ASSOCIATION OF DIRECTORS OF PRIVATE SCHOOLS AND INSTITUTIONS (ADPSI)

NYENDO MUKUNGWE DIVISION - MASAKA CITY

PRE-PLE SET I 2020

MATHEMATICS

Time allowed:2 Hours 30 Minutes

	EMIS NO.						PERSONAL NO.		
Index No.									

Candidate's Name: ……..

Candidate's Signature: ……..

EMIS Number: ……..

District: ……..

Read the following instructions carefully:

1. This paper has **two** Sections: **A** and **B**.
2. Section **A**, has **20** short answer questions (**40 marks**)
3. Section **B** has **12** questions (**60 marks**).
4. Answer **ALL** questions. All answers to both Sections **A** and **B** must be written in spaces provided.
5. All answers must be written using a blue or black ballpoint pen or ink. Diagrams should be drawn in pencil.
6. Unnecessary alteration of work will lead to loss of marks.
7. Any handwriting that cannot be easily read, may lead to loss of marks.

Do not fill anything in the box indicated for examiner's use only.

SECTION	EXAMINER'S MARKS	T/L MARKS
A		
B		
TOTAL		

" **For Examiners' Use Only**

FOR EXAMINERS' USE ONLY		
QN. NO	**MARK**	**SIGN**
1-5		
6-10		
11-15		
16-20		
21-22		
23-24		
25-26		
27-28		
29-30		
31-32		
TOTAL		

SECTION – A (2 marks each)

1. Work out:

$$\begin{array}{r} 4\ \ 9 \\ +\ 7\ \ 6 \\ \hline \\ \hline \end{array}$$

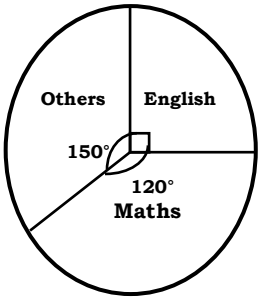
2. Given that A = $\{p, o, t\}$ B= $\{p, a, r, t\}$
   Find AUB

3. Simplify: $^{-}11 - {}^{-}8$

4. Subtract: $\frac{5}{7} - \frac{1}{14}$

5. Expand 694 using place values.

6. The piechart below shows the number of books in the school library.



If there are 60 books for Mathematics, find the total number of books in this library.

7. An English lesson started at 12:25p.m and ended at 1:15p.m. How long was the lesson?

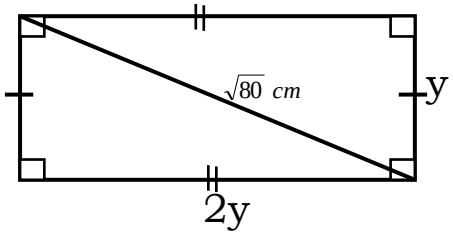
8. Work out: $(30 \div 5) - (20 \div 5)$ using the distributive property of numbers.

9. Express XLIX in words.

10. Solve: $2m - 4 = m + 6$

11. The bearing of Kabale from Kotido is 305°. Find the bearing of Kotido from Kabale.

12. Find the value of y in the rectangle below.



13. If T = { All composite numbers between 10 and 20 } Find out the number of subsets that can be got from set T.

14. The temperature on top of Mt. Rwenzori in the morning was $^{-}$20°C. In the afternoon, the temperature rose to 5°C. What was the rise in temperature?

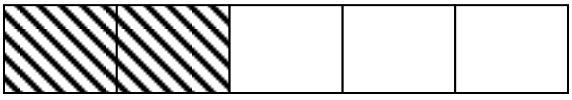
15. In the space below, draw a net of a tetrahedron. (Triangular Pyramid)

16. Convert 0.025kg to grams.

17. Find the mean of $3x$, $(x - 3)$ and $(2x + 6)$.

18. Find the highest number of girls that can share either 30 sweets or 40 sweets equally and leaves no sweet remaining.

19. What percentage of the diagram below is unshaded?

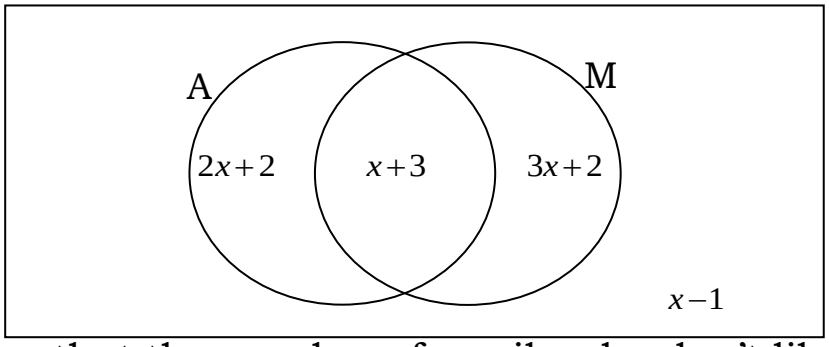


20. Given that P is a negative integer, solve and find the solution set for p if $3 - p < 6$.

SECTION B

(Marks for each number is shown in brackets)

21. The Venn diagram below shows the number of pupils who like apples (A) and mangoes (M) in a Primary Seven class. Study and use it to answer the questions that follow.



(a) Given that the number of pupils who don't like apples is 17, find the value of x. (**2marks**)

(b) How many pupils like both apples and mangoes? (**1mark**)

(c) Find $n(AUM)'$ **(1mark)**

22. a) Add: $1\ 0\ 1_{two}$ **(1mark)**

$+\ \ 1\ 1_{two}$

(b) Solve: $2m - 1 = 4 \pmod 7$ (**2marks**)

(c) Today is Wednesday, what day of the week will it be 36 days to come? (**2marks**)

23. (a) Simplify: $\frac{8.5+6.5}{0.02\times1.5}$ (**3marks)**

(b) Express $0.\overline{27}$ as a simplified common fraction. (**3marks**)

24. A motorist left Kampala and travelled to Masaka at a speed of 80Kph for $1\frac{1}{2}$ hours. He rested for a half an hour at Masaka and then continued to Mbarara, covering a distance of 270km at 90Kph.

(a) Find the total distance the motorist covered from Kampala to Mbarara. (**2marks**)

(b) Calculate the motorist's average speed for the whole journey. (**3marks**)

25 (a) Using a ruler, a sharp pencil and a pair of compasses only, construct a parallelogram ABCD, where $\overline{AB}$ = 7cm, $\overline{BC}$ = 4cm and angle ABC = 120°. (**4marks**)

(b) Measure diagonal AC in cm _____ (**1mark**)

26. Mr. Mutebi's previous electricity meter reading was 6273 and the current meter reading is 6298.
Given that UMEME charges Sh. 800 for every unit used and that VAT of 18% is charged on the total consumption,

(a) How many units of electricity did Mr. Mutebi use over this period? (**2marks**)

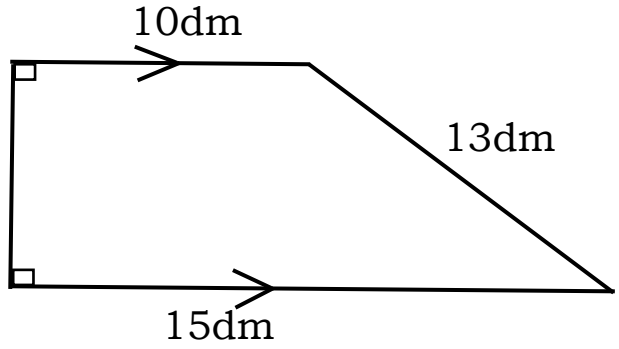
(b) Calculate Mr. Mutebi's electricity bill. (**3marks**)

27. Badru wants to construct a circular hut of diameter 14m using poles placed 40cm apart.

(a) How many poles does he need to construct the above hut? (**3marks**)

(b) If each pole costs Sh. 600, how much money does Badru require to buy poles needed to construct the above but? (**2marks**)

28. The figure below is a trapezium. Use it to answer the questions that follow.



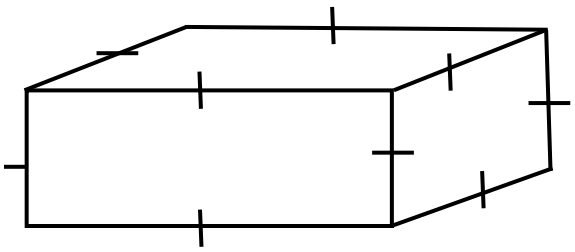
(a) Find its area. (**3marks**)

(b) Work out the total distance round the above figure. (**2marks**)

29. Out of the **y** teachers at our school, $\frac{1}{3}$ of them are connected to MTN network, $\frac{1}{4}$ of the remaining teachers are connected to Airtel, yet the remaining teachers are connected to other networks.

If there are 12 teachers who are connected to other networks, find **y**. (**5 marks**)

30. The tin below has a capacity of 1 litre.



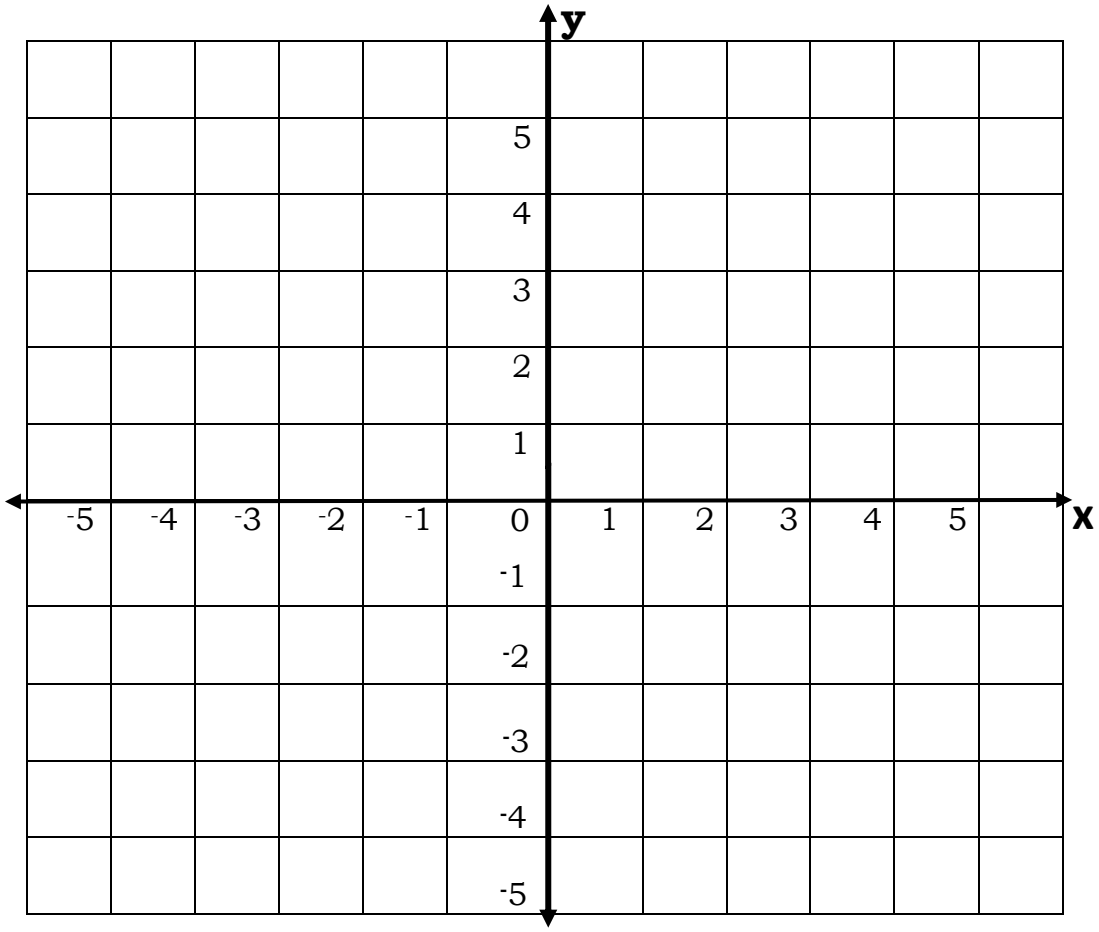
(a) Calculate its total surface area. (**4marks**)

(b) Work out the perimeter of the above tin. (**1mark**)

31. A parent bought 20 items of different types. Some were bought at Sh. 5,000 each while others were bought at Sh. 3,000 each. If the parent spent Sh. 90,000 altogether, how many items of each type did he buy? (**4marks**)

32 (a) On the grid below, plot the following co-ordinates:

P (0 , 5) Q (-4 , -3) R (4, -3) (**3marks**)



(b) Join P to Q, Q to R , R to P and name the figure formed above.
(**2marks)**

(c) Given that 1sq = 1cm², Find the area of the figure formed above.
(**1mark**)

End