BROAD EXAMINATIONS®

P.7 MATHEMATICS EXAMINATION

END OF TERM I 2024

Time allowed: 2 hours 30 minutes

Candidate's Name:.....

Candidate's Signature.....

District Name: .....

Read the following instructions carefully:

1. This paper is made up of two sections: **A** and **B**.
2. Section **A** has **20** questions (**40 Marks**)
3. Section **B** has **12** questions (**60 Marks**)
4. Answer **ALL** questions in both sections **A** and **B**.
5. All answers must be written in the space provided in blue or black ball point pens and ink. **Only diagrams should be done in pencil.**
6. Unnecessary crossing of answers will lead to loss of marks.
7. Any handwriting, which cannot be easily read, may lead to loss of marks.
8. Do **not** fill anything in the boxes indicated for Examiners' use only.

FOR EXAMINERS' USE ONLY		
PAGES	MARKS	SIGN
Page 2		
Page 3		
Page 4		
Page 5		
Page 6		
Page 7		
Page 8		
TOTAL		

Teacher's comment to the learner

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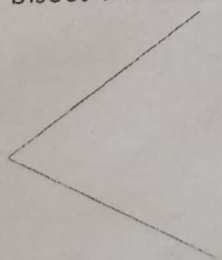
Approved by:

Team Head Mathematics Department

SECTION .A. (40 Marks)

1.	Multiply: 1 2 x 3 _____	2.	Find the value of 3 tens.
3.	Draw bundles to represent 84.	4.	A set has 3 elements. How many proper subsets can be obtained from the set?
5.	In the operation 13 - ☐ = 7, find the missing number.	6.	Find the first two equivalent fractions of $\frac{3}{5}$.
7.	Work out the additive inverse of 7.	8.	Express the product of 400 and 15 in standard form.
9.	Joan is 9 years old, Jane is 12 years old and Sarah is as old as Joan. Find the average age of the three girls.	10.	A watch loses 10 seconds every hour. How many minutes does it lose a day?

11.	Using a pencil, a ruler and a pair of compasses, construct a right angle in the space below.	12.	A teacher withdrew a bundle of ten thousand shillings notes numbered consecutively from AD 4080367 to AD 4080416. How much money did he withdraw?
13.	Round off 468 to the nearest tens.	14.	Given that n(A) = 20, n(B) = 17 and n(A∪B) = 27, find n(A∩B).
15.	Two numbers are in the ratio 3:4. Given that their LCM is 48, find their GCF.	16.	Express $\frac{13}{5}$ to a mixed number.
17.	When a die is tossed once, what is the probability that a prime number will show up?	18.	If 4kg of sugar cost sh.24000, find the cost of 2½kg of sugar at this rate.
19.	Using a ruler and a pair of compasses only, bisect the acute angle below. 	20.	Circle the numbers which are divisible by 3 from the list below. 210, 34, 69, 116

SECTION .B. (60 MARKS)

21. (a) Simplify: $\frac{3}{4} - \frac{4}{5} + \frac{1}{2}$

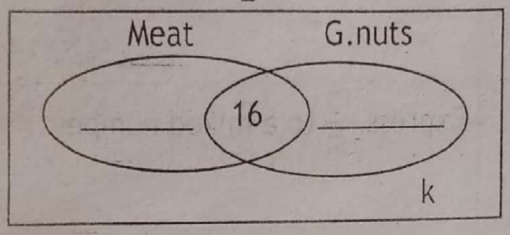
(b) Work out: $\frac{3}{10} + \frac{1}{4} \div 1\frac{1}{4}$

(06Marks)

22. At a party attended by some guests, 3k ate meat only, (2k - 3) ate G.nuts only, 16 ate both meat and G.nuts while k ate none of the two.

(a) Represent the above information on the venn diagram below.

E =

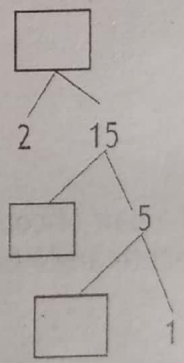


(b) Given that 72 guests ate only one kind of sauce, find the value of k.

(05Marks)

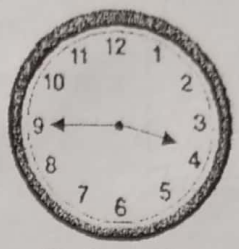
23. (a) Express 54 as a product of its prime factors.

(b) Study and complete the factor tree below.



24. The clock faces below show the starting and ending time of a debate that was held in the afternoon.

Starting time



Ending time

(a) At what time did the debate;
(i) start?

(ii) end?

(b) For how long was the debate?

(04 Marks)

25. Given the number 4320.

(a) Find the place value of 4 in the number.

(b) Work out the difference between the value of 4 and the place value of 3 in the above number.

(05 Marks)

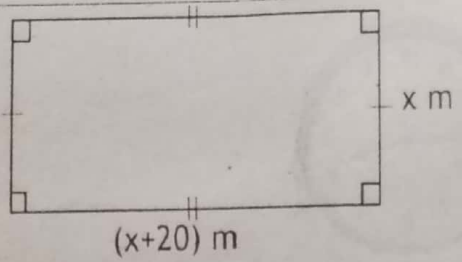
26. The number of pupils in P.7, P.6 and P.5 is in the ratio 4:5:6 respectively. Given that there are 90 pupils in P.6 and P.7 altogether;

(a) Find the number of pupils in all the three classes.

(b) How many more pupils are in P.5 than in P.7?

(04 Marks)

27. The perimeter of the rectangular garden below is 240m.



(a) Find the value of x.

(b) Work out the area of the garden.

(06 Marks)

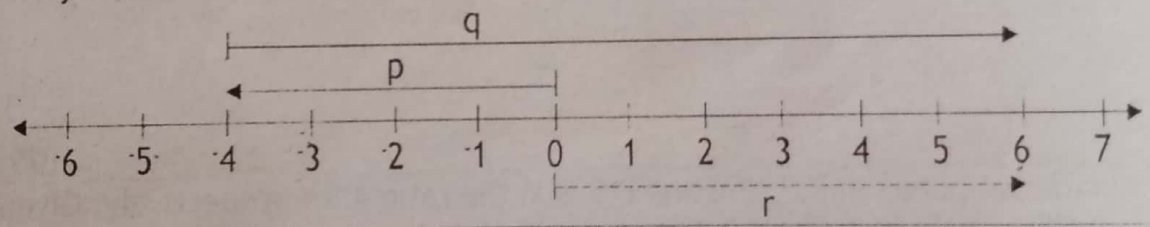
28. The exchange rates at Centenary bank in a certain month were as follow;
1 Kenya shilling (K sh.1) = Ugsh.30
1 United States dollar (US$1) = Ugsh.3600
1 British pound (£1) = Ugsh.4000

(a) A trader has Ugsh.540,000. How many Us dollars will the trader get from the bank?

(b) A tourist from America went to the bank with 80 Us dollars. Find how much money in pounds the tourist got.

(05 Marks)

29. Study the number line below and answer questions that follow.



(a) Write the integers represented by arrows;

p = _____

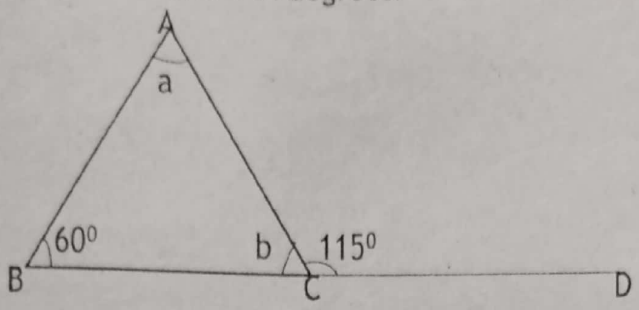
q = _____

r = _____

(b) Write the mathematical sentence shown on the number line above.

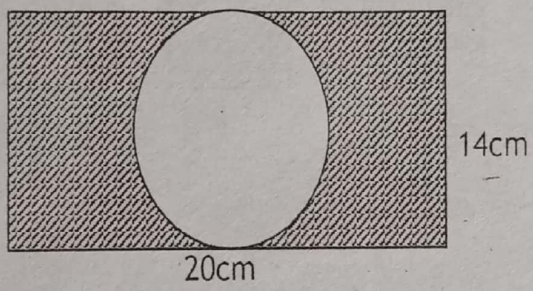
(05 Marks)

30. The figure below shows a triangle ABC and straight line BCD. Find the size of the angles marked a and b in degrees.



(04 Marks)

31. The figure below shows a circle inscribed in a rectangle. Study and use it to answer the questions that follow.

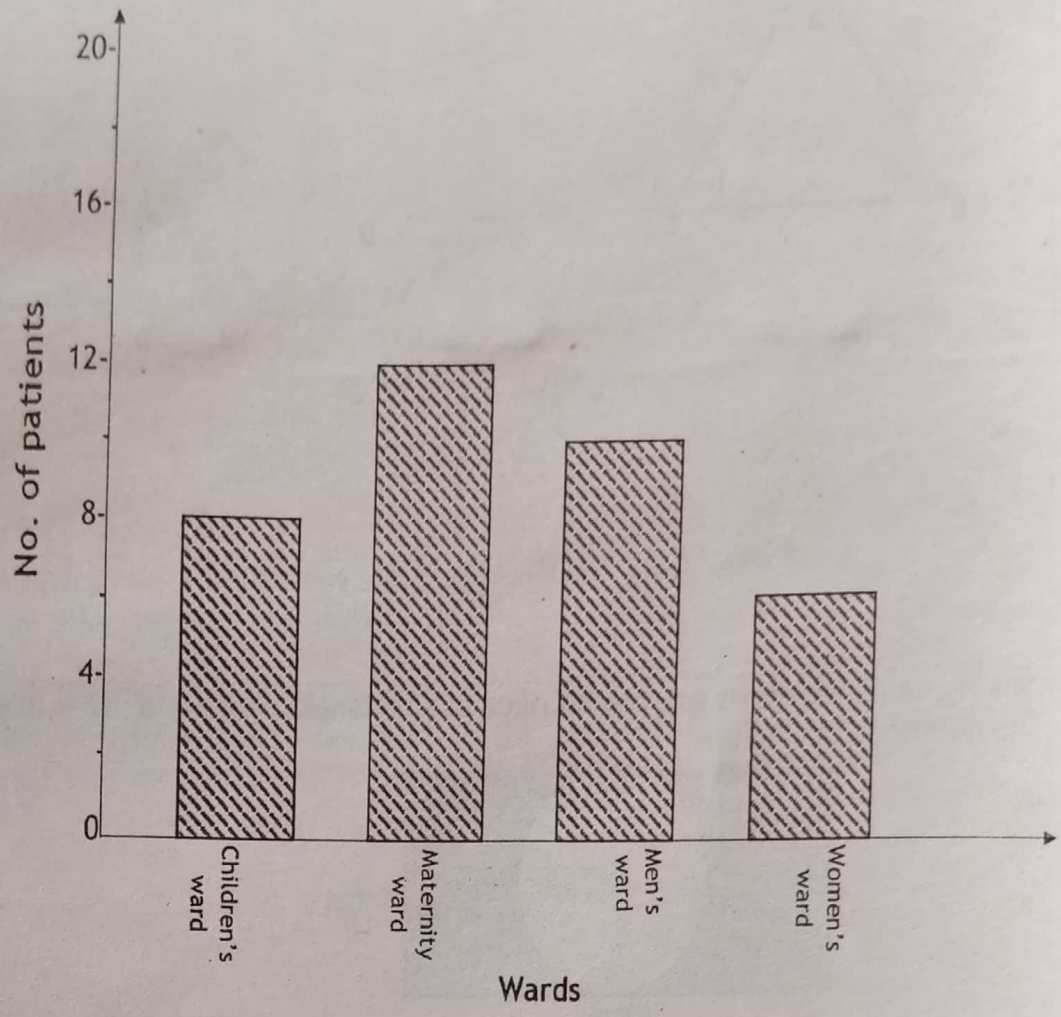


(a) Find the area of the circle.
(Take $\pi = \frac{22}{7}$)

(b) Work out the area of the shaded part.

(06 Marks)

32. The graph below shows the number of patients in each of the wards at a health centre IV.



(a) Which ward had the lowest number of patients?

(b) How many women altogether were admitted in the health centre IV?

(c) Calculate the average number of patients in the health centre IV.

(05Marks)

END