



# ASSOCIATION OF CATHOLIC EDUCATION INSTITUTIONS (ACEI) - MASAKA DIOCESE

## PRE - PLE EXAMINATION- 2024

### MATHEMATICS

Time allowed: 2 hours 30 minutes

School EMIS.					Personal No.		

Candidate's Name : \_\_\_\_\_  
Candidate's Signature : \_\_\_\_\_  
School Name : \_\_\_\_\_  
District Name : \_\_\_\_\_

**Read the following instructions carefully.**

1. This paper has 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. All answers to both sections **A** and **B** must be written in the spaces provided.
5. All answers must be written using a blue or black ball point pen or ink. Diagrams should be drawn in pencil.
7. Unnecessary crossing of work will lead to loss of marks.
8. Any handwriting that cannot easily be read may lead to loss of marks.
9. Do not fill anything in the boxes indicated;  
**For Examiner's use only.**

FOR EXAMINER'S USE ONLY		
QN. No.	MARKS	INITIALS
1 – 10		
11 – 20		
21 – 22		
23 – 24		
25 – 26		
27 – 28		
29 – 30		
31 – 32		
TOTAL		

**Turn Over**

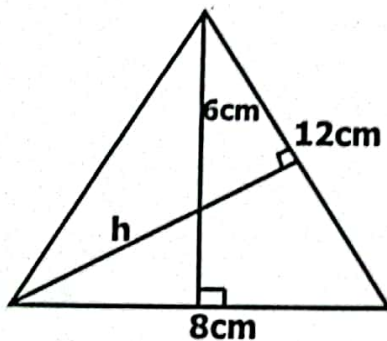
**SECTION: A**

1.	Work out: $12 \times 4$	2.	Expand: 915 using place values
3.	Find the additive inverse of -7		
4.	Work out: $\frac{7}{8} \div 3\frac{1}{2}$		
5.	Ritah scored the following marks: 8, 9, 6, 4 and x: Find the value of x if her average score was 6	6.	A truck carries 4000kg of cement. Find how many 50kg bags can be carried by the truck?

7. Given  $n = 2$ ,  $m = -7$  and  $r = 0$ . Evaluate  $mnr$

8. The direction of Soroti from Kampala is  $N40^\circ E$ . Find the bearing of Kampala from Soroti.

9. Study the figure below carefully and use it to find the value of  $h$ .



10. Below are prime factors of 60,  
 $\{2_1, n, 3_1, 5_1\}$ . Find the value of  $n$ .



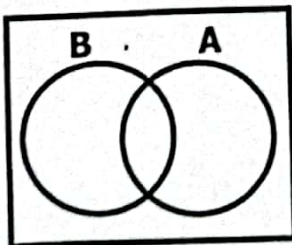
11. Given that set  $P = \{a, b, c, d\}$ . Find the number of proper subsets in set P.

12. Solve for k:  $7 - 1(k + 3) = 2$

13. Express 800cm as metres.

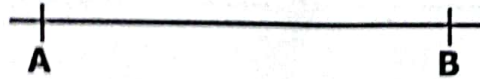
14. A trader bought 30 eggs at sh. 7500. Find how much must he sell each egg if he is to make a profit of sh. 1500.

15. In the diagram below, shade  $A \cap B$  complement.



16. Express: 0.5 as a percentage.

17. Using a pair of compasses, a ruler and a sharp pencil only. Bisect the line segment AB below.



18. The cost of 3 pens is sh. 12,000. Find how many pens will John buy with sh. 36,000.

19. Work out:  $4 + 5 = \underline{\hspace{2cm}}$  (Finite 7)

20. Calculate the square root of 1.44

**SECTION: B (60 Marks)**

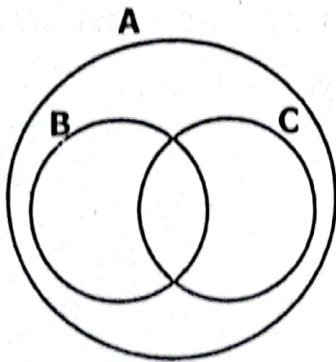
21. Given that:  $A = \{\text{Whole numbers less than 10}\}$   
 $B = \{\text{Odd numbers less than 10}\}$   
 $C = \{\text{Prime numbers less than 10}\}$

(a) Find members in set; (3marks)

A: \_\_\_\_\_ B: \_\_\_\_\_

C: \_\_\_\_\_

(b) Complete the Venn diagram below using the sets above. (2mks)

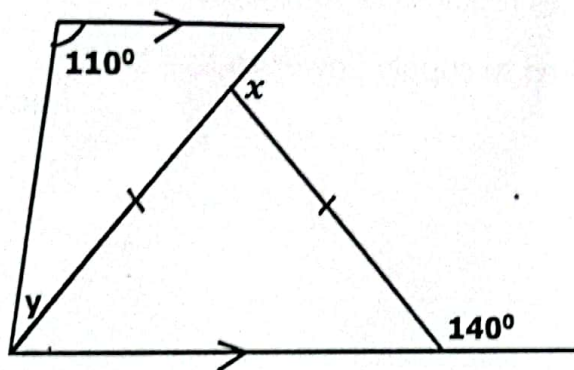


22. (a) Solve for  $x$   $\frac{x+3}{3} = \frac{2x-4}{3}$  (3marks)



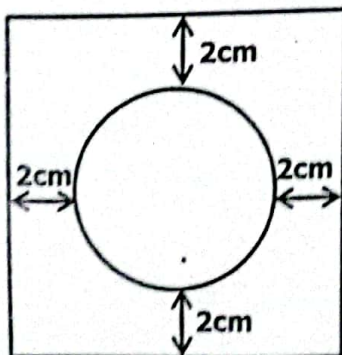
- (b) I think of a number, multiply it by 4 and subtract 12 from the result, my answer is 36. Find the number. (2 marks)

23. Use the diagram below to find the values of angles marked  $x$  and  $y$ . (4mks)



24. A square metallic sheet of side 18cm was cut to remove a circular place as shown below.

- (a) Calculate the area of the circular plate cut out  $\left(\pi = \frac{22}{7}\right)$  (3marks)



(b) Calculate the area of the metal which remained after the removal of the circular plate. (2mks)

25. A modern bakery has been built 3.3km away from the nearest powerline. If the distance between electric poles required is 50 metres.

(a) Find how many poles are required to supply power to this bakery. (3mks)

(b) If UMEME sells each pole at sh. 250,000. Calculate how much money will it cost the bakery to get the required number of poles. (2mks)



26.

Pupils in P.7 in a certain school were asked their favourite sodas when they went for a Picnic in Botanical Gardens as the table below indicates the details.

Type of soda	Novida	Pepsicola	Cocacola	Krest	Fanta	Mirinda
No. of children	10	6	12	18	10	16

Use a radius of 4cm to present the above information on a well labeled piechart. (6mks)

27.

A taxi carrying 14 passengers and a driver, all of the same weight. If the taxi with every body on the board weighs 2400kg and the empty taxi weighs 1500kg.

Find what will be the weight of the taxi if 7 passengers get off. (5marks)

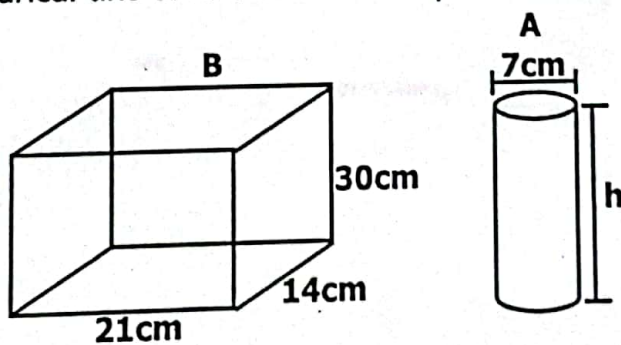
28.	<p>A farmer deposited shs. 900,000 in a bank that offers an interest rate of 12% per annum for 8 months.</p> <p>(a) How much interest did the farmer get after the above period? (3marks)</p>
	<p>(b) Calculate the amount of money the farmer got from the bank. (2marks)</p>
29.	<p>(a) Expand <math>444_{\text{five}}</math> using powers of base ten. (2marks)</p>
	<p>(b) Find the of base <math>x</math> in the number <math>106_x = 46_{\text{nine}}</math> (3marks)</p>

30. Victoria had 30 goats, she sold  $\frac{1}{6}$  of them to Vanessa and  $\frac{3}{5}$  of the remainder to Vivian.

(a) Find how many goats did Vivian buy from Victoria. (3marks)

(b) Calculate how many goats Victoria remained with. (2marks)

31. Cylindrical tins of size **A** are to be packed into box **B** as shown below.



(a) If 18 tins are to be packed into the box. Find the height of the tin. (2mks)



(b) Calculate the space left after packing all the tins into the box.

$$\left( \text{Use } \pi = \frac{22}{7} \right)$$

(3marks)

32. The exchange rates at a certain Forex bureau is as follow;

1 US dollar costs Ugsh. 3800

1Ksh costs Ugsh. 38

(a) Joseph had 200 US dollars, how much did he get in Uganda shillings?

(2marks)

(b) Find how much money in dollars will one get from the exchange of Ksh 3500.

(3marks)