



DIVINE EDUCATION CENTRE
SPECIAL PLE EXAMINATION ITEM $\frac{3}{6}$

2024

MATHEMATICS

Time allowed: 2 hours 30 minutes

Random No.						Personal No.		

Candidate's Name:

Candidate's Signature:

District ID No.

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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 **15 pages** printed altogether.
3. Answer **all** questions. All the working for both sections **A** and **B** must be shown in the spaces provided.
4. **All working must** be done using a **blue** or **black** ball point pen or ink. Any work done 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**.
7. Do not fill anything in the table indicated **"For Examiners' use only"** and the boxes inside the question paper.

FOR EXAMINERS' USE ONLY		
Qn. No.	MARKS	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.

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

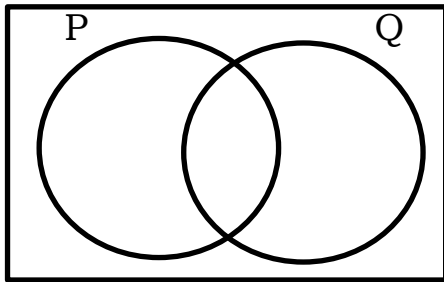
1- workout:

$$\begin{array}{r} 43 \\ \times 2 \\ \hline \end{array}$$

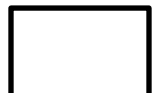
2- Write 4049 in words.

3- Simplify; $-3 + -7$

4- In the venn diagram below, shade the complement of set Q –P.



5- Add: $1011_{\text{two}} + 111_{\text{two}}$

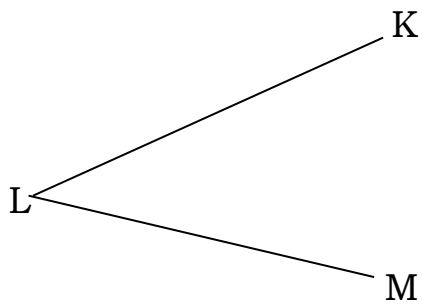


6- Simplify: $\frac{4}{9} - \frac{1}{9}$

7- The average of $2k + 1$, 3 , $k - 2$ and $k + 2$ is 6 . Find the value of k .

8- Given that $a * b = (2b - a)^2$, find the value of $-3 * 4$

9- Using a pair of compasses and a ruler, bisect the reflex angle KLM.



10- Write 0015hours in the 12hour clock system.



11- Find the next number in the sequence;

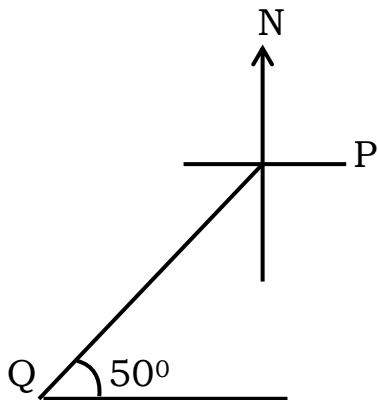
27, 29, 32, 37, 44, _____

12- Solve the inequality; $15 - 2p < 3$

13- Byansi bought an article and later sold it at Sh.72,000 making a profit of Sh.12,000. Calculate his percentage profit he got after selling the article.

14- Find the median of $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{2}{5}$

15- In the figure below, find the bearing of town Q from town P



16- Ben bought a tin of curry powder weighing $3\frac{1}{2}$ kilogrammes. He then packed all the curry powder in small packets of 250grammes. How many packets did he get from the tin of curry powder?

17- The total distance around a semi-circular compound is 36metres. Find the length of the compound from the centre to the circumference.

18- Below are cards which were put in a bag.

3

4

7

5

6

Find the probability that a card picked at random from the bag is a composite number.

19- Ronald is the 4th in a line of pupils while counting from the right and the 10th from the left side of the line. How many pupils are standing in the line?

20- The volume of a cube is 64 cubic centimetres. Work out the length of its one side.

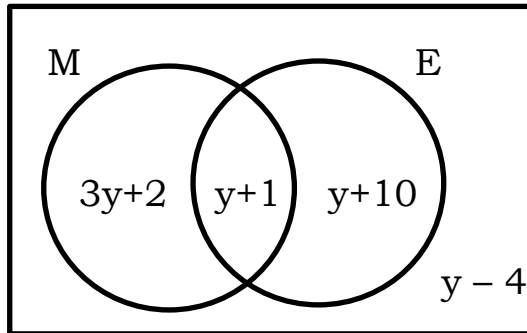


SECTION B (60MARKS)

Answer **all** the questions in this section.

Marks for each question are indicated in brackets.

- 21- The venn diagram below shows the number of pupils who like mathematics (M) and English (E).



- (a) If 6 more pupils like mathematics than English, find the value of y .
(03marks)

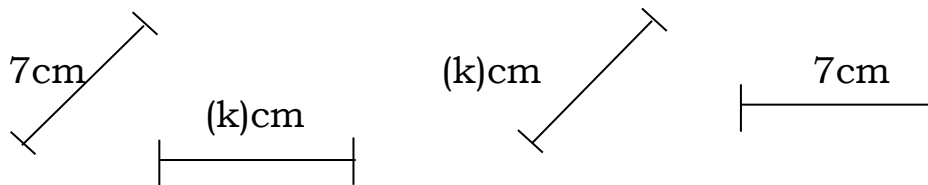
- (b) How many pupils are in the class?
(02marks)

22- A business woman bought 5 boxes of soap containing 30 bars of soap each. She made a sale of 3 boxes of soap on a certain day at sh. 5000 each bar of soap.

How much money did she get on that day from the sale? **(04marks)**



23- Kalule was given sticks of different length as shown below.



He formed a 2-dimensional shape with 4 right angles using all the above sticks. The total distance of the shape he formed was 24 centimetres. Calculate the area of the shape he formed.

(05marks)

24- (a) Write $(7 \times 10^1) + (4 \times 10^{-1}) + (5 \times 10^{-2})$ as a single numeral. **(02marks)**

(b) Convert 0.00425 into scientific notation. **(02marks)**

(c) Workout:

$$\begin{array}{r} 3 \text{ } 2_{\text{five}} \\ \times 2_{\text{five}} \\ \hline \end{array}$$

(02marks)



25- (a) Increase 30 hens by 50% **(02marks)**

(b) Change 0.7272... to a rational number in its simplest form. **(3marks)**

26- Study the shopping table below and complete the missing information
(05marks)

Item	Quantity	Unit cost	Amount
Sugar	2 ½ kg	Sh. 4600	Sh. _____
Milk	500ml	Sh. _____	Sh. 1,800
Loaves of bread	_____ loaves of bread.	Sh. 6,000	Sh. _____
Total Expenditure			Sh. 31,300



27- Mary is 25 years old and Kato is 11 years old.

(a) In how many years ago was Mary's age thrice as old as Kato?

(04marks)

(b) How old was Kato then?

(01mark)

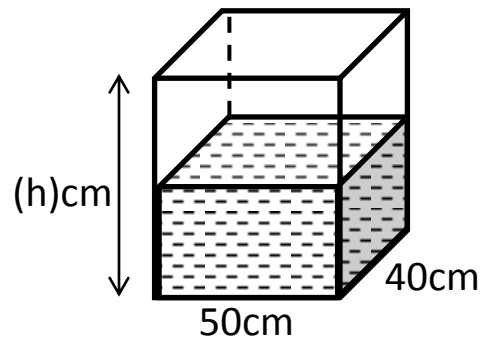
- 28- A man spends his monthly salary as follows;
 $\frac{1}{3}$ of it on food, $\frac{1}{4}$ of the remainder on medical and saves the rest. If he saves sh.80,000 more than what he spends on medical, calculate the man's monthly salary. **(06marks)**



- 29- The interior angle of a regular hexagon is $(3k+30)^\circ$
(a) Find the value of k. **(02marks)**

- (b) Calculate the total of the interior angles of the polygon. **(02marks)**

30- Study the figure below carefully and use it to answer the questions that follow.



(a) If the tank's full capacity is 140 litres, calculate its full height(h) cm.
(3 marks)

(b) Given that the tank is $\frac{4}{5}$ full of water, how much water in litres is needed to fill the tank to its full capacity?
(02marks)

31- Mr. Kamiddu uses his land as follows;

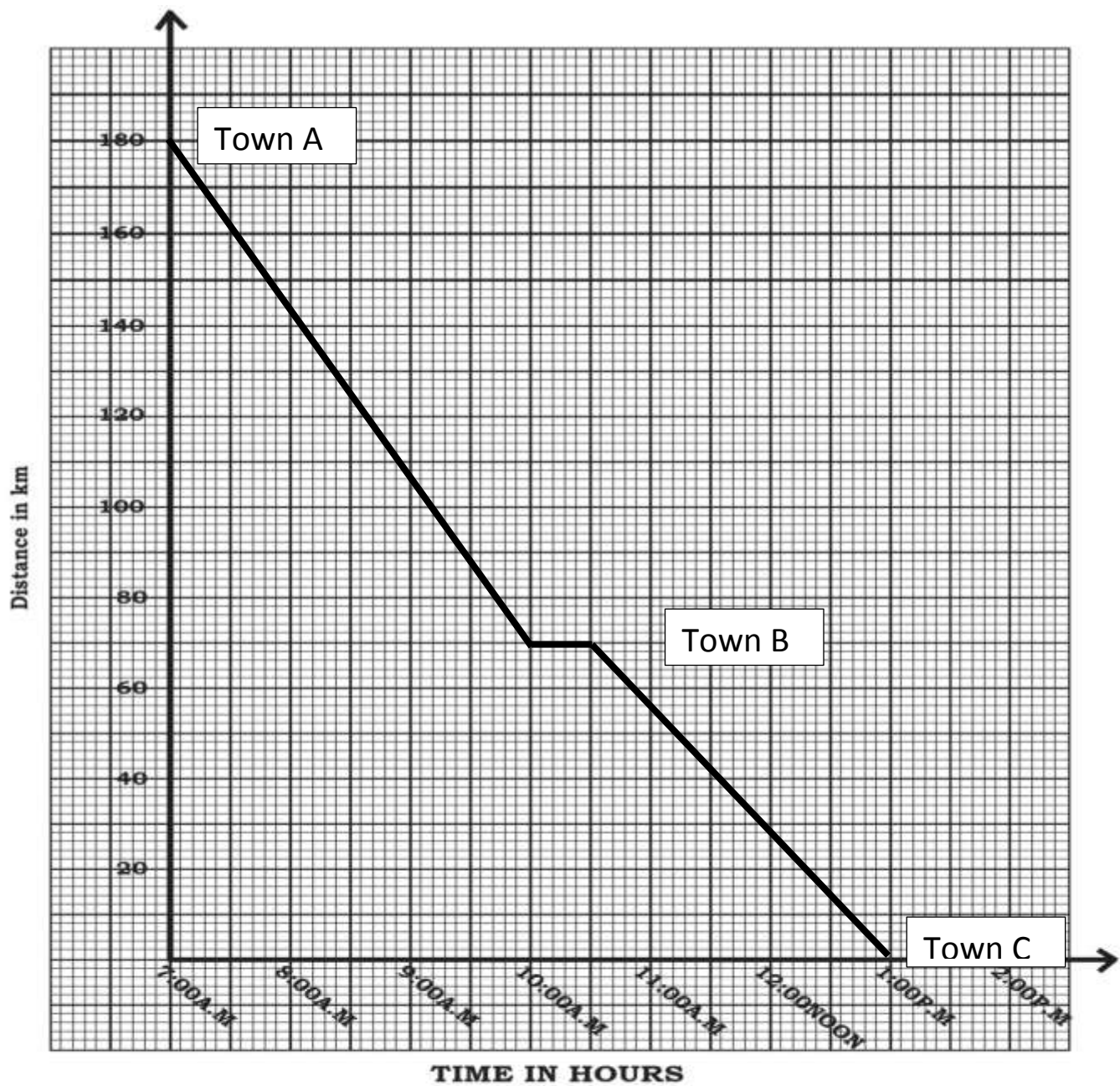
- 40% of the land is for growing maize.
- 35% is for growing beans and the rest of the land is for grazing his cattle.

Using a diameter of 9cm, draw an accurate pie chart for the above information.

(05marks)

32- A motorist travelled from town A to town C via town B.

Study the graph below carefully and use it to answer the questions that follow.



(a) What was the departure time of the motorist? **(01mark)**

(b) How far is town B from town A? **(01mark)**

(c) Calculate the average speed for the whole journey. **(02marks)**



END