UNITED TEACHERS' EDUCATION BUREAU

MOCK EXAMINATION
2023

MATHEMATICS

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. This paper has **two** sections: **A** and **B**. Section A has **20** questions and Section B has **12** questions. The paper has **12 printed** pages.
2. All the working for both sections **A** and **B** must be shown in the spaces provided.
3. **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.
4. **No calculators** are allowed in the examination room.
5. Unnecessary changes of work may lead to **loss** of marks.
6. Any handwriting that cannot easily be read may lead to **loss** of marks.
7. Do **not** fill anything in the boxes indicated: **"For Examiners' Use Only"** and those inside the question paper.

FOR EXAMINERS' USE ONLY		
Qn. No.	**MARKS**	**EXR'S SIGN**
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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SECTION A: 40 MARKS

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

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

1. Workout: 12 x 3

2. Change 2.14km to metres.

3. Work out:

weeks	days
7	4
- 2	1

4. Using a ruler, pencil and a pair of compasses only construct an angle of 120°.

5. Given that set A = {all the factors of 18}.

   Find n (A) =

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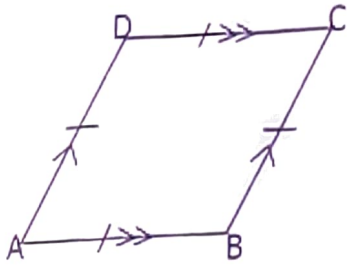
6. Convert $\frac{3}{8}$ as a decimal fraction.

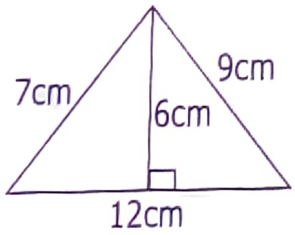
7. Workout $341_{five} - 32_{five}$

8. How many lines of folding symmetry has the figure below.



9. Simplify: $2(b - x) + 3(x - b)$

10. Calculate the perimeter of the figure below.



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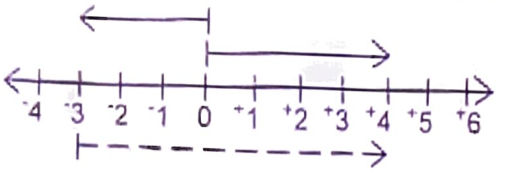
11. The mean of 8, 9, 6, 4, and x is 6. Find the value of x.

12. Write the mathematical statement shown on the number line below.



13. A debate which took 1¼hrs ended at 4:10pm. When did it start?

14. Work out $2^4 - 2^0$

15. Express 0.604 in standard form.

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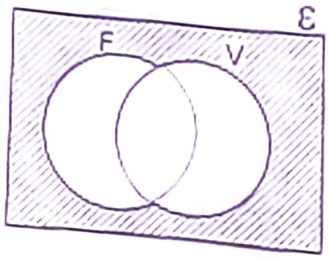
16. Use distributive property to workout:
(169 x 0.74) - (69 x 0.74)

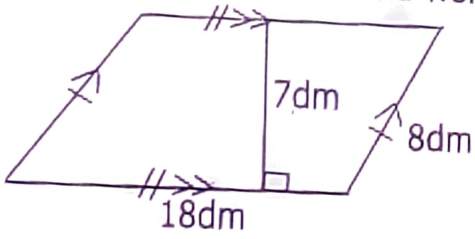
17. What is the shaded region in the venn diagram?



18. The interior and exterior angles of a regular polygon are in the ratio of 3:2 respectively. Find the size of the exterior angle.

19. Mr. Omara deposited sh. 60,000 in Post bank Uganda for a period of 8 months. The bank gives an interest rate of 5% per month. Calculate the interest Mr. Omara will get in his account by the end of the period.

20. Study the figure below and work out its Area.



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SECTION B: 60 MARKS

*Answer **all** the questions in this section.*
Marks for each question are indicated in brackets.

21. Lubangakeni went to the market and bought the following items:
3kg of beans at sh. 3,500 per kg.
3½kg of sugar at sh. 4,000 each kg.
3 bars of soap at sh. 15,000 each bar.

(a) How much did the pay for all the items. *(04 Marks)*

(b) If he had a fifty thousand shillings note. Calculate his change. *(01 mark)*

22. Given that; a = -6
b = 3
c = -2
d = 1

(a) Find the value of $\frac{ad}{bc}$. *(02 Marks)*

(b) Solve: $\frac{-3p}{5} + 6 = 9$ *(03 marks)*

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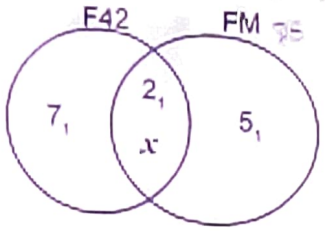
23. Study the venn diagram and answer the questions below;



(a) Find x. *(01 mark)*

(b) Work out the value of m. *(01 mark)*

(c) Find the L.C.M of **F42** and **FM**. *(02 marks)*

24. A tomato seller sold the following number of tomatoes in six days.
60, 36, 38, 28, 42, and 36.

(a) Find the modal number of tomatoes sold. *(01 mark)*

(b) Work out the mean number of tomatoes sold. *(02 marks)*

(c) Work out the median number of tomatoes sold. *(02 marks)*

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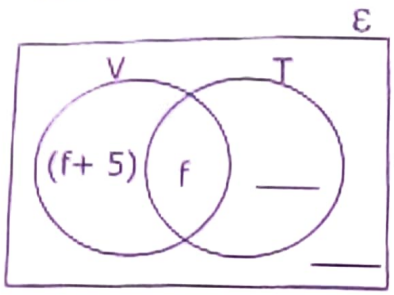
25. In a club, **31** members play Tennis (**T**) and **(f+5)** play Volley ball (**V**) only. **f** members play both games while **3** members play neither of the games.

(a) Use the above data to complete the venn diagram below. *(02 marks)*



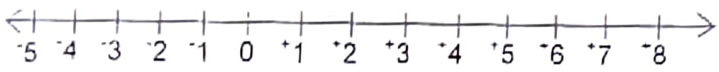
(b) If 27 members played volley ball altogether, find the value of **f**. *(02 marks)*

(c) How many members did not play volley ball? *(01 mark)*

26. (a) Simplify: $\dfrac{0.36 \times 1.5}{0.3 \times 0.4}$ *(03 marks)*

(b) A pole is a half in the mud, 10 metres in water and $\frac{9}{20}$ above water level. Calculate the length of the pole. *(03 marks)*

27. (a) Represent 4x2 on the number line below. *(02 marks)*



(b) If yesterday was Tuesday, what day of the week, will it be 44 days from now? *(03 marks)*

28. A teacher used 4, 8 and 3 to write a three digit numbers.

(a) Find the product of the largest and the smallest three digit number formed. *(03 marks)*

(b) What is the probability of writing a three digit number greater than 500. *(02 marks)*

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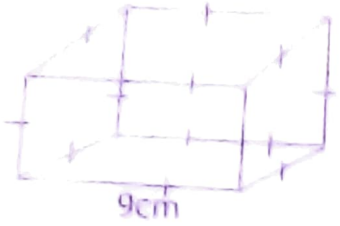
29. Study the prism below and answer the questions below;



(a) How many edges does it have? *(01 mark)*

(b) If a spider walked along the edges twice, what distance did this spider cover?
(03 marks)

30. (a) Using a ruler, pencil and a pair of compasses only construct a square ABCD of sides $\overline{AB}$ = 4.5cm in the space below. *(03 marks)*

(b) (i) Join the diagonal $\overline{AC}$ and measure $\overline{AC}$ = *(01 mark)*

(ii) Measure angle BAC = *(01 mark)*

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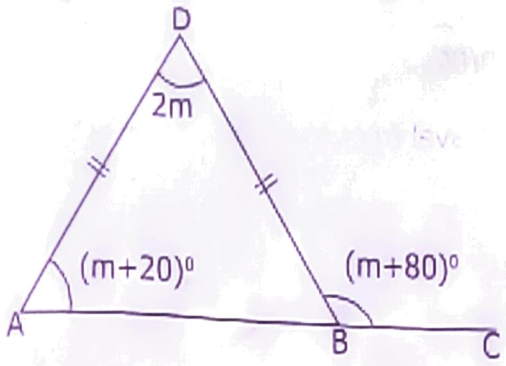
31. Study the triangle below carefully.



(a) Find m. *(02 Marks)*

(b) Workout the size of the angle marked ABD. *(03 marks)*

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32. A motorist left town **A** at 7:00am travelled at a speed of 60km/hr and reached town **B** at 10:00am. The motorist made a return journey along the same road at a speed of 90km/hr.

(a) How long did the motorist take to travel from town **A** to town **B**? *(01 mark)*

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

(c) Calculate the average speed for the whole journey. *(04 marks)*

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