UGANDA NATIONAL EXAMINATIONS BOARD

PRIMARY LEAVING EXAMINATION 2010

MATHEMATICS

Time Allowed: 2 hours 30 minutes

Index No. | | | | | | | | | |

Candidate's Name .....

Candidate's Signature .....

School Name .....

District Name .....

FOR EXAMINERS' USE ONLY

Read the following instructions carefully:

1. The paper has **two** Sections: **A** and **B**.
2. Answer **all** questions. **All** answers to both sections **A** and **B** must be written in the spaces provided.
3. **All** answers must be written using a blue or black ball-point pen or ink. Diagrams should be drawn in pencil.
4. **No** calculators are allowed in the examination room.
5. Unnecessary changes of work may lead to loss of marks.
6. Any handwriting that cannot easily be read may lead to loss of marks.
7. Do **not** fill anything in the boxes indicated "**For Examiners' Use Only**" and those inside the question paper.

FOR EXAMINERS' USE ONLY		
Qn. No.	**Marks**	**Examiner's No.**
1 – 10		
11 – 20		
21 – 30		
31 – 32		
33 – 34		
35 – 36		
37 – 38		
39 – 40		
41 – 42		
Total		

SECTION A: (30 MARKS)

Questions 1 to 30 *carry one mark each.*

1. Work out: $10 \div 2$.

2. Simplify: $2x + 3x$.

3. Write in figures: Sixty one thousand.

4. Given Set $A = \{ a, b, f, k \}$ and Set $B = \{ a, c, k \}$, find $n(A \cup B)$.

5. Simplify: $^{-}5 + {}^{-}2$.

6. Write 49 in Roman numerals.

7. Shade $\frac{1}{2}$ of the drawing below.

8. Using a pair of compasses, a ruler and a pencil only, bisect the line below.

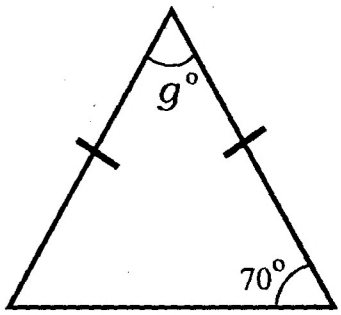
9. What is the value of 5 in the figure 65011 ?

10. Change 2.5 metres into centimetres.

11. Cards labelled 1 to 5 are folded, put in a bucket and mixed up. What is the probability of picking a card having a prime number ?

12. Seven children had the following ages: 7, 3, 6, 2, 5, 1 and 4. Find the mean age.

13. In the triangle below, find the size of angle g in degrees.



14. Work out:

$$\begin{array}{r} 165 \\ \times \quad 4 \\ \hline \\ \hline \end{array}$$

15. Given that $a = -3$ and $b = 4$, find the value of $2a + 2b$.

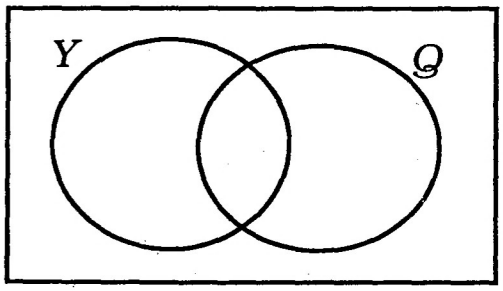
16. Find the next number in the sequence: 23, 19, 16, 14, _____

17. A fifty-minutes test started at 9.50 a.m. What time did it end ?

18. Solve: $4p - 4 = 20$

19. In a line of vehicles, a bus was the 7^{th} from each end of the line. How many vehicles were in the line ?

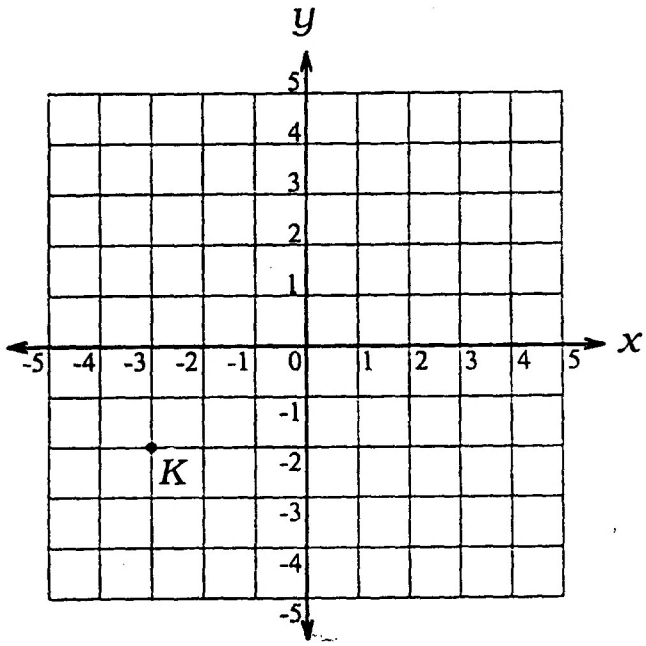
20. In the Venn diagram below, shade the area $(Y \cup Q)'$.



21. Work out: $\frac{5}{12} \div \frac{5}{9}$.

22. Change 11_{ten} to base two.

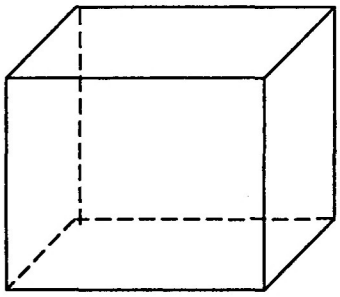
23. In the graph below, find the co-ordinates of point *K*.



24. A boy ran a distance of 6 km in 45 minutes. What was his spee in kilometres per hour ?

25. Arrange the following decimals in order beginning with the smallest: 0.11, 0.5 and 0.03.

26. How many edges does the figure below have ?



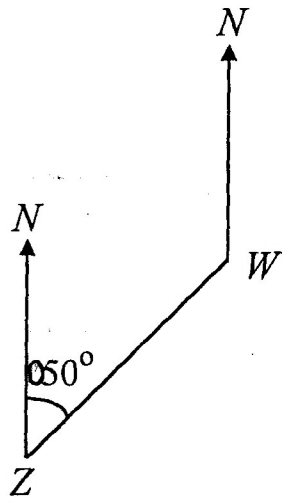
27. Work out:

$$\begin{array}{r} 6702 \\ -\ 4865 \\ \hline \\ \hline \end{array}$$

28. Four packets of mango juice cost Sh12,000. What is the cost of seven similar packets ?

29. In a P7 class, $\frac{2}{5}$ of the pupils are girls. If there are 150 pupils in the class, find the number of boys.

30. In the figure below, find the bearing of town Z from town W.

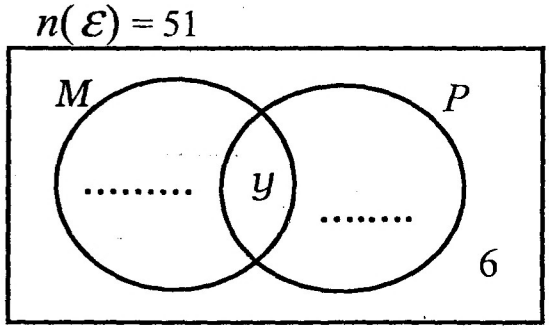


SECTION B: (70 MARKS)

Marks for each part of the question are indicated in the brackets.

31. In a class party of 51 pupils, 28 drank Mirinda (M), 29 drank Pepsi (P), y drank both Mirinda and Pepsi while 6 did not drink any of the two sodas.

(a) Use the information given above to complete the Venn diagram below. *(2 marks)*



(b) Find the value of y. *(2 marks)*

(c) Find the number of pupils who drank one type of soda only.
(2 marks)

32. (a) Using a ruler, a pencil and a pair of compasses only, construct a rectangle $ABCD$ in which $AB = 8$ cm, and $BC = 7$ cm. *(4 marks)*

(b) Measure the length of diagonal AC. ..... *(1 mark)*

(c) Measure the angle BAC. ..... *(1 mark)*

33. The table below shows the arrival and departure time for a bus that travels from Kampala to Hoima daily.

Town	Arrival time	Departure time
Kampala		7:30 a.m.
Busunju	8:10 a.m.	8.30 a.m.
Bukomero	9:30 a.m.	9.45 a.m.
Kiboga	10:15 a.m.	10.40 a.m.
Hoima	11:40 a.m.	

(a) At what time does the bus leave Kampala ? *(1 mark)*

(b) How long does the bus stay at Bukomero ? *(2 marks)*

(c) How long does the bus take to travel from Bukomero to Kiboga ? *(2 marks)*

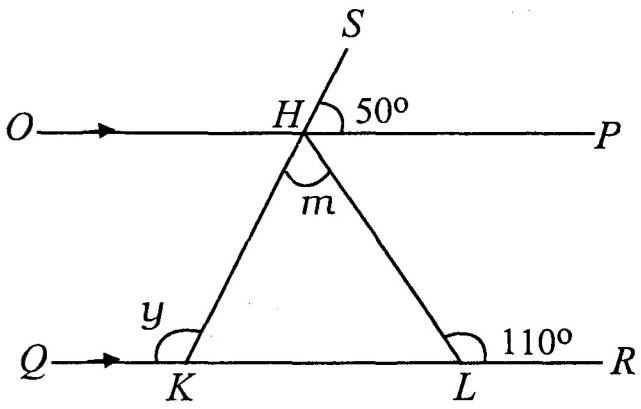
(d) Find the total time taken by the bus to travel from Kampala to Hoima. *(2 marks)*

34. (a) Solve: $2m + 3 = 18 - m$ *(3 marks)*

(b) Solve: $2(3x - 1) - 4(x - 1) = 4$. *(3 marks)*

35. In the diagram below, OP is parallel to QR, HKL is a triangle, angle $HLR = 110^\circ$ and angle $SHP = 50^\circ$.

Study it and answer the questions that follow.



Find the size of:

(a) angle y.

(2 marks)

(b) angle m. *(3 marks)*

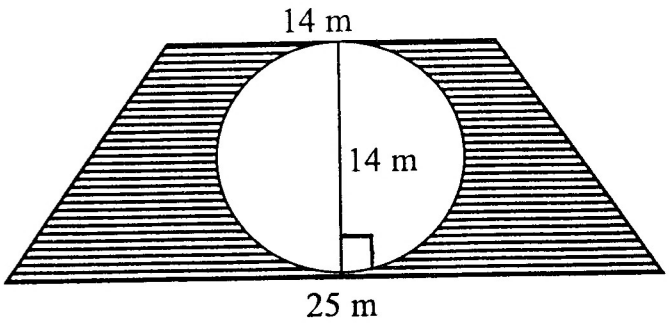
36. (a) Find the number which has been expanded below.

$(1 \times 10^4) + (3 \times 10^2) + (6 \times 10^0)$ *(3 marks)*

(b) Change 1011_{two} to base ten. *(2 marks)*

(c) Find the value of x: $3 + 3 = x$ (finite 4). *(2 marks)*

37. Find the area of the shaded part in the diagram below.
(Take π as $\frac{22}{7}$). *(6 marks)*



38. The mean of the scores 8, 9, 6, 4 and x is 6.

(a) Find the value of x. *(3 marks)*

(b) What is the median score ? *(1 mark)*

(c) Find the probability that a score picked at random is below the mean. (*2 marks*)

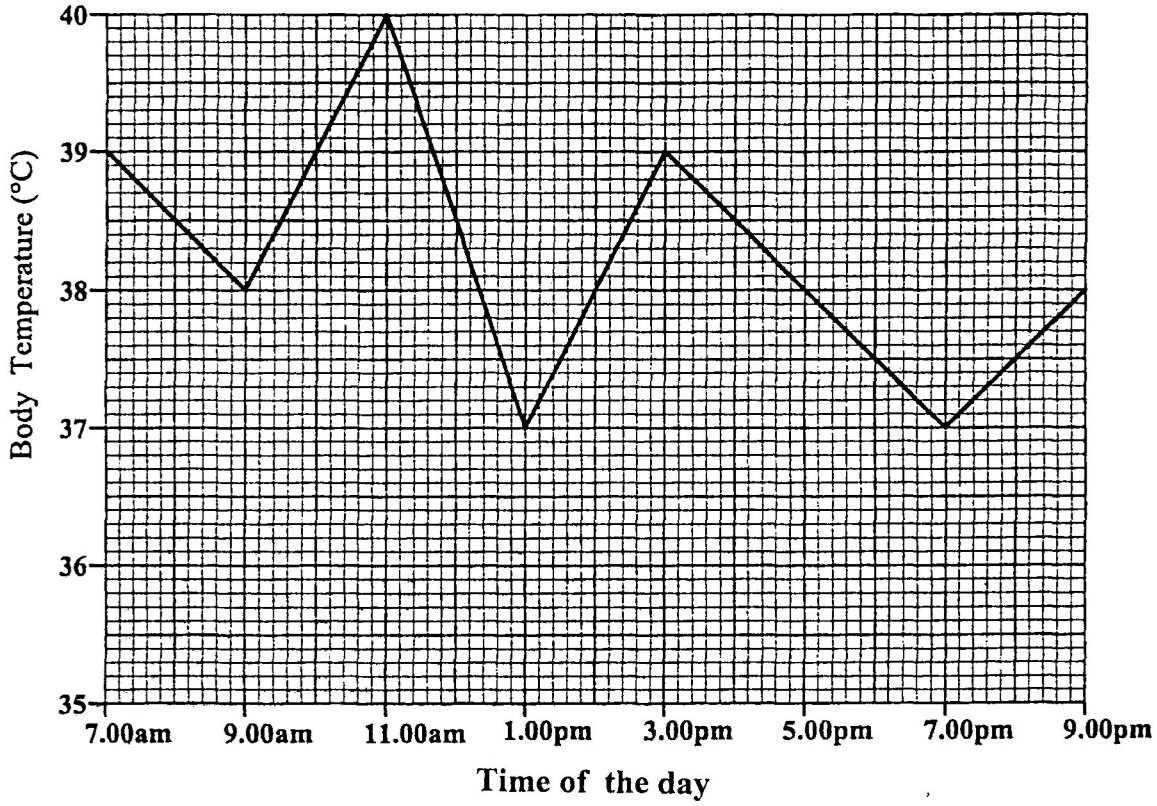
39. Makeba's car uses 8 litres of petrol for every 50 km.

(a) How much petrol does he need for a journey of 325 km? (*2 marks*)

(b) If one litre of petrol costs Sh2,900, how much money will he spent on petrol needed to run the car for 1½ hours at a speed of 50 km per hour ? (*4 marks*)

40. The graph below shows the changes in body temperature of a patient in a hospital recorded every two hours in a day.

Use it to answer the questions that follow.



(a) What was the highest temperature recorded ? *(1 mark)*

(b) Find the range in the recorded body temperature. *(1 mark)*

(c) Work out the average body temperature of the patient from 3.00 pm to 9.00 pm. *(3 marks)*

Turn Over

41. A man spends $\frac{1}{3}$ of his salary on food, $\frac{1}{9}$ on clothing, $\frac{1}{6}$ on medical, $\frac{1}{18}$ on house rent and banks the rest which is Sh35,000.

(a) What fraction of his salary does he bank ? *(3 marks)*

(b) How much money does he earn as salary ? *(2 marks)*

42. Simplify:

(a) $n^2 \times n$ *(1 mark)*

(b) $m^6 \div m^3$ *(1 mark)*

(c) $\frac{a^2 \times a^5}{a^3}$ *(2 marks)*

END.