2009

UGANDA NATIONAL EXAMINATIONS BOARD

PRIMARY LEAVING EXAMINATION

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		

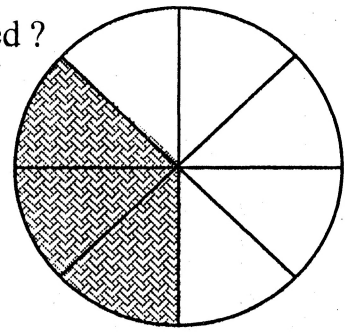
SECTION A: (30 MARKS)

Questions **1** *to* **30** *carry* **one** *mark each.*

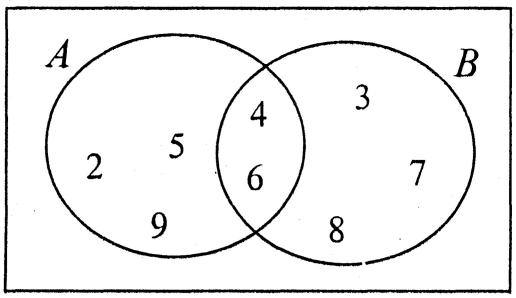
1. Work out:

$$\begin{array}{r} 1\ 3 \\ +\ 4\ 3 \\ \hline \\ \hline \end{array}$$

2. What fraction of the circle is shaded ?



3. In the Venn diagram below, find $n(A \cap B)$

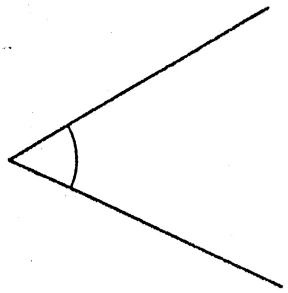


4. Write 24 in Roman numerals.

5. Simplify: $6y + 4y - 5y$.

6. Write in figures: Forty two thousand eight.

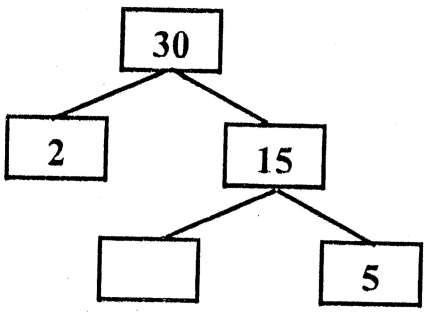
7. Using a protractor, measure the angle below.



8. Round off 9.46 to the nearest tenth.

9. Work out: $\frac{4}{7} \div \frac{8}{21}$

10. Fill in the missing number in the factor tree below.



11. Change $3\frac{1}{2}$ kg into grams.

12. Work out:

$$\begin{array}{r} 2\ 0\ 0 \\ -\ 1\ 1\ 2 \\ \hline \\ \hline \end{array}$$

13. A primary seven pupil got the following marks in daily mental work exercises for a week: 7, 6, 6, 7, 2, 6, 8.

What was the pupil's modal mark ?

14. Arrange the following fractions in order beginning with the biggest : $\frac{1}{4}$, $\frac{2}{3}$, $\frac{3}{5}$.

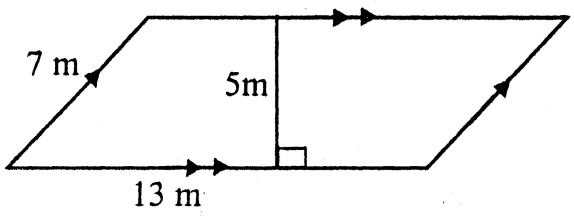
15. Given that set $M = \{1, 2, 4\}$, how many subsets are in set M ?

16. Work out: $+7 - {}^{-}4$

17. Work out: $2\frac{1}{2} - \frac{1}{4}$

18. David got a loan of shs500,000 from the bank at a simple interest rate of 20% per annum. What was the interest on the loan after a period of 9 months ?

19. Find the area of the figure below.



20. Primary seven pupils will have a party next week. Find the probability that the party will take place on a day that starts with letter '*T*'.

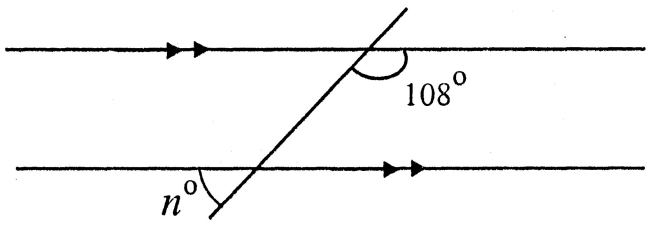
21. Work out:

$$\begin{array}{rr} & 1\ 0\ 1_{\text{two}} \\ + & 1\ 1\ 1_{\text{two}} \\ \hline & \\ \hline & \text{two} \end{array}$$

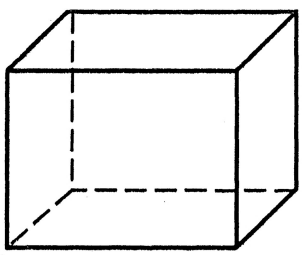
22. The cost of 5 bars of soap is shs5,400. Find the cost of 3 similar bars of soap.

23. Write the next number in the sequence: 1, 4, 9, 16, ...

24. In the figure below, find the value of n in degrees.

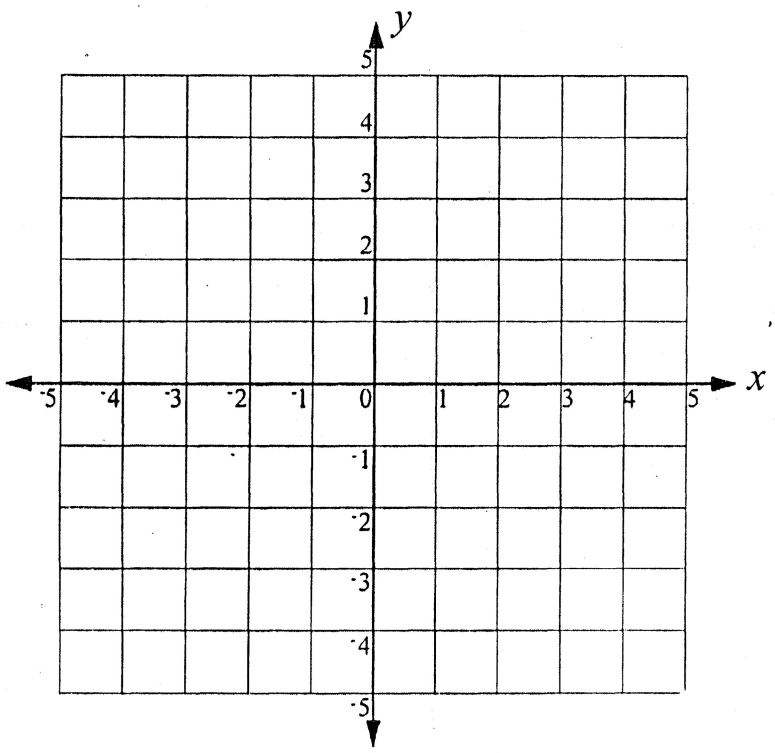


25. How many vertices does the figure below have ?



26. A mathematics test was given to a class of 50 pupils and 45 of them passed the test. What percentage of the pupils failed the test ?

27. On the graph below, mark point $M(-1, 4)$.



28. Solve : $3x - (x + 3) = 3$.

29. Solve for x: $3 + 4 = x$ (finite 5).

30. A fisherman saw a boat on water on a bearing of 060^{o}. What was the bearing of the fisherman from the boat ?

SECTION B: (70 MARKS)

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

31. A man sells mangoes in heaps of five and eight. A heap of five mangoes costs shs500 and a heap of eight mangoes costs shs1,000. He had 12 heaps of five and 14 heaps of eight mangoes.

(a) How many mangoes did he have altogether ? (*03 marks*)

(b) How much money did he get after selling all the mangoes ?
(*03 marks*)

32. (a) Using a ruler, pencil and pair of compasses only, construct a triangle PQR in which angle $PQR = 30^{\circ}$ and $PRQ = 45^{\circ}$ and line $QR = 10$ cm, the base of the triangle. *(03 mark)*

(b) Measure:

(i) PQ ..... *(01 mark)*

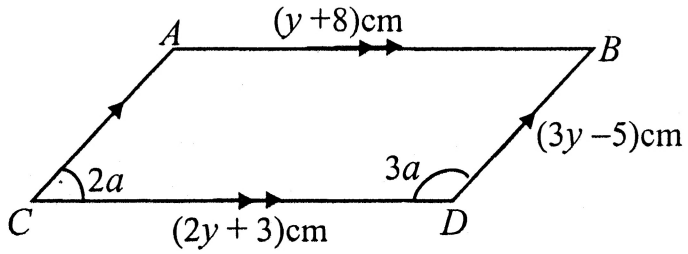
(ii) PR ..... *(01 mark)*

(c) Find the perimeter of triangle PQR. *(01 mark)*

33. (a) Solve for x: $2(x + 1) - 3(2x - 1) = -3$. *(03 marks)*

(b) Find the value of $a^r \div a^x$, given that $a = 2$, $r = 5$ and $x = 3$.
(*03 marks*)

34. *Use the figure below to answer questions that follow.*



(a) Find the value of a. (*02 marks*)

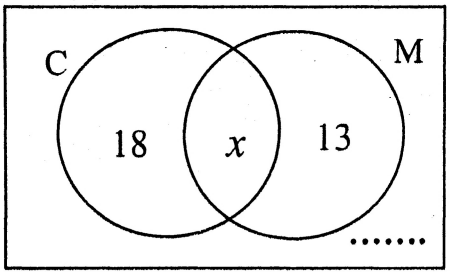
(b) Find the size of angle BAC in degrees. (*01 mark*)

(c) Work out the value of y. (*02 marks*)

35. At a birthday party attended by 40 guests , 18 ate Chicken (C)) only , 13 ate Meat (M) only, x guests ate both Chicken and Meat and 4 did not eat any of the two dishes.

(a) Use the information given above to complete the Venn diagram below. (*02 marks*)

$n(\varepsilon) =$ .....



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

(c) How many guests did **not** eat meat at all ? (*02 marks*)

36. A businessman has 200 bags of maize flour each weighing 50 kg.

(a) Find the total weight of the bags in tonnes. (*02 marks*)

(b) If a pick-up carries 2 tonnes per trip, work out the number of bags the pick-up will carry in one trip. (*03 marks*)

(c) Find the number of trips the pick-up will make to transport the whole flour from the milling machine to his shop. (*02 marks*)

37. On a mixed farm $\frac{1}{3}$ of the land is used for growing food crops while $\frac{1}{4}$ of the remaining land is for cash crops. The rest of the land is for cattle grazing.

(a) What fraction of the land is used for cattle grazing ? (*02 marks*)

(b) If 15 hectares are used for cash crops, what is the total area of the farm ? (*03 marks*)

38. In a primary school, each pupil plays only one game. The pupils who play each game are given below.

Use the information to answer the questions that follow.

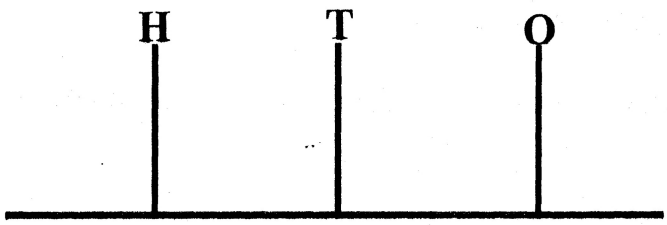
Football	– 55
Volleyball	– 45
Netball	– 40
Basketball	– 40
Tennis	– 20

(a) What percentage of the pupils play netball ? (*02 marks*)

(b) If a pupil is picked at random, what is the probability that the pupil plays volleyball ? (*02 marks*)

(c) Find the mean number of pupils who play games in the school. (*02 marks*)

39. (a) Draw beads to show the number 302 on the abacus below. (*02 marks*)



(b) Write 3409 in standard form. (*02 marks*)

(c) What is the place value of 4 in the number 240 ? (*01 mark*)

40. Square tiles of side 20cm each were laid on the floor of a room measuring 600 cm by 400 cm.

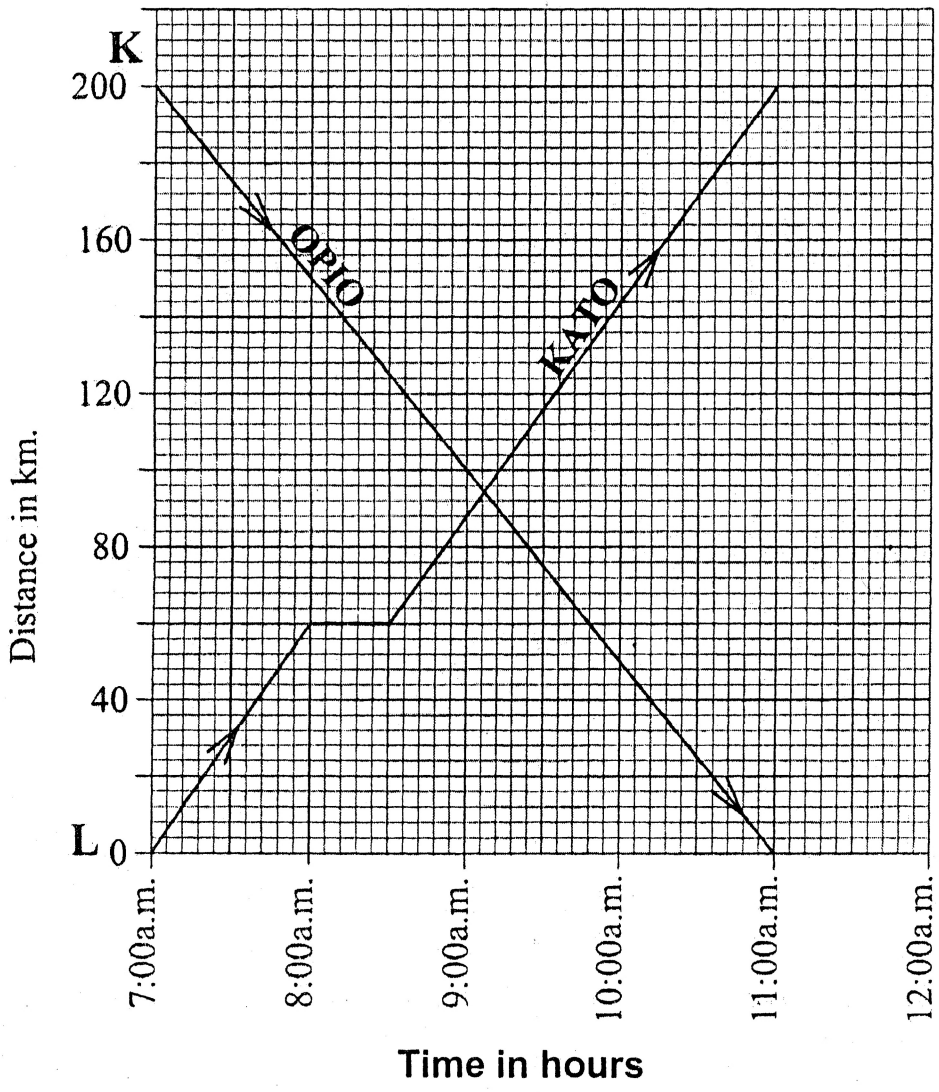
(a) Find the number of tiles needed to cover the floor. (*03 marks*)

(b) If a box containing 25 tiles costs shs30,000 , find the total cost of tiles needed to cover the whole floor. (*02 marks*)

41. The graph below shows the journeys made by Opio and Kato between towns K and L which are 200 km apart.

Opio left town K at 7:00 a.m. and drove at a steady speed of 50 km/h to town L. Kato left town L at the same time and covered a distance of 60 km at a steady speed in an hour. He then rested for $\frac{1}{2}$ an hour after which he drove for 2½ hours to town K.

Use the graph to answer the questions that follow.



(a) At what time did Opio and Kato meet ? *(01 mark)*

(b) What distance had Opio covered by 9.00 a.m. ? *(01 mark)*

(c) How far from Town L was Opio at 10.00 a.m. ? *(01 mark)*

(d) Work out Kato's average speed for the journey he covered after resting. *(02 marks)*

(e) Find Kato's average speed for his whole journey. *(02 marks)*

42. (a) Solve the inequality: $3(x+4) < 5x-2$. *(03 marks)*

(b) Solve the equation: $2x-2 = \frac{1}{4}x + 5$. *(03 marks)*

END.