GOMBE JUNIOR SCHOOL

GROUP WORK SET NINE

MATHEMATICS - 2022

Time Allowed: ***2 hours 30 minutes***

Index No.	**Random No.**							**Personal No.**		

Candidate's Name: .....

Candidate's Signature: .....

School Random No. .....

District ID: .....

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		

Turn Over

SECTION A: 40 MARKS

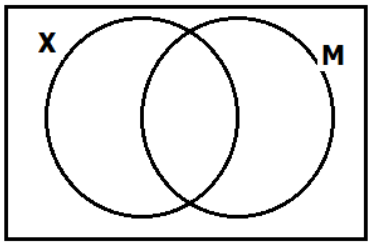
Answer **all** questions in this Section

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

1. Work out **18 ÷6** using repeated addition.

2. Write 12:02p.m. in 24 hour clock system.

3. On the Venn diagram below, shade neither set X nor set M.



4. Solve the inequality: $2(x + 4) < 5x - 4$

5. Maria got a loan of sh. 600,000 from Platinum Credit Services at 5% per month. Find the interest she paid back after a period of $\frac{1}{2}$ of a year.

6. The exterior angle of a regular octagon is $(3x + 18^0)$. Find the value of $\boldsymbol{x}$.

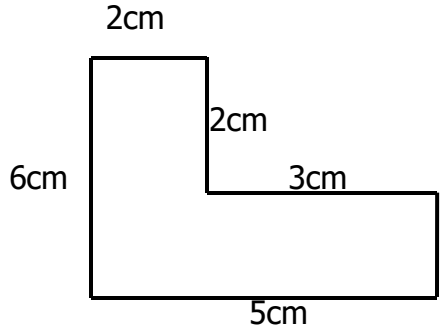
7. Mapesa left his home at 10:30am. He took $1\frac{3}{4}$ hours to cycle to school. What time did he reach school?

8. Given that set A and set B are equal sets. Fill in the missing element in each of the given set.

   Set A = { a, ……, m }

   Set B = { ……, m, n }

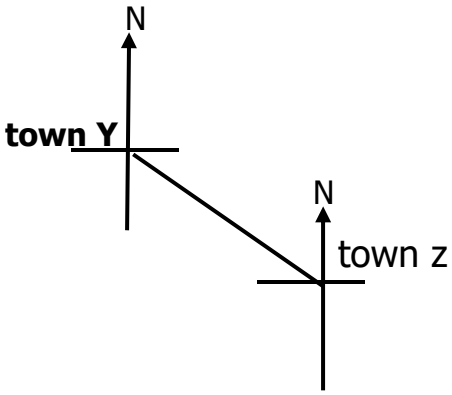
9. Find the distance around the figure below.



10. The tank was 75% full of water. When $\frac{5}{6}$ of the water in the tank was drawn, **32** litres remained. Find the capacity of the tank when full.

Turn Over

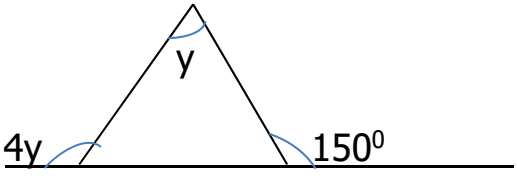
11. The bearing of town Y from town Z is 320^0. Find the bearing of town Z from town Y using the diagram below.



12. A taxi driver driving at 75km/h took 4 hours to reach his destination. How long did his return journey take at a speed of 50km/h ?

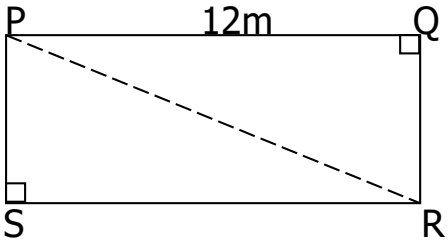
13. There are 28% more mangoes than oranges in a basket. If there are 7 less oranges than mangoes, how many fruits are in the basket?

14. What is the value of y in the figure below?



15. Solve: $\frac{12}{x} - 2 = 1$

16. The perimeter of the rectangle PQRS below is 42m. Find the length of diagonal PR.

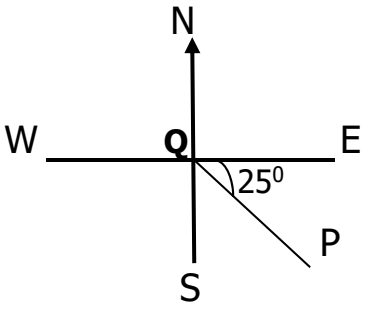


17. A girl faces South and turns anti clockwise through one and a half right angles. In what direction is she facing now?

18. What must be added to 2y + 5 to get 3y – 2?

Turn Over

19. In the figure below, find the direction of P from Q.



20. The area of a circle is 154cm^2. Find its circumference. (Use $\pi = \frac{22}{7}$)

SECTION B: 60 MARKS

Answer **all** the questions in this Section

Marks for each question are indicated in brackets

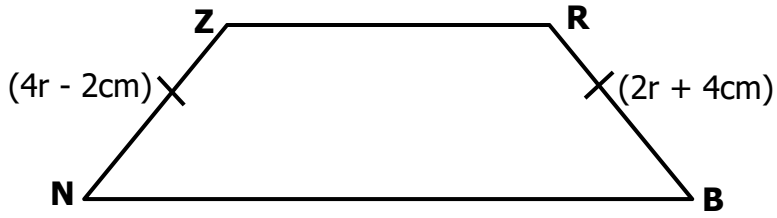
21. a) The diagonals of a parallelogram bisect each other. Using a pair of compasses and a ruler, construct a parallelogram PQRT, given that PQ = 7cm, PR = 10cm and QT = 8cm.

(*04 marks*)

b) Measure line QR. _____ cm

(01 mark)

22. The diagram NBRZ below is of an isosceles trapezium in which RZ = 8cm and NB = 20cm .



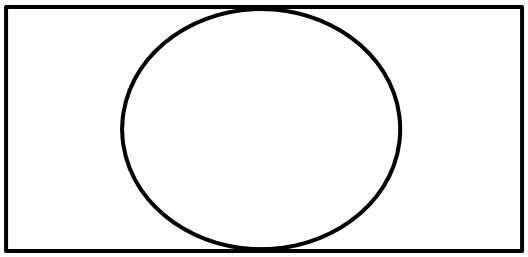
(a) Find the value of **r**. *(02 marks)*

(b) Calculate the area of the figure NBRZ. *(04 marks)*

23. Juma sold his shirt to Barungi for sh. 24,000 making a profit of 20%. Barungi then sold the same shirt to Kapere at a loss of 15%.
How much money did Kapere pay for the shirt? *(04 marks)*

Turn Over

24. A circular fish pond was dug in a rectangular piece of land of length 30m as shown below.



Given that the area of the pond is **616m²**, calculate the distance around the rectangular piece of land. (Use $\pi = \frac{22}{7}$)

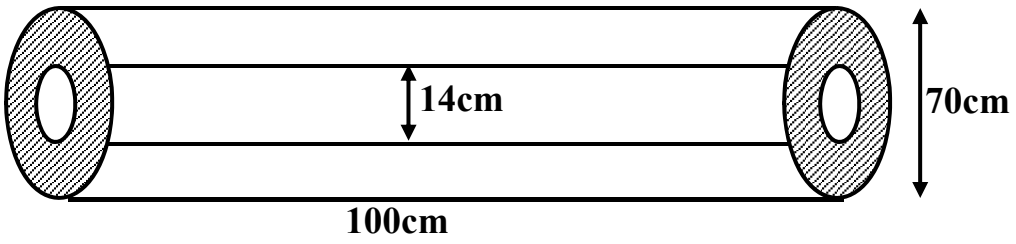
(04 marks)

25. A motorist left town A travelling at a speed of 60km/h for 150minutes and arrived at town B at 12:00noon. After taking lunch for 30minutes, he continued to town C travelling at a speed of 80km/h arriving at 2:30p.m.

a) Find the distance from town A to town B. *(02 marks)*

b) Calculate the average speed of the motorist for the whole journey. *(03 marks)*

26. The diagram below shows a pipe made from a metal. Find the volume of the metal used to make the pipe. (Use $\pi = 3\frac{1}{7}$)



(05 marks)

27. a) The mean mark scored by six girls in a mathematics test is 71. Four of them scored 82, 68, 79 and 64. What is the score of the sixth girl if she scored 10 more marks than the fifth girl?

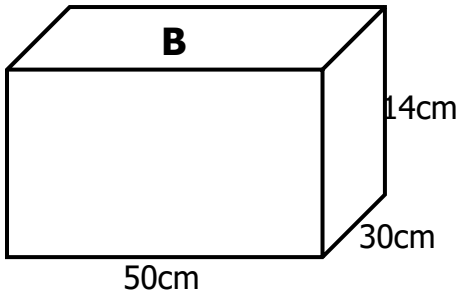
(06 marks)

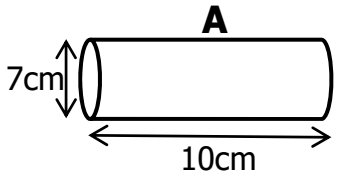
Turn Over

28. A lorry has a mass of 4.05 tonnes when empty. When it is loaded with 90kg bags of maize its total mass is 9 tonnes. How many bags of maize were loaded?

(04 marks)

29. At a school chalk company, small pieces of chalk of size **A** are packed into a box of size **B** as shown below.





(a) Find the total number of pieces of chalk **A** that can be packed into B horizontally

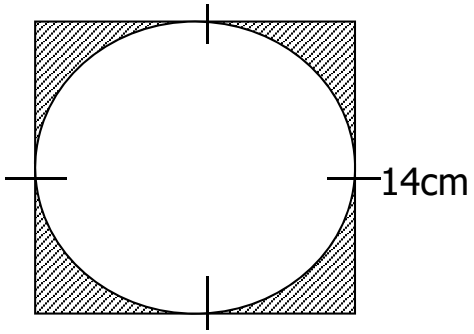
(02 marks)

(b) Calculate the space left after packing all the pieces of chalk **A** into box **B**.
(Use $\pi = \frac{22}{7}$)

(03 marks)

30. a) Find the area of the shaded part in the diagram below. (Use $\pi = \frac{22}{7}$)

(03 marks)



b) Baby Ritah has a large container of 300litres. She sells passion fruit juice using a small container of 600ml at sh 500 each. How much will she get is she sells all the juice in the large container?

(03 marks)

31. Nantale went to the market and bought the following items:

2kg of rice at sh 3,500 per kg

1 kg of sugar at sh 2,000 for every 500gm

24 oranges at sh 1,500 for every 8 oranges

3 bars of soap at sh 9,000

a) How much money did she spend altogether? *(04 marks)*

b) If she was given 10% discount, how much money did she pay? *(01 mark)*

Turn Over

32. A total of 2400 home study books were distributed to four schools; **A**, **B**, **C** and **D** as follows:

School **A** received $\frac{1}{3}$ of the total number, school **B** received $\frac{2}{5}$ of the remainder. School **C** and **D** shared the remaining books in the ratio of 5:3 respectively. How many home study books did each of the schools get?

(05 marks)

END