. (01 mark)

27. A father is 4 times as old as his daughter. In 15 year's time, he will be thrice as old as his daughter. How old is the daughter?

03 marks)

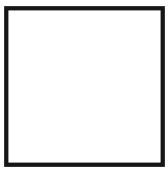
28.(a) Workout: $\frac{1}{4} - \frac{2}{3} + \frac{1}{2}$ *(02 marks)*

(b) Convert 0.333 ..... to a common fraction. *(03 marks)*

29. A motorist started his journey from Hoima at 8:30am travelling at an average speed of 60km/h for 2 hours and arrived to Kampala. He rest in Kampala for 40 minutes and drove back to Kampala at 90km/h.

(a) At what time did the motorist arrive in Kampala?

(02 marks)



(b) Calculate his average speed for the whole journey. *(02 marks)*

30. Given digits 4, 1, 0 and 9.

(a) Form the largest 4 - digit number. *(03 marks)*

(b) Form the smallest 4 - digit number. *(02 marks)*

31.(a) The temperature on top of a mountain at 5:00am was $^{-}17^{0}$C. If the temperature at 7:30am rose by $^{+}11^{0}$. Find the temperature on top of the mountain.

(03 marks)

(b) Solve $5 - 2 \leq 11$ and give the solution set. *(02 marks)*

32. Mbale is 120km from Tororo on a earing of 120^0. Iganga is 100km from Tororo on a bearing of 045^0.

(a) Draw a sketch diagram to show the three towns. *(01 mark)*

(b) Using a scale of 1cm : 10km, draw an accurate diagram to show the three towns. *(03 marks)*

(c) Find the shortest distance from Mbale to Iganga.

(01 marks)

END