



UGANDA NATIONAL EXAMINATIONS BOARD

PRIMARY LEAVING EXAMINATION

2016

MATHEMATICS

Time Allowed: 2 hours 30 minutes

Index No.

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Candidate's Name

Candidate's Signature

School Name

District Name

Read the following instructions carefully:

1. This paper has two sections: **A** and **B**. Section **A** has **20** questions and section **B** has **12** questions. The paper has 16 pages altogether.
2. All the working for both sections **A** and **B** must be shown in the spaces provided.
3. **All** working must be done using a blue or black ball-point pen. Any work done in pencil other than graphs, pictures and diagrams will **not** be marked.
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	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

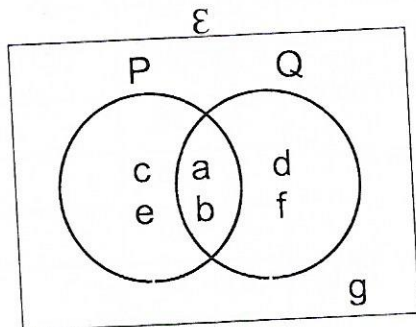
Answer all questions in this section
Questions 1 to 20 carry two marks each.

1. Work out: $23 + 42$

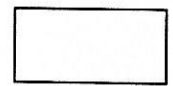
2. Simplify: $3a + a - 2a$

3. Work out: $\frac{5}{9} \div \frac{2}{3}$

4. Use the Venn diagram below to find $n(P \cap Q)$



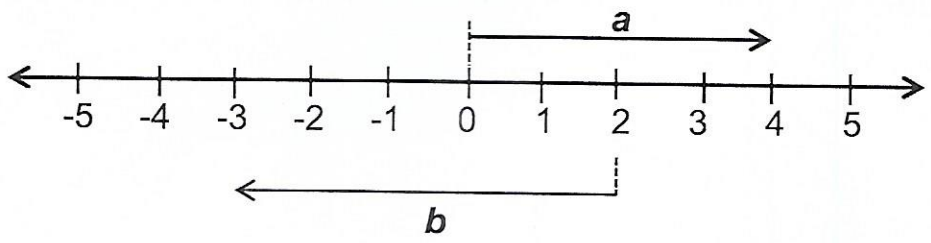
5. Without dividing, show which of the numbers 140 and 5070 is divisible by 3.



6. Work out: $110_{\text{two}} \times 11_{\text{two}}$

7. A die is tossed once. What is the probability that a number less than 5 will appear on top?

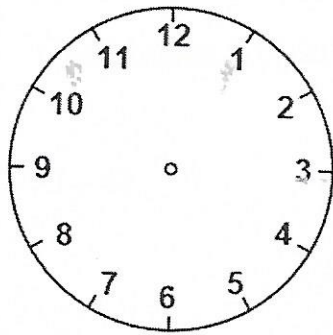
8. Write the integers represented by letters **a** and **b** on the number line below.



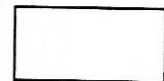
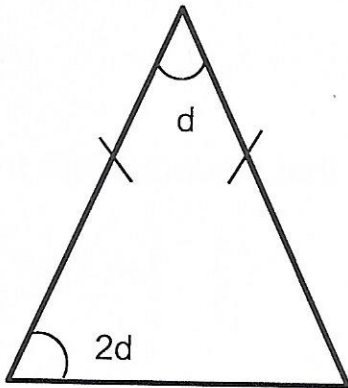
(i) **a**

(ii) **b**

9. Show the time "Twenty five minutes to eleven" on the clock face below.



10. In the triangle below, find the value of d in degrees.



11. The area of a square flower garden is $196m^2$. Find the length of each side.

12. Convert $12\frac{1}{2}\%$ to fraction in its lowest term.

13. The prime factors of 12 and 90 are given below:

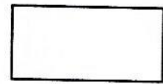
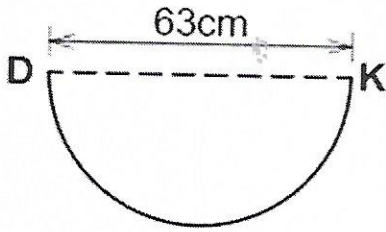
$$12 = 2^2 \times 3$$

$$90 = 2 \times 3^2 \times 5$$

Use the given prime factors above to find the Lowest Common Multiple (LCM) of 12 and 90.

14. A wire of length 161 metres was shared by some boys. The average length of wire each boy got was 23 metres. Find the number of boys who shared the wire.

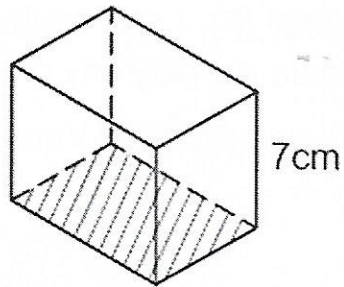
15. Find the length of the arc **DK** in the diagram below. (Use $\pi = \frac{22}{7}$)



16. Apio bought 30 books at sh 3,000 per dozen. How much money did she spend?

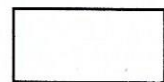
17. A motorist travels 64 km in 40 minutes. Find the speed of the motorist in Kilometres per hour.

18. The area of the shaded part of the cuboid below is 12 cm^2 . Calculate the volume of the cuboid.



19. Using a ruler, a pencil and a pair of compasses only, construct an angle of 135° in the space below.

20. Hakim is three times as old as Lucky. Their total age is 52 years. How old is Lucky?



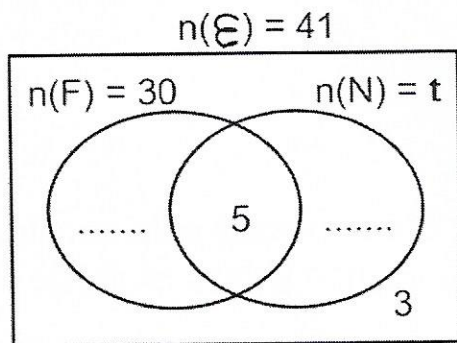
SECTION B: 60 MARKS

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

21. In a class of 41 pupils, 30 play football (F), t play Netball (N) and 5 play both Football and Netball. 3 pupils do not play any of the two games.

(a) Use the above information to complete the Venn diagram below.

(02 marks)



(b) Find the value of t .

(02 marks)

22. (a) Write 955 in Roman numerals.

(01 mark)

- (b) Find the product of the value of 2 and the value of 8 in the number 4820. (04 marks)

23. (a) Simplify: $\frac{0.12 \times 5.4}{0.03 \times 0.6}$ (03 marks)

- (b) Express the recurring decimal 0.5454 ... as a common fraction. (03 marks)

24. The exchange rates in a bank are as follows:

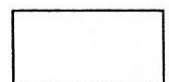
1 US dollars (\$) = Ug. sh 3,400

1 British Pound Sterling (£) = Ug. sh 4,600

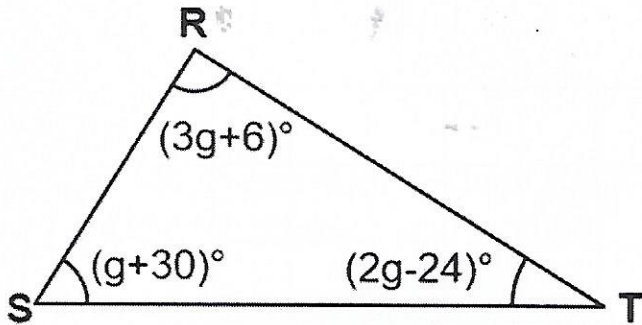
1 Kenya shilling (K. sh) = Ug. sh 35.

(a) Convert Ug.sh 1,840,000 to British Pound Sterling. (02 marks)

(b) If a set of chairs costs \$700, find the equivalent cost of the chairs in Kenya shillings. (03 marks)



25. Study the figure below and use it to answer the questions that follow.



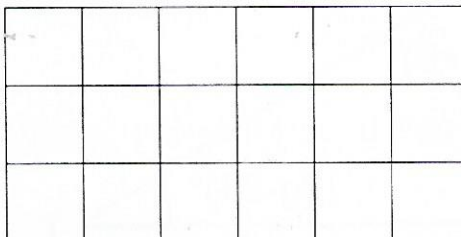
(a) Find the value of g .

(03 marks)

(b) Calculate the size of angle **RST**.

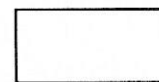
(01 mark)

26. The figure below represents a rectangular floor which is covered by square tiles of area 400 cm^2 each. Use it to answer the questions that follow.



(a) Find the area of the rectangular floor. (02 marks)

(b) Calculate the perimeter of the rectangular floor. (04 marks)



27. A taxi driver left town **A** for town **B** at 10:30 a.m. driving at a speed of 80 kilometres per hour. The driver reached town **B** at 2:00 p.m.

(a) Calculate the time taken by the driver to reach town **B**.

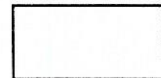
(03 marks)

(b) Find the distance between town **A** and town **B**. (02 marks)

28. Hajati bought 120 shares from a village SACCO at a simple interest rate of 30% per year. Each share costs sh 3,000.

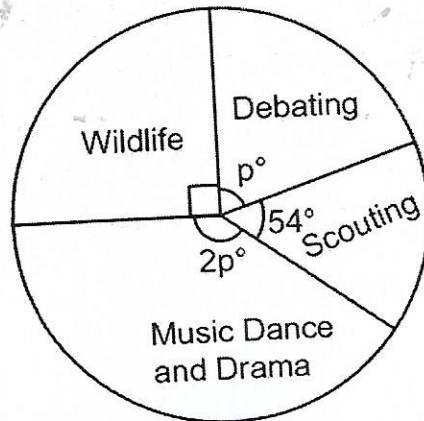
(a) Find her total interest after $3\frac{1}{2}$ years. (03 marks)

(b) Calculate the total amount of money Hajati has in the SACCO after the $3\frac{1}{2}$ years. (02 marks)



29. The pie chart below shows how pupils of Mpaata Primary School are distributed in various clubs in the school.

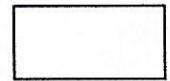
Use it to answer the questions that follow.



- (a) There are 216 pupils in the debating club. Find the total number of pupils in the school. *(04 marks)*
- (b) Express the number of pupils in the debating club as a percentage of the whole school. *(02 marks)*

30. A cylindrical tank of diameter 70 cm contains water to a height of 100 cm. Find in litres the amount of water the tank contains. (Use $\pi = \frac{22}{7}$)

(04 marks)



31. (a) Given that $m = 3k$ and $k = 5$, find the value of $2k + 6m$.

(03 marks)

(b) Write the solution set for the inequality: $6 < x < 10$

(01 mark)

32. A school library is 70 metres east of the main hall. The staff room is 60 metres from the library on a bearing of 240° .

- (a) Using a scale of 1 cm to represent 10 metres, show the three places on an accurate diagram. (04 marks)

- (b) Find the shortest distance between the main hall and the staff room. (02 marks)



END

