# NAKASANA JOINT MOCK EXAMINATION, 2024
## MATHEMATICS – PRIMARY SEVEN

*Time allowed: 2 Hours 30 Minutes*

| Index No. | Random No. | | | | | Personal No. | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |

Candidate's Name: …………………………………….......................................

Candidate's Signature: .......................................... Stream: ...............................

School: …..........................................................................................................

## Read the following instructions carefully:

1. This 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. 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 hand writing that cannot easily be read may lead to loss of marks.

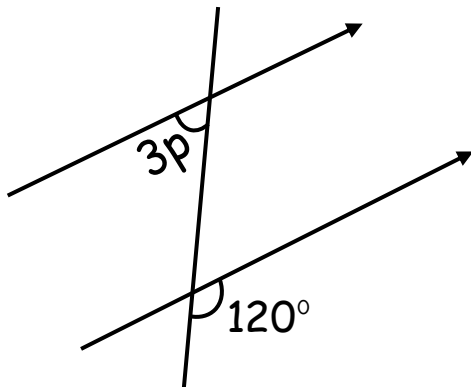7. Do not fill anything in the boxes indicated " **For Examiner's Use Only**".

## SECTION A (40 marks)

1. Work out : 52 × 4

2. Write **Eighty-three thousand, thirty-three** in figures.

3. Simplify : $(5x - 2y) - (x + 3y)$

4. A set has one proper subset. How many elements are in that same set ?

5. Study the diagram below carefully and find the value of **p** in degrees.

6. Find the next number in the sequence:

69, 50, 33, 18, 7, _____

7. Work out : $0.24 \div 0.3$

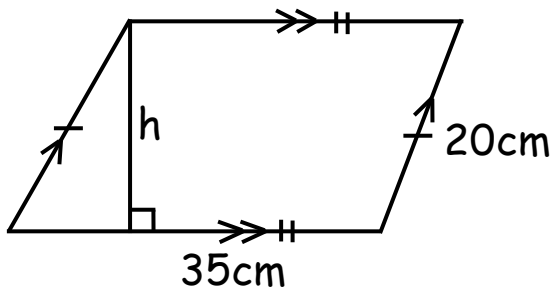8. A class meeting started at 10:40a.m. and ended at 2:15p.m. How long did the meeting last ?

9. The masses of three girls are 30kg, 42kg and 39kg. When the fourth girl joins the group, their average mass becomes 39kg. Calculate the mass of the fourth girl.

10. Work out:  $2 - 5 = $ ........ (mod 3)

11. A trader has a bundle of twenty thousand shilling notes numbered consecutively from AM9765321 to AM9765360. How much money does the trader have ?

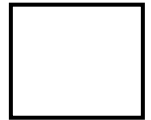12. The area of the figure below is 420cm². Find the measurement of its height.



35cm

13. Nankinga's salary of sh. 560,000 was increased by $12\frac{1}{2}$ % . Find her new salary.

14. Convert $114_{five}$ to ternary system.

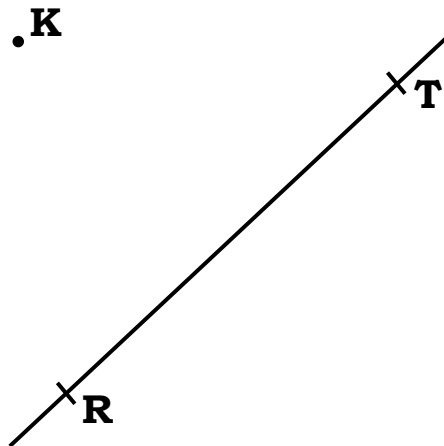15.  Solve the inequality and give the solution set.

$$13 - 2p \angle 5$$

16.  Express 108 as a product of its prime factors.
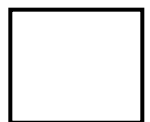
17.  Using a pair of compasses, a ruler and a pencil only, drop a perpendicular line to meet line segment **RT** from point **K** below.

18. The circumference of a circle is 88m. Work out its radius.
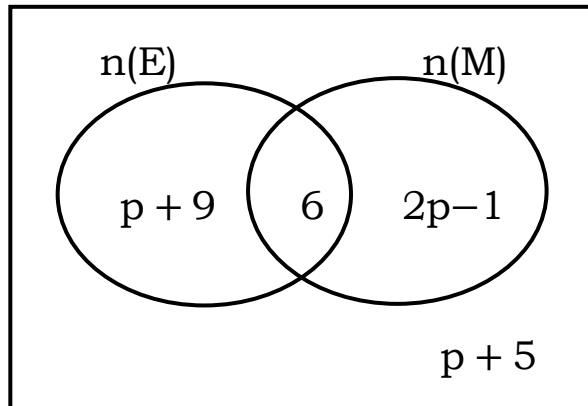( Take $\pi = \frac{22}{7}$ )

19. Simplify:  $21 - 15 \div 3$

20. A lorry moving at a speed of 64km/h took 45 minutes to reach its destination. Find the distance it covered.

# SECTION B (60 MARKS)

21(a) The Venn diagram below shows the number of pupils and their favourite subjects, some like Math (M) and others like English (E).



(a) If 29 pupils like only one subject, find the value of p.

(3 marks)

(b) Supposing a pupil is picked at random to be their leader, what is the probability that the pupil selected likes none of the subjects?

(2 marks)

22(a) Use distributive property to simplify:

$(126 \div 15) - (66 \div 15)$ (2 marks)

(b) A factory makes 93,600 books in a day. If 144 books are packed in each carton, how many such cartons of books are made in a day ? (2 marks)

23. The table below shows that the exchange rates at Godie forex bureau for a given day. Use it to answer questions about it.

| Currency | Buying rate | Selling rate |
|----------|-------------|--------------|
| US $ 1 | Ug. sh. 3,280 | Ug sh. 3,400 |
| K sh. 1 | Ug sh. 28 | Ug sh. 30 |
| £ 1 | Ug. sh. 4,650 | Ug sh. 4,700 |

(a) A tourist came to Uganda with £150. How much money in Uganda currency did the tourist receive from that forex bureau ? (2 marks)

(b)  A tricycle costs  US $ 5,100.  How  much  money  in  Kenya
     shillings  will  a  customer  pay  for  the  same  tricycle ?
                                                           (3 marks)

24.  The  exterior  angle  of  a  regular  polygon  is  a  third  of
     its  interior  angle.
   (a)  Find  the  size  of  each  of  its  exterior  angles.        (3 marks)

   (b)  Work out  the  interior  angle  sum  of  that  regular  polygon.
                                                           (2 marks)

25.  A  woman  spends  30%  of  her  monthly  earnings  on  rent,
     20%  of  the  remainder  on  Medicare  and  the  rest  on  food.
     If  she  spends  sh. 42,000  monthly  on  food,  how  much  money
     does  she  earn  monthly.                               (5 marks)

26. The table below shows the performance of candidates in an interview.

| Marks scored | 45 | 64 | n | 70 | 46 |
|---|---|---|---|---|---|
| No. of candidates | 2 | 1 | 4 | 2 | 1 |

(a) How many candidates did the interview ? (2 marks)

(b) If the average score was 56, find the value of n. (3 marks)

27. Peace is 19 years old and Patience is 43 years old.

(a) How many years ago was Patience three times as old as Peace ? (3 marks)

(b) How old was Peace then ?                                      (2 marks)

28(a) Find the number that has been expanded to give;

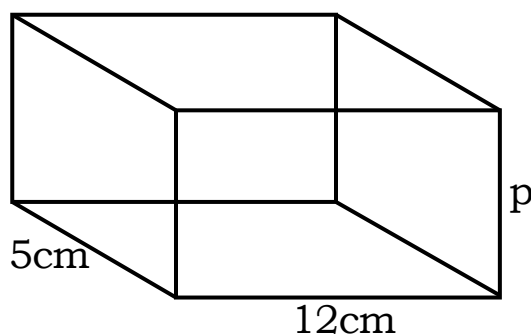$$(2 \times 10^3) + (4 \times 10^1) + (3 \times 10^0)$$                (2 marks)

(b) Represent the number in (a) above on the abacus.

(2 marks)

29. The figure shown below is a rectangular prism with a volume of 480cm³.



5cm

p

12cm
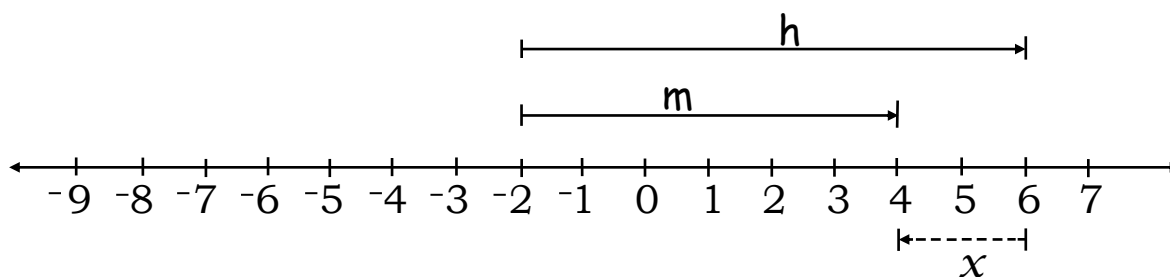
(a) Find the value of p .                                        (2 marks)

(b)  Calculate  its  total  surface  area  in  case  its  lid  is  removed.
(3 marks)

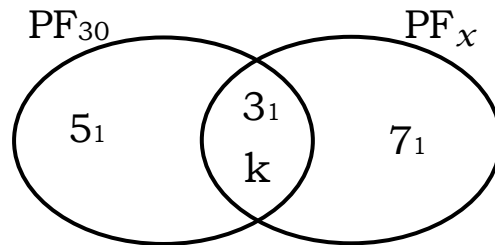30.  Use  the  number line  below  to  answer  the  questions  about  it.



(a)  Write  the  integer  represented  by;                    (1 mark @)

(i)  h  =  _____          (ii)  $x$  =  _____          (ii)  m  =  _____

(b)  State  the  mathematical  sentence  illustrated  on  the  number
line  above.                                         (2 marks)

31. Study the Venn diagram below carefully and use it to answer the questions that follow.
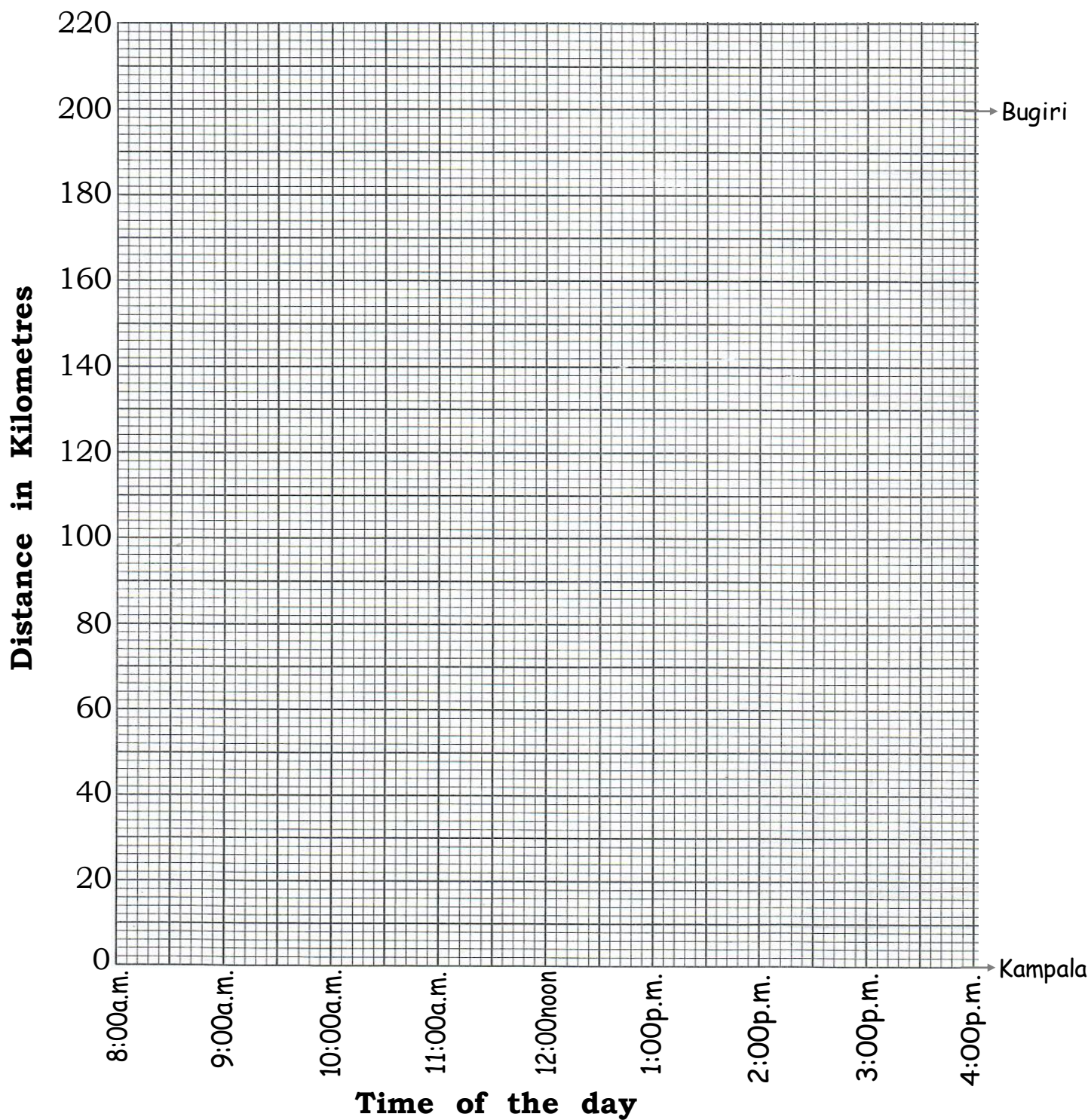
$$PF_{30} \qquad PF_{x}$$

$5_1$ $\quad$ $3_1$ $\quad$ k $\quad$ $7_1$

(a) Find the value of;

   (i) k $\hspace{12cm}$ (2 marks)

   (ii) $x$ $\hspace{11cm}$ (2 marks)

(b) Work out the L.C.M of 30 and $x$ . $\hspace{5cm}$ (2 marks)

32. A motorist left Kampala at 9:00a.m. driving at a constant speed of 60km/h for $1\frac{1}{2}$ hours to Jinja town where he took half an hour taking breakfast. He immediately resumed his journey from Jinja to Bugiri at a steady speed of 55km/h for 2 hours.

(a) Plot the motorist's journey on the travel graph below.
$\hspace{10cm}$ (3 marks)

The graph plots Distance in Kilometres (y-axis, 0 to 220) against Time of the day (x-axis, 8:00a.m. to 4:00p.m.). Kampala is marked at distance 0 and Bugiri at distance 200.

(b) Indicate Jinja on the graph. (1 mark)

(c) Calculate the average speed of the motorist for the whole journey. (2 marks)

**END**