



# THE PRIME EXAMINATIONS 2023

## PRIMARY SIX END OF YEAR

### MATHEMATICS

Time allocated 2 hours 30 minutes



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#### READ THE FOLLOWING INSTRUCTIONS CAREFULLY

1. This paper has **two** sections: **A** and **B**. Section **A** has **20** questions (**40 Marks**) and Section **B** has **12** questions. (**60 Marks**)
2. Answer **ALL** questions. 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 ink. Any work done in pencil other than on graphs and diagrams will **not** be marked.
4. No calculators are allowed in the examination room.
5. Unnecessary **changes** in your work and handwriting that cannot be read easily may lead to **loss of marks**.
6. Do not fill anything in the table indicated

"FOR EXAMINERS' USE ONLY"

#### FOR EXAMINERS' USE ONLY

QUESTION NUMBER	MARKS ATTAINED	INITIALS
1 - 5		
6 - 10		
11 - 15		
16 - 20		
21 - 22		
23 - 24		
25 - 26		
27 - 28		
29 - 30		
31 - 32		
TOTAL		

APPROVED

Consultant

Mathematics Department (PEC)

PUBLISHERS OF:-

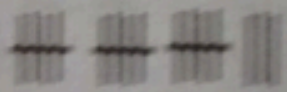
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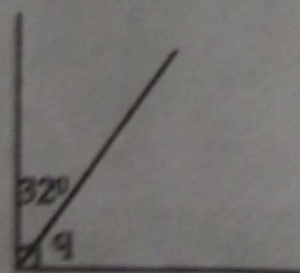
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Turn Over



# Section A (40 Marks)

- |    |   |    |  |
|----|---|----|--|
| 1  | Workout: $7 + 3$  | 2  | Write COLV in Hindu Arabic numerals.   |
| 3  | Simplify: $6a + 3b + 2a + 10b$                                  | 4  | Work out: $\frac{11}{15} - \frac{7}{15}$   |
| 5  | Find the next number in the sequence;<br>2, 3, 5, 7, ____       | 6  | Increase 240 in the ratio 5:4  |
| 7  | Given that set $A = \{2, 3\}$ . List down all subsets of set A. | 8  | What number is represented by the tallies below?<br> |
| 9  | Harriet bought 3kg of sugar. Express this quantity in grammes.  | 10 | Change $17_{ten}$ to base five.  |
| 11 | In the diagram below, find the size of angle marked $q$ .       |    |  |



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12	A forty minute lesson ended at 9:00am. At what time did it start?	13	The LCM of two numbers is 24, their GCF is 2. If the first number is 6, find the second number.
14	A baby slept at 8:45pm. Express this time in 24 hour clock system.	15	Divide 3627 by 9.
16	Find the number that has been expanded below. $(3 \times 10^2) + (6 \times 10^1) + (5 \times 10^0)$	17	Show the number 2057 on the abacus.
18	Using a ruler, a sharp pencil and a pair of compasses only, construct an angle of $60^\circ$ in the space below.		
19	The exchange rate for 1 US dollar is Ush.3500. Convert 180 US dollars to Uganda shillings.	20	At a party, 72 litres of juice was shared among the guests. If each guest got $\frac{1}{2}$ litre. How many guests were served?

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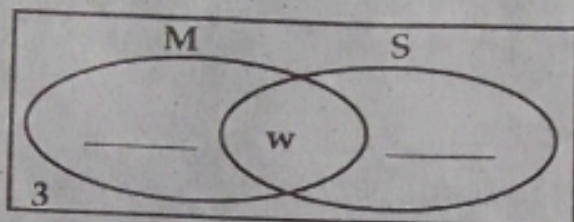




Section B (60 Marks)

21 In a class of 60 pupils, 40 like Maths(M), 27 like Science(S), 3 do not like any of the two subjects while w like both subjects.

(a) Complete the Venn diagram below. (02 marks)



(b) Find the value of w. (02 marks)

(c) What is the probability of picking at random a pupil who likes Maths? (01 mark)

22 (a) Solve:  $34_y = 42_{\text{five}}$  (03 marks)

(b) Add:  $104_{\text{five}}$   
 $+ 23_{\text{five}}$   
 \_\_\_\_\_  
 \_\_\_\_\_ (02 marks)

23 A pupil went for shopping and bought the items below.

6 exercise books at sh.1500 per book.  
 $1\frac{1}{2}$ kg of sugar sh.6000 per kg.  
 500ml of cooking oil at sh.4000 each litre.

(a) Calculate the pupil's total bill. (04 marks)



(b) If the pupil had sh.25,000, what was his change?

(02 marks)

24 Four girls Cathy, Nusulah, Fridah and Beatrice shared sh.180,000 in the ratio 2:3:4:1 respectively. Find how much each girl got.

(05 marks)

25 A taxi left town P at 7:45am travelling at 64km/h and reached town Q at 10:15am.

(a) Find the time the taxi took to cover the journey.

(02 marks)

(b) Calculate the distance between town P and town Q.

(02 marks)

26 (a) Work out:  $\frac{2.4 \times 0.6}{0.12 \times 0.4}$

(03 marks)

(b) Six boys can slash a compound in 20 minutes. How many boys can do the same work in 12 minutes?

(02 marks)



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27

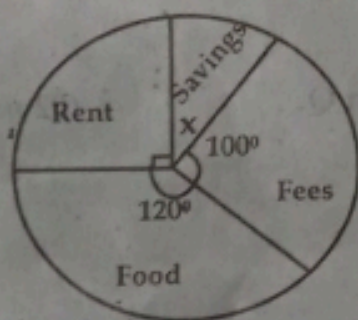
Using a ruler and a pair of compasses only, construct a triangle ABC where  $\overline{AB} = 7\text{cm}$ , angle  $ABC = 90^\circ$  and angle  $BAC = 45^\circ$ . (04 marks)

(b) Measure  $\overline{BC}$ .

(01 mark)

28

The pie chart below shows how a man spends his monthly salary of sh.900,000.



(a) Find the value of x.

(02 marks)

(b) How much money does he spend on food every month?

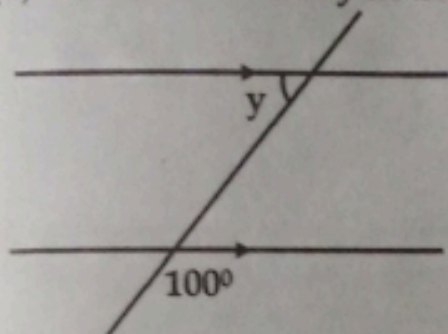
(02 marks)



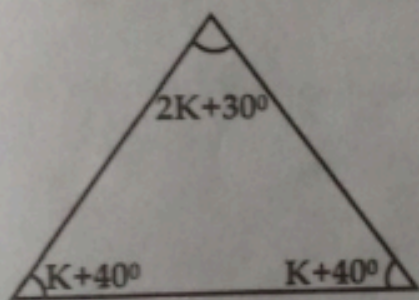


(c) Express the money spent on rent as a percentage of the total salary. (02 marks)

29 (a) Find the value of  $y$  in the figure below. (02 marks)



(b) Find the value of  $K$  in the triangle below. (03 marks)



30 Sseremba is 10 years older than Mwanga. Their total age is 48 years. How old is Sseremba? (03 marks)

(b) Solve:  $\frac{x}{5} = 4$  (02 marks)



31

The table below shows marks obtained by pupils of P.6 in a certain school in a Maths test.

Marks	65	80	50	90
No. of pupils	2	3	4	1

(a) How many pupils did the test?

(01 mark)

(b) Find the range in their marks.

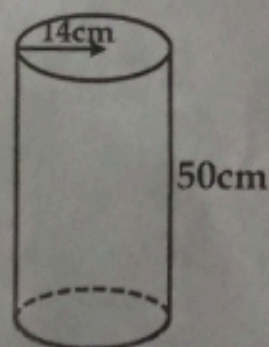
(01 mark)

(c) Work out the average mark of the class.

(03marks)

32

Below is a cylindrical water tank. Study it and answer the questions that follow.



(a) Work out the volume of the tank. ( $\pi = \frac{22}{7}$ )

(02 marks)

(b) Find the capacity of the tank in litres.

(02 marks)



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