



GOMBE JUNIOR SCHOOL

GROUP WORK SET FIFTEEN

MATHEMATICS - 2022

Time Allowed: 2 hours 30 minutes

Index No.

| Random No. | | | | | | Personal No. | | |
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Candidate's Name:

Candidate's Signature:

District ID:

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Read the following instructions carefully:

1. Do not write your **school** or **district** name anywhere on this paper.
2. This paper has two sections **A** and **B**. Section **A** has **20** questions and section **B** has **12** questions. This paper has **12** pages printed altogether.
3. Answer **all** questions. **All** the working to both sections **A** and **B** must be written in the spaces provided.
4. All working **must** be done using a **blue** or **black** ball point pen or ink. Any work written in pencil other than graphs and diagrams will **NOT** be marked.
5. **No calculators** are allowed in the examination room.
6. Unnecessary **changes** in your work and handwriting that cannot be easily read may lead to **loss of marks**.
6. Do not fill anything in the table indicated:
"For examiner's use only" and the boxes inside the question paper.

| FOR EXAMINER'S USE ONLY | | |
|-------------------------|------|-----------|
| Qn. No | MARK | EXR'S NO. |
| 1 – 5 | | |
| 6 – 10 | | |
| 11 – 15 | | |
| 16 – 20 | | |
| 21 – 22 | | |
| 23 – 24 | | |
| 25 – 26 | | |
| 27 – 28 | | |
| 29 – 30 | | |
| 31 – 32 | | |
| TOTAL | | |

SECTION A: 40 MARKS

Answer **all** questions in this Section

Questions **1** to **20** carry two marks each

1. Fill in the missing numbers in the operation below.

$$\begin{array}{r} 241 \\ + 5 \square 2 \\ \hline 79\square \end{array}$$

2. The cost of a new shirt is sh 40,500. Write the cost in words.

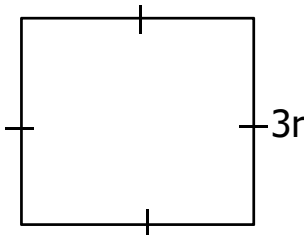
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3. Given that $A = \{0, 1, 2, 3, 4\}$, $A \cup K = \{4, 8, 0, 1, 3, 6, 10, 2\}$ and $A \cap K = \{2, 4\}$. List all the members of set K.

4. Work out $(\frac{3}{4} \times 25) + (75 \times \frac{3}{4})$.

5. The area of the square below is $1,521\text{dm}^2$. Use it to find the value of r .



6. To cross a road, a pedestrian needs to make uniform strides of either 36cm or 45cm. Find the minimum width of the road.
7. Given that $a * k = \frac{a}{k} \times ak$. Find the value of $4 * 6$.
8. A milk seller had $20\frac{2}{5}$ litres of milk. He sold the milk using small cups of 0.4 litres at a cost of sh 300 per cup. Find how much money he obtained from the sale of all the milk.
9. Find the median of $-6, 0, +7, -4, -9$, and $+3$.
10. Using a ruler, a pencil and a pair of compasses only, construct an angle of $52\frac{1}{2}^\circ$



11. The average weight of 5 bags is 17 kg. Find the average weight of the remaining bags if one bag of weight 25 kg is removed.

12. A play started thirty – five minutes ago. If it is now 00 15hrs, at what time in 12 hour clock did the play start?

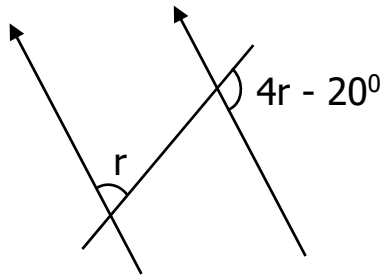
13. Okello has a bundle of bank notes numbered consecutively from BT0879141 to BT0879240. If each note he has is of sh 2,000, how much money does he have altogether?

14. Given that all puppies (P) are dogs (D) and all dogs and puppies are animals (A). Represent the information on a venn diagram.

15. Work out $-2 - -5$ using a numberline.

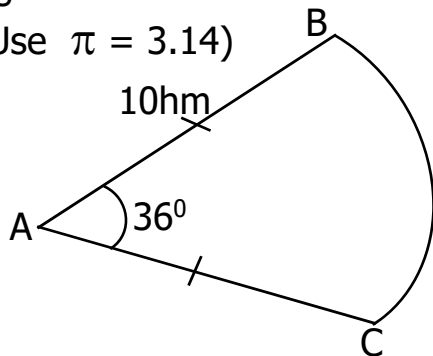


16. Find the size of angle marked r in the diagram below.



17. 8 boys take 15 hours to build a wall. How many more boys are required to build a similar wall if the work is to be done in 5 hours?
18. A farmer followed a certain pattern in transplanting seedlings. He transplanted 1 seedling on Sunday, 3 on Monday, 6 on Tuesday and 10 on Wednesday. How many seedlings did the farmer plant on Friday?
19. The area of a lake is 12km^2 on the ground and is represented by 3cm^2 on the map. Find the scale of the map.

20. Figure ABC below is a sector of a circle. Find the perimeter of figure ABC.
(Use $\pi = 3.14$)



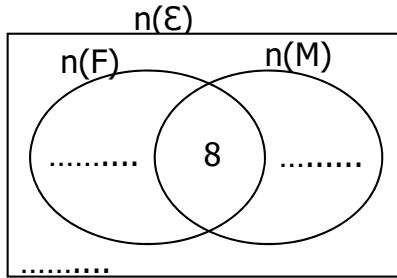
SECTION B: 60 MARKS

Answer **all** the questions in this Section

Marks for each question are indicated in brackets

21. In a home, the number of members who eat meat (M) is twice those who eat fish (F), 8 members eat both meat and fish while the number of members who eat neither meat nor fish is 2 members less than those who eat fish.

a) Use the above information to complete the venn diagram below. (03 marks)



- b) If there are 38 members in the home, find the number of members who meat only (02 marks)

22. In a book of 544 pages, $\frac{2}{17}$ of the pages are written in English, $\frac{2}{5}$ of the remaining pages are written in Luganda, $\frac{3}{4}$ of the remaining pages are written in Swahili and the rest of the pages in French. Express the pages written in French as a ratio of pages written in Luganda. (05 marks)



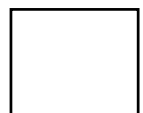
23. The table below shows a lady's expenditure last Saturday. She went with sh 60,000 and was left with only sh 8,500 after paying for all the items. Complete the table.

| ITEM | PRICE | AMOUNT |
|------------------------|-----------------------------|-----------|
| 4 bars of soap | Sh 3,500 per bar | Sh 14,000 |
| metres of cloths | Sh 3,600 per metre | Sh |
| 800 g of sugar | Sh per kg | Sh 3,600 |
| blue band tins | Sh 4,500 for 3 tins | Sh 22,500 |
| 2.75kg of beans | Sh 600 for $\frac{1}{2}$ kg | Sh |
| TOTAL | | Sh |

(06 marks)

24. a) Using a ruler, a pencil and a pair of compasses only, construct a kite WXYZ such that diagonal WY = 6cm, diagonal ZX = 8.6cm and point Z is 3.5cm from the point of intersection of the diagonals.

(04 marks)

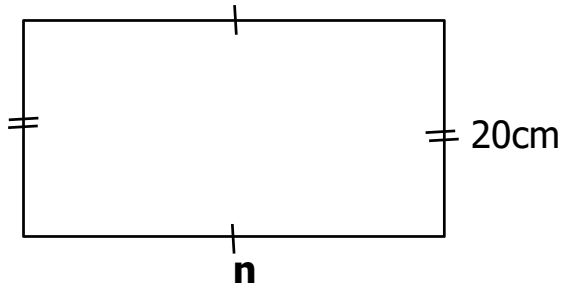


- b) Measure line XY in cm

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(01 mark)

25. The figure below shows a curved surface of a metallic cylindrical tank whose volume is 3080 cm^3 . It was cut to form a rectangular sheet as shown below.



If the height of the cylinder was 20cm, find the value of **n**. (Use $\pi = \frac{22}{7}$)
(04 marks)

26. In a certain family, a son is 24 years old and a daughter is 12 years older than the son. At what age was the daughter twice as old as the son? (04 marks)



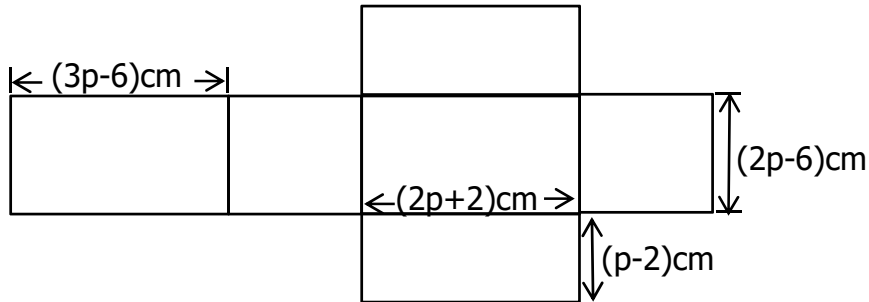
27. The time table below shows the programme of Primary Seven candidates of Gombe Junior school every Wednesday from 7:30a.m. to 4:20p.m. Study and use it to answer the questions that follow.

| Time | Subject/ Activity |
|-----------------------|--------------------------|
| 7:30a.m. – 8:10a.m. | Assembly |
| 8:30a.m. – 9:30a.m. | Science |
| 9:40a.m. – 10:30a.m. | Mathematics |
| 10:35a.m. – 11:00a.m. | Break time |
| 11:20a.m. – 1:00p.m. | Prayers |
| 1:10p.m. – 2:00p.m. | Lunch time |
| 2:15p.m. – 3:15p.m. | English |
| 3:20p.m. – 4:20p.m. | Social studies |

- a) How long do prayers last? (02 marks)
- b) How long do the pupils need to prepare for the prayers? (01 mark)
- c) One Wednesday, Mr. Opolot, a Mathematics teacher, realized he had forgotten his phone at home. He left school and drove back home when pupils were beginning break time. He picked it and drove back to school reaching there at a quarter past one when pupils were having their lunch. If the distance between school and his home is 120km, calculate his average speed for the whole journey. (03 marks)



28. The figure below shows a net of a rectangular prism. Study and use it to answer the questions that follow.



- a) Find the value of p . (02 marks)

- b) Work out the volume of the prism that can be formed from the net above. (03 marks)

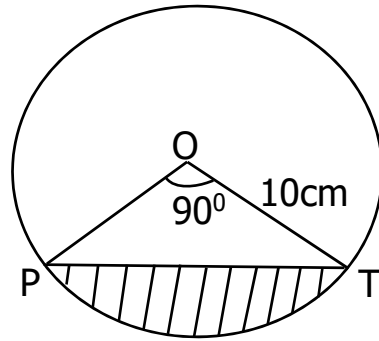


29. The mean of $2(3y-4)$, 6, $y+1$, and $y-7$ is $y+3$.

- a) Find the value of y . (02 marks)

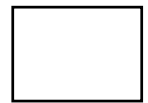
- b) Work out the range of the numbers. (02 marks)

30. In the figure below, point O is the centre of the circle. Line OT = 10cm and angle POT = 90° .



Find the area of the shaded part. (Use $\pi = 3.14$)

(05 marks)



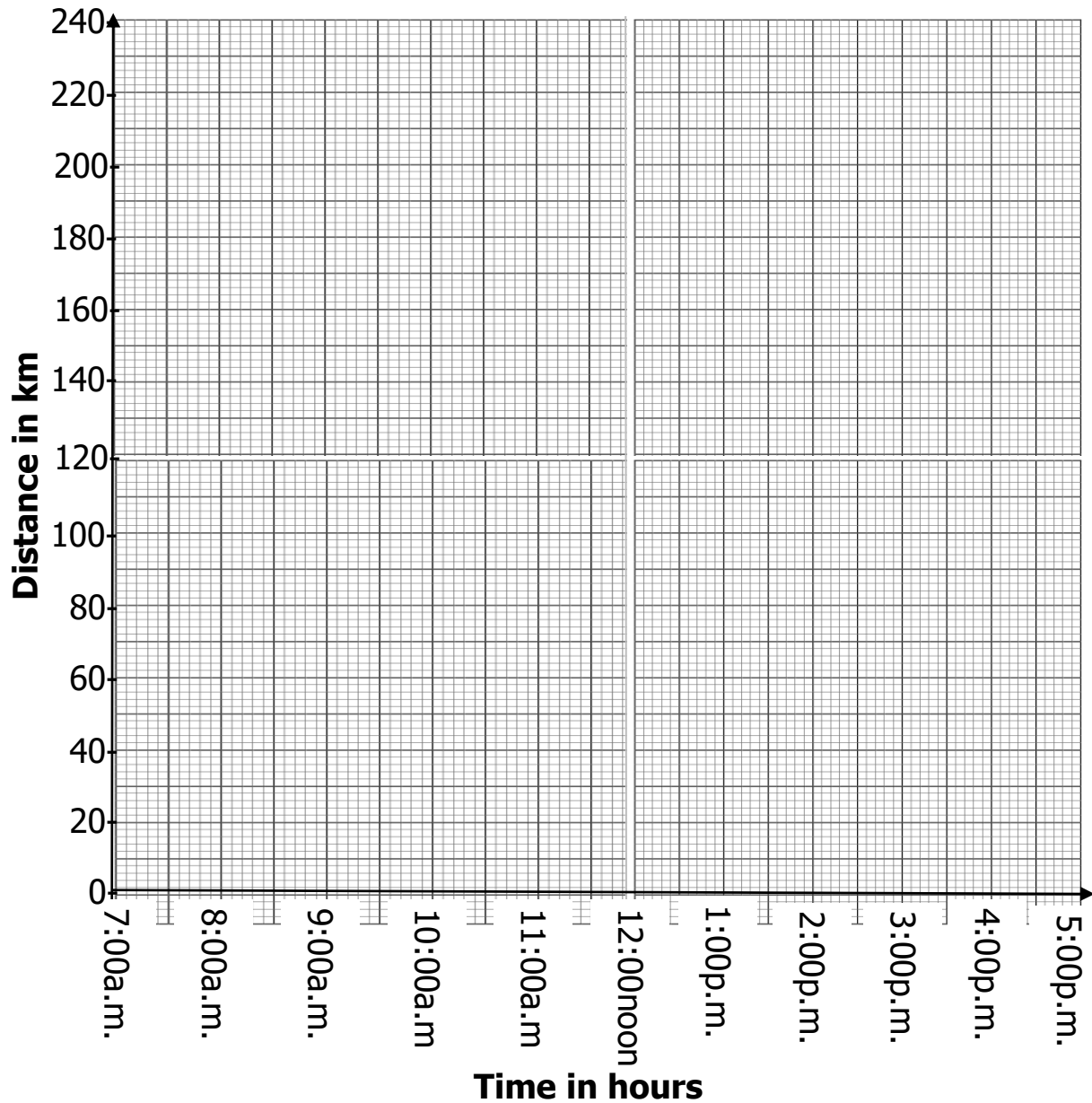
31. A builder makes concrete blocks by mixing cement and sand in the ratio of 1:8 respectively. From every 3 basins of mixture, he makes 2 blocks. If one basin of cement costs sh 60,000 and one basin of sand costs sh 1,500, find the total cost of cement and sand required to make 1,200 blocks.

(05 marks)

32. Kintu left town B for town M at 7:30a.m. driving at a speed of 88km/h for 90 minutes. He rested for 30 minutes at town M. He then continued to town K 88km away travelling at a speed of 40km/h. He rested upto 1:00p.m. at town K. He then drove back to town B at an average speed of 60km/h but the vehicle broke down after travelling for a distance of 120km. The repair took half an hour. He then continued to town B where he arrived after travelling for one hour.

- a) Use the above information to show Kintu's journey on the graph below.

(04 marks)



- b) Calculate Kintu's average speed for the whole journey.

(02 marks)



END