DIVINE EDUCATION CENTRE

PRE MOCK ASSESSMENT -2023

MATHEMATICS (ITEM 2 of 3)

Time allowed: 2hours 30 minutes

Random No.						Personal No.		

Candidate's name: .....

Candidate's Signature: .....

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 **13 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		

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Turn Over

SECTION A: (40 MARKS)

*Answer **all** questions in this section*

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

1- Workout: $33 \div 11$

2- Simplify: $\frac{3}{4} \div 1\frac{1}{4}$

3- Simplify: 3k – 7d + 2k + 5d

4- Write 5400 in standard form

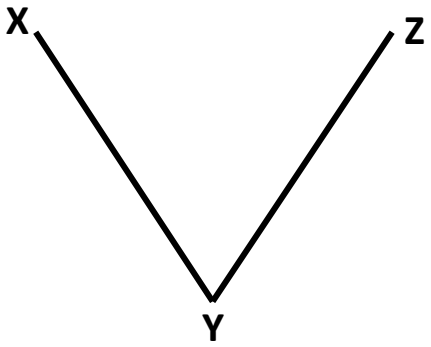
5- Find the next number in the sequence;

-1, -3, -6, -11, -18, _____

6- Solve for m: $7 + \frac{2}{5}m = 11$

7- Round off 9.97 to the nearest tenth.

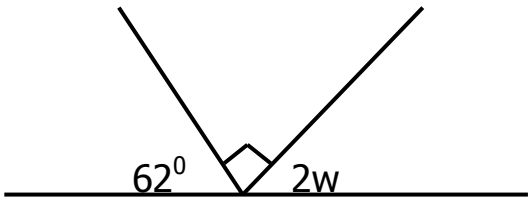
8- Using a pair of compasses, ruler and a pencil bisect the angle X Y Z below.



9- Subtract:

$$\begin{array}{r} 1\ 3\ 2_{five} \\ -\quad 2\ 3_{five} \\ \hline \end{array}$$

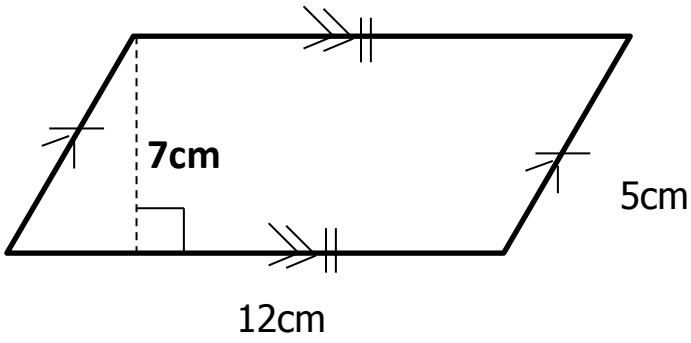
10- Find the value of w in the figure below.

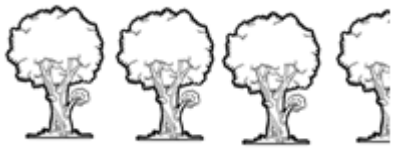


11- Express 2.2727….. as a common fraction.

12- How many packets of 200ml of cooking oil can be got from $1\frac{4}{5}$ litres of cooking oil?

13- Find the area of the figure below.



14- Given that  represents 21 trees. How many such pictures will represent 18 trees?

15- Calculate the number of elements in a set with 7 proper subsets.

16- Express 10:45p.m in a 24hour clock system.

17- The ratio of female to male teachers in a school is 3:2 respectively. There are 7 less male teachers than female teachers in the school. How many teachers are in the school?

18- A trader sold a shirt at sh. 7,000 making a profit of 40%. How much did the trader buy the shirt?

19- Mutebi borrowed sh. 400,000 from a saving group which gives an interest rate of 15%p.a. Calculate the simple interest he paid after 9 months.

20- A bus covered a distance of 275km in 165minutes. Calculate the distance the bus had covered in 2 hours at the same speed.

SECTION B:60 MARKS

*Answer **all** questions in this section*

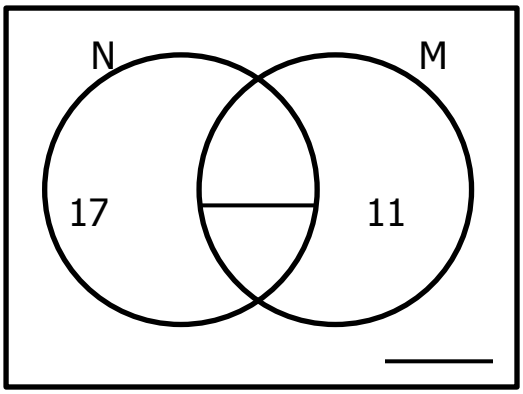
Marks for each question are indicated in brackets

21- Change 1101_{two} into a ternary base. ***(04marks)***

22- In a group of 43 pupils, 17 enjoy listening to news (N) only and 11 enjoy music (M) only.

(a) Complete the venn diagram below if those who enjoy both music and news are twice those who are not interested in any of the two.

n(∑)= 43 ***(02marks)***



(b) Find the number of pupils who enjoy music. ***(03marks)***

23- Viola went to the shop and bought the items as shown in the table below. She remained with sh. 4800 as change.

(a) Complete the table below. ***(04marks)***

Items	**Quantity**	**Unit cost**	**Amount**
Sugar	_____ Kg	Sh.5,000	Sh.7,500
Salt	500g	Sh.1,400@kg	Sh. _____
Soap	2 bars	Sh. _____	Sh. 7,000
TOTAL EXPENDITURE			Sh. _____

(b) How much did she go with? ***(01mark)***

24- A certain school bought 50 cartons of milk. Each carton contained 21 packets of 200ml each. If the cost of a litre was sh. 3,000. How much did the school pay for all the cartons of milk? ***(04marks)***

25- The table below shows the eggs collected by five boys. Study it carefully and answer the questions that follow.

Dan	Tom	Alex	Sam	Peter
5	7	m	8	6

(a) How many eggs were collected by Alex if their average number of eggs collected was 6? ***(03marks)***

(b) Work out their median number of eggs. ***(01mark)***

26- The interior angle of a regular polygon is three times the exterior angle. Calculate the interior angle sum of the polygon. ***(05marks)***

27- ABC is a right angled triangle where line AB = 8cm and line AC = 5cm. The right angle is at point A.

(a) Using a pair of compasses, ruler and a pencil only, construct the triangle ABC. ***(04marks)***

(b) Find the area of the figure constructed above. ***(02marks)***

28- During a Sunday service, $\frac{5}{7}$ of the congregation were females and the rest were males. If $\frac{1}{4}$ of the males were boys and 60 more females than males attended the service, how many children attended the service if 40% of the females were girls? ***(06marks)***

29- In a market, the cost of a watermelon is sh. (h+300). The cost of a pineapple is sh.700 less than the cost of a watermelon. Martha paid sh. 11,300 for two watermelons and one pineapple. How much was the cost of a pineapple?

(04 marks)

30- Two taps P and Q were connected on a water tank. Tap P turned on alone took Y minutes to fill the tank while tap Q turned on alone took 8 minutes to draw water from the same tank.

One day, the tank was 75% full of water and all the taps were left open. It took 2 minutes to fill the remaining part of the tank to its full capacity.

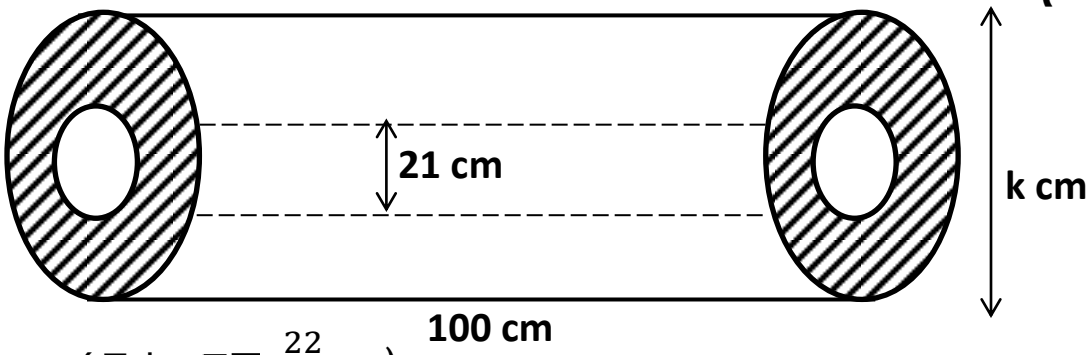
(a) How long does tap P turned on alone take to fill the same empty tank?

(04 marks)

(b) Calculate the capacity of the tank if the remaining part of the tank to be filled was 240litres. ***(02marks)***

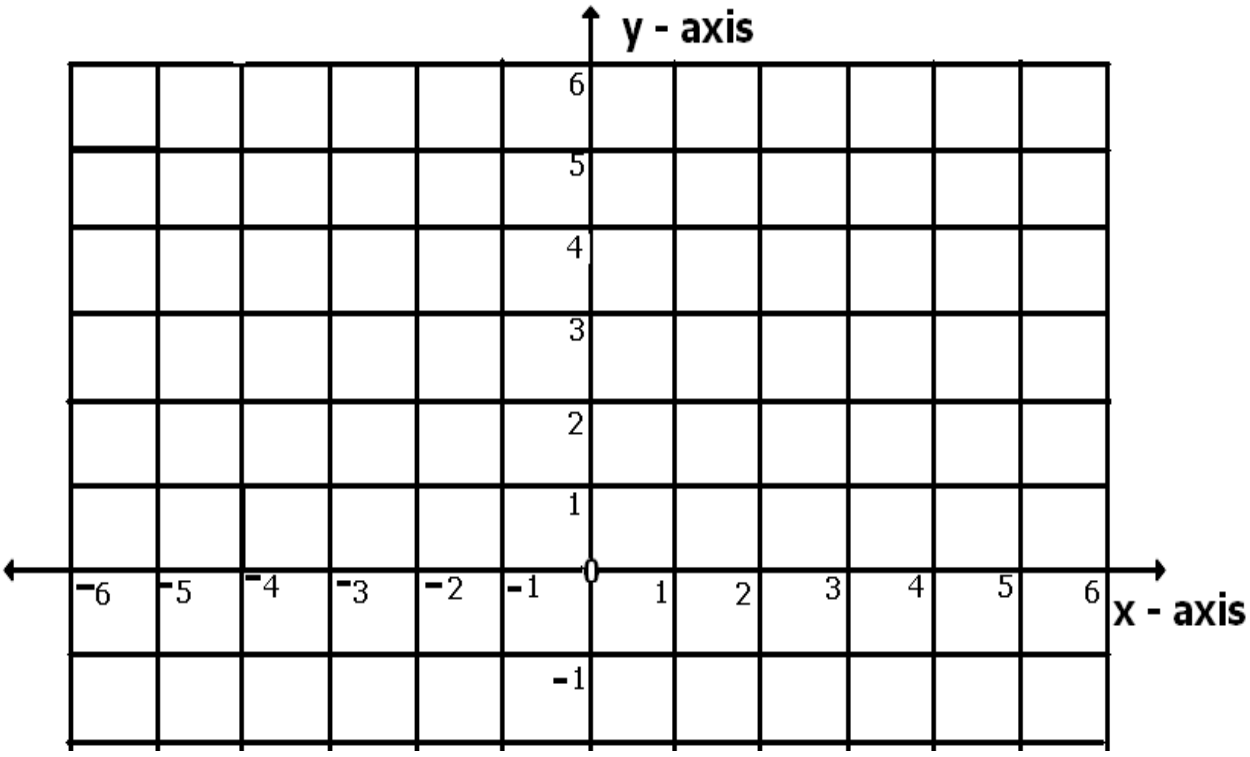
31- The figure below is a metallic hollow pole. The volume of the metal used to make the pole is 103,950cm^3.

Find the value of k. ***(06marks)***



(Take $\pi = \frac{22}{7}$)

32- Abbey, Bonny, Cathy and Dina stood at the coordinates; (-1, 3), (5, 3), (2,0) and (-4, 0) respectively.
A string was connected from Abby to Bonny, Bonny to Cathy, Cathy to Dina and finally from Dina to Abbey.
Show the four pupils and the connection of the string on the coordinate graph below. ***(05marks)***



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