

# MUKONO MUNICIPAL COUNCIL MOCK EXAMINATIONS 2022 MATHEMATICS

*Time Allowed: 2 hours 30 minutes*

RANDOM No.

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PERSONAL No.

Candidate's Name .....

Candidate's Signature .....

School Name .....

District Name .....

Read the following instructions carefully:

1. The paper has **two** sections: **A** and **B**.
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 or fountain pen.  
Diagrams should be drawn in pencil.
4. Unnecessary changes of work may lead to loss of marks.
5. Any handwriting that cannot easily be read may lead to loss of marks.
6. 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	EXRS' NO.
1 - 5		
6 - 10		
11 - 16		
17 - 20		
21		
22 - 23		
24 - 25		
26 - 27		
28 - 29		
30		
31 - 32		
Total		

Turn Over

### SECTION A:

Answer **ALL** questions in this Section

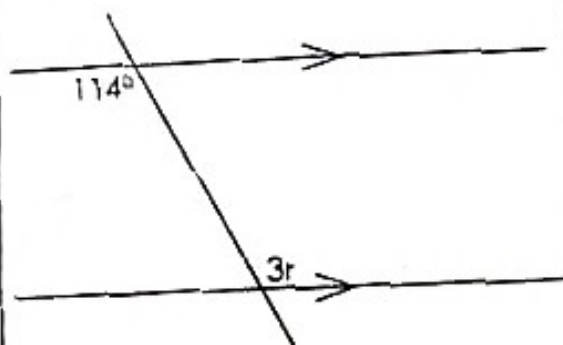
Questions 1 to 20 carry 2 marks each.

1.	Work out $12 \div 4$	4.	Given that $R = \{2, 3, 4, 8, 7\}$ and $W = \{1, 2, 3, 5, 7\}$ . Find $n(W \cap R)$
2.	Given that $a = 8$ , $b = 7$ and $c = 4$ , find out the value of $\frac{a + b}{c}$	5.	Write 'Nine thousand ninety - nine' in figures.
3.	Work out $2\frac{1}{4} \times \frac{3}{4}$	6.	Express 20m/s as kilometres per hour

7. Kirya sold a book at sh. 7,500 and made a loss of sh. 800. Find the price at which Kirya bought the book.

10. The mean of  $2x$ ,  $x - 3$  and 6 is 14. Find the value of  $x$ .

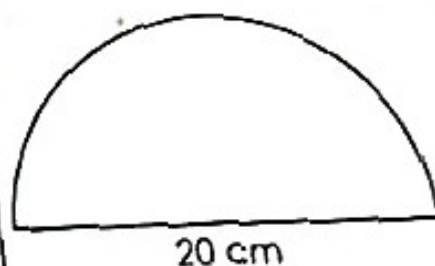
8. Find the value of  $r$  in the figure below:



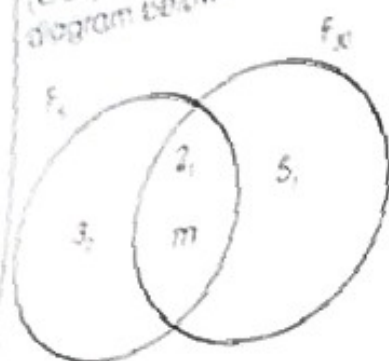
11. The mass of a packet of salt is  $\frac{1}{8}$  kg. What is the mass in grammes?

9. Simplify  $3 - 9$

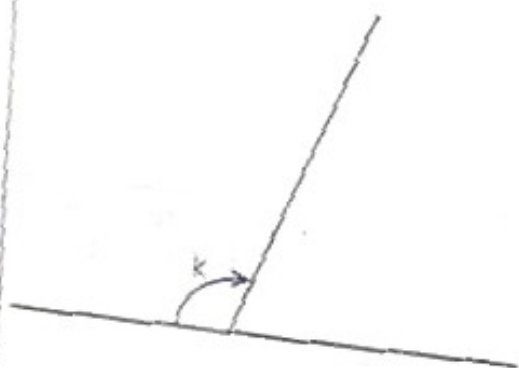
12. Work out the perimeter of the semi circle below (Use  $\pi$  as 3.14)



13. Find the Greatest Common Factor (GCF) of  $x$  and  $30$  in the venn diagram below



14. Using a protractor, measure the angle marked with letter  $k$  in the figure below



15. Solve the inequality and find the solution set for  $4 \geq 2p > -12$

16. In a class, 0.6 of the pupils are girls and there are 20 boys. How many pupils are there in the class?

17. Expand 97.08 using powers of ten

18.	It started raining at a half past midnight. Express this time in the 24-hour clock.
19.	The bearing of town P from town L is $123^\circ$ . Find the bearing of town L from town P.
20.	Find the next two numbers in the sequence: 6, 10, 16, 24, 34, _____, _____

### SECTION B:

Answer **ALL** questions in this Section

Marks for each section are indicated in brackets.

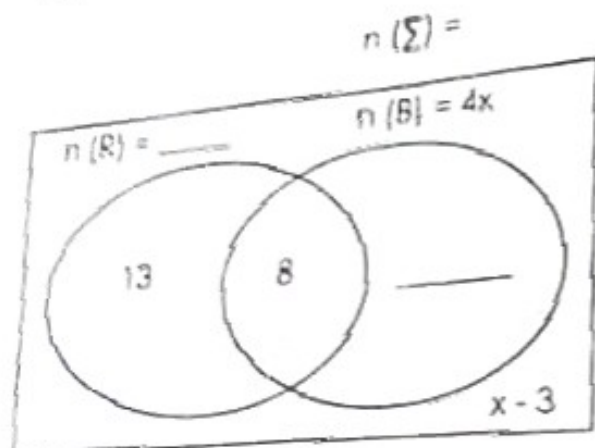
21. (a) Find the number whose scientific notation is  $3.8 \times 10^2$  (02 marks)

(b) Solve:  $3^k \times 3 = 81$  (03 marks)



22. In a home,  $4x$  members eat beans (B), some eat rice (R), 8 members eat both beans and rice, 13 members eat rice only while  $(x - 3)$  members do not eat any of the two types of food.

(a) Use the above information to complete the venn diagram below.  
(02 marks)



- (b) Given that 14 members do not eat rice, find the total number of members in the home.  
(03 marks)

23. Using a pair of compasses, a ruler and a pencil only

- (a) Construct a parallelogram ABCD such that  $AB = 7\text{cm}$ ,  $BC = 5\text{cm}$  and  $AC = 10\text{cm}$  (04 marks)

(b) Measure angle BAD

(01 mark)

24. Anyait bought the items below:

4 kg of sugar for sh. 3500 per kg

$\frac{1}{2}$  kg of salt for sh. 1000

2 bars of soap for sh.  $y$  per bar

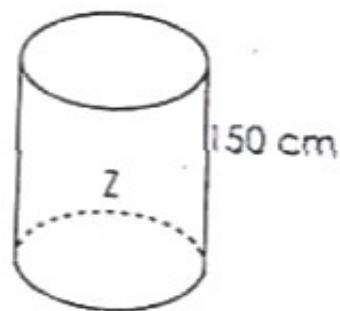
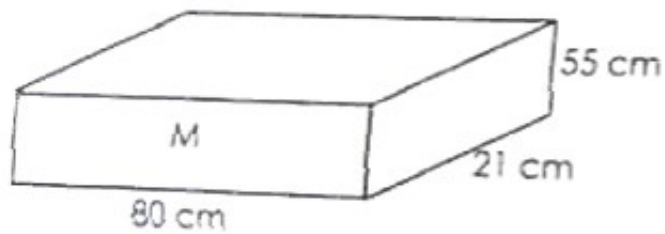
$3\frac{1}{2}$  kg of beans for sh. 2800 per kg

- (a) How much money did Anyait spend on beans and sugar? (02 marks)

(b) If Anya spent sh. 38,800 altogether, find the value of  $y$ .

(03 marks)

25. The tanks below contain the same amount of water when completely full. Use them to answer the questions that follow.



- (a) Find the volume of tank M.

(02 marks)



(b) Work out the radius of tank 2  
(Take  $\pi$  as  $\frac{22}{7}$ )

(03 marks)

26. (a) Simplify  $\frac{0.45 \times 0.03}{0.03 \times 0.5}$

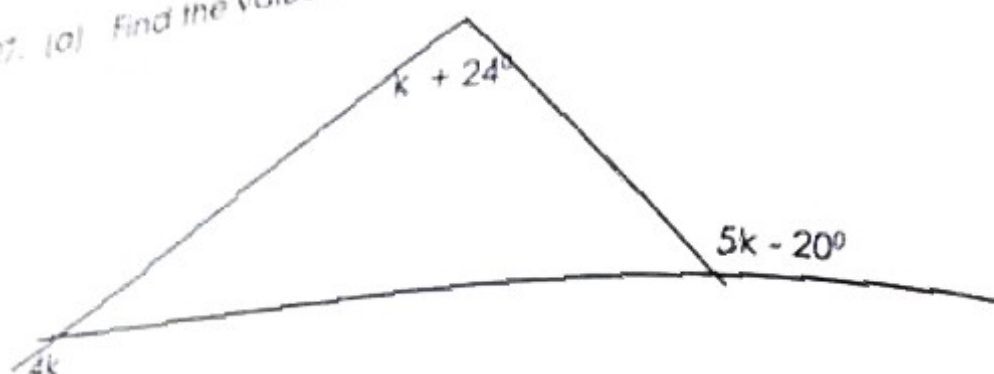
(03 marks)

(b) Work out:  $\frac{3}{4} + \frac{2}{5}$

(02 marks)

27. (a) Find the value of  $k$  in the figure below

(03 marks)



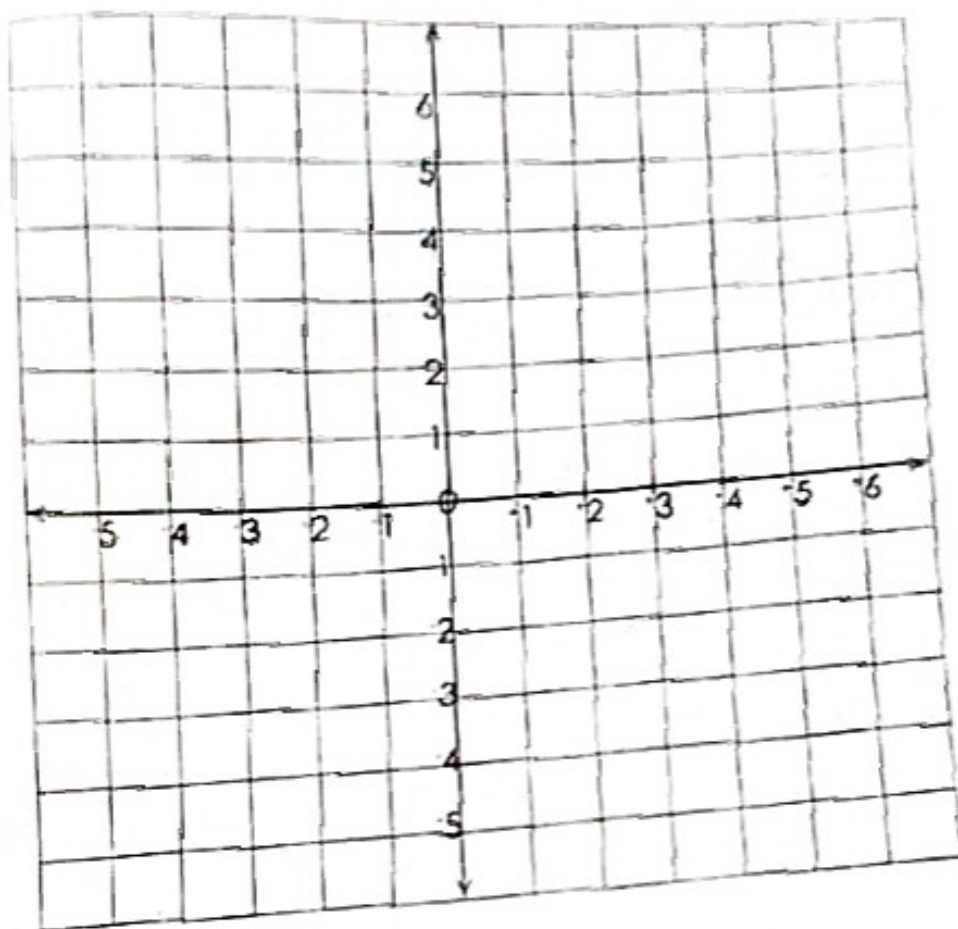
(b) Find the complement of  $37^\circ$ .

(02 marks)

28. On a farm of animals,  $\frac{1}{6}$  of them are sheep,  $\frac{3}{8}$  are rabbits,  $\frac{1}{4}$  are cattle,  $\frac{1}{12}$  are goats and the rest are donkeys. If there are 152 donkeys on the farm, find the total number of animals on the farm.

(05 marks)

- (a) On the grid below, plot points A(0, 5), B(-2, 1), C(0, -3) and D(2, 0)



- (b) Join A to B, B to C, C to D and D to A

(03 marks)

30. A motorist drove at a speed of  $80\text{km/h}$  for  $2\frac{1}{4}$  hours. He got a stop over for 45 minutes and covered  $240\text{km}$  in a 2 hours after resting.

- (a) Find the distance he covered before the stop over.

(02 marks)

- (b) Calculate the average speed for the whole journey.

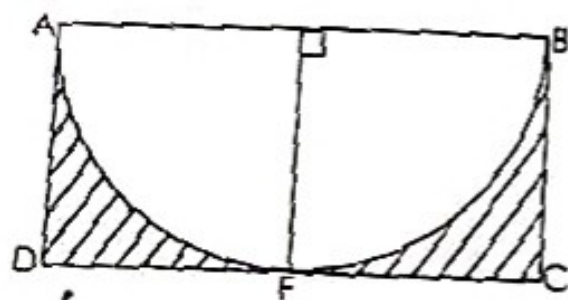
(03 marks)

31. (a) Subtract  $q + 4$  from  $2q - 7$

(03 marks)

(b) The age of Musa and that of Angella are in the ratio of 7:9 respectively. 5 years ago, their total age was 54 years. Find Musa's age (03 marks)

32. The figure below shows a rectangle ABCD where  $AB = DC$ . AB, the diameter of the semi circle ABF = 14cm. Find the area of the shaded part.



END