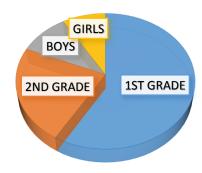
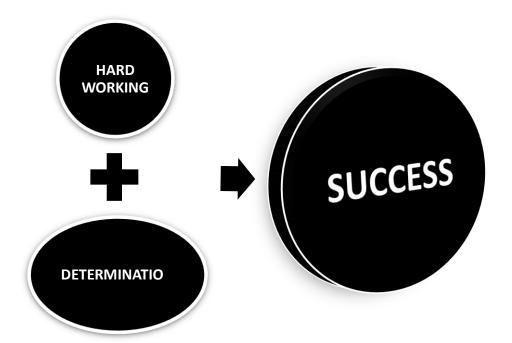
# MY MATHEMATICS PRACTICE BOOK

#### P.7 CANDIDATES



# STRIVE FOR EXCELLENCE



Your exams are nearing, so study with dedication and you will succeed in your exams. Remove all your fears and have faith in yourself. I am sure you will make us proud.

#### ORGANISED BY NSUBUGA REGAN

Psalm 119:99-100\_ 2 Corinthians 12:9\_ Jeremiah 17:7-8\_ Philippians 4:13\_ Colossians 3:23-24 James 1:5



Name: \_\_\_\_\_Index No. \_\_\_\_\_

#### <u>SET I</u>

# ALGEBRA SECTION A (12 Marks)

1. Simplify: 
$$2(x + 1) - (x + 13)$$

2. Solve: 
$$5 - 3q = 17$$

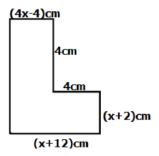
3. Subtract 
$$2x + 3$$
 from  $3x - 5$ 

**4.** Solve: 
$$\frac{12}{m}$$
 + 3 = 5

5. If  $a = ^{-2}$ , b = 3 and c = 4, find the value of  $b(a^{3} - c)$ 

Philippians 4:13\_ "I can do all things through him who strengthens me."

6. Work out the value of **X** on the diagram below.



#### **SECTION B (13 Marks)**

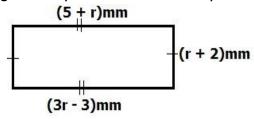
7. a) Solve for P: 
$$3-2(P-3)+3=6$$

(2marks)

b) The cost of a book is twice the cost of a rubber, and the cost of a rubber is shs. 350 more than the cost of a pen. Find the cost of a pen if all the three items cost shs. 3050. (3marks)

Isaiah 41:10\_ "Fear not, for I am with you; be not dismayed, for I am your God; I will strengthen you, I will help you, I will uphold you with my righteous right hand."

8. Below is a rectangle. Study it and answer the questions that follow.



a) Find the value of r. (2marks)

b) What is the square of the length of the rectangle? (2marks)

9. a) Solve: 6 - 0.2y = y (2marks)

b) Factorize completely.  $2\pi r^2 + 2\pi rh$  (2marks)

Philippians 4:13\_ "I can do all things through him who strengthens me."

# SET II NUMBER PATTERNS AND SEQUENCE: SECTION A (12 Marks)

1. Find the next number in the sequence.

1, 8, 27, 64, \_\_\_\_\_

2. Write 72 as a product of its prime factors.

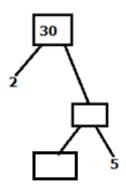
3. Find the sum of prime numbers between 90 and 100.

4. Find the square root of  $3\frac{1}{16}$ .

5. Without dividing, show which of the numbers 140 and 5070 is divisible by 3.

Isaiah 41:10\_ "Fear not, for I am with you; be not dismayed, for I am your God; I will strengthen you, I will help you, I will uphold you with my righteous right hand."

6. Fill in the missing numbers.



# SECTION B (13marks)

7. Complete the magic square below.

(5marks)

		28	17
25	20	19	
	24	23	18
26	15		29

Philippians 4:13\_ "I can do all things through him who strengthens me."

8. The Lowest Common Multiple (LCM) of two numbers is 72 and their Greatest Common Factor (GCF) is 6. If one of the numbers is 24, find the second number. (3marks)

9. The sum of 4 consecutive integers is 18. Find these integers. (2marks)

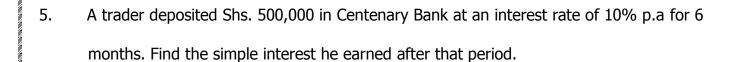
10. Find the prime factors of 12 and 90 and you represent them on a Venn diagram. (2marks)

Use the given prime factors above to find the Lowest Common Multiple (LCM) of 12 and 90. (1marks)

# SET III FRACTIONS SECTION A (12 Marks)

1. Work out:  $1\frac{3}{7} + 7\frac{2}{3} \div 3\frac{5}{6}$ 

2.	Express 0.122 as a vulgar fraction in its lowest term.
3.	The ratio of boys to girls in a class is 3:5. If the class consists of 40 pupils, how many more girls than boys are in that class?
4.	8 men can slash a school compound in nine days. How many more men are needed to slash the same compound in only three days if they work at the same rate?
	possible is nothing. God is stronger than you think. Exams are nothing to God. Jesus oked at them and said, "With man this is impossible, but not with God; all things are possible with God."



6. By selling a geometry set at Shs. 7,200, a shop keeper makes a profit of 20%. Find the cost price of the geometry set.

7. Simplify:  $2\frac{2}{9} X \frac{2}{5}$ 

8. Work out the value of  $12\frac{1}{2}$ % of sh. 20,000.

9. Simplify: 0.37 - 1.03 + 2.6.

10. Work out:  $(10 \times 3.5) + (6.5 \times 10)$  using distributive property.

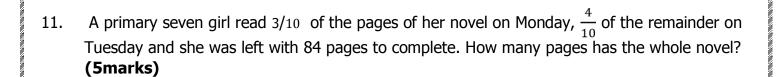
11. Round off 29.96 to the nearest tenth.

### **SECTION B (13 marks)**

**12a) Simplify:** 
$$\frac{4}{5} \times \frac{3}{7} + \frac{9}{14} + 2\frac{7}{15}$$
 (3marks)

b) Work out;  $\frac{3.9+3.5}{0.06 \times 0.5}$  (3marks)

13.	In a village, there are 20% more males than females.
a)	Find the percentage for females. (1mark)
b)	If there are 1200 males, find the total population of the whole village. (2marks)
9.	A man spends 40% of his salary on food, 75% of the remainder on rent and he banks the rest. If his salary is sh. 650,000, how much does he spend on rent? (4marks)
10.	In a meeting attended by 560 people, $\frac{4}{7}$ were women, $\frac{3}{8}$ were men and the rest were children.  a) How many more women attended than the children? (3marks)
	b) Express the number of children as a ratio of the total number of women and men. (2marks)



12. Two taps A and B are connected to a water tank. Tap A can fill the tank within 4 hours. Tap B can empty it in 5 hours. When the tank was 1/4 full, the taps were opened at the same time.

How long did it take to fill the tank?

(4marks)

13. A tank is  $\frac{3}{5}$  full of petrol, when  $\frac{1}{4}$  of the petrol was sold; only 7,200 litres remained in the tank. How many litres of petrol does the tank contain when it is  $\frac{5}{8}$  full? **(5marks)** 

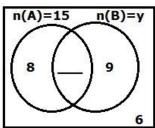
# SET IV SET CONCEPTS SECTION A (12Marks)

1. Set  $\mathbf{K} = \{4, 8, 12, 16, 20\}$  Name set  $\mathbf{K}$ .

2. Given that set  $\mathbf{P} = \{1, 2, 3, 4, 5, 6\}$  and set  $\mathbf{Q} = \{1, 3, 5, 7, 9.\}$  List the elements in the complement  $\mathbf{P} \cap \mathbf{Q}$ .

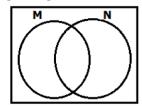
3. Draw a Venn diagram to show that all goats (G) are animals (A).

4. In the figure below, find the value of **y**.



5. If a set has 64 subsets, how many elements does it have?

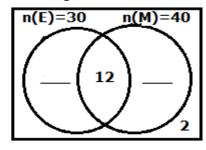
6. Shade (M∪N)' in the Venn diagram below.



## **SECTION B. (13 Marks)**

- 7. In a class, 30 pupils like English (E), 40 pupils like Mathematics (M), (m + 10) pupils like English only, 12 pupils like both subjects and two pupils like neither of the two subjects.
  - a) Complete the Venn diagram below.

(2marks)



b) Find the value of **m**.

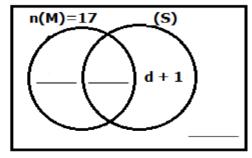
(1mark)

c) Find the probability of picking a pupil at random who likes mathematics only.

(1mark)

- 8. In a school, **17** teachers teach **Mathematics (M)**, **8** teachers teach both **Science** and **Mathematics**, while **(d 2)** teachers teach neither of the mentioned subjects.
  - a) Complete the Venn diagram below.

(3marks)



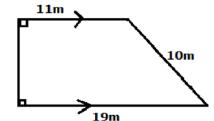
b) If 17 teachers do not teach Mathematics, find the number of teachers who teach only science. (2marks)

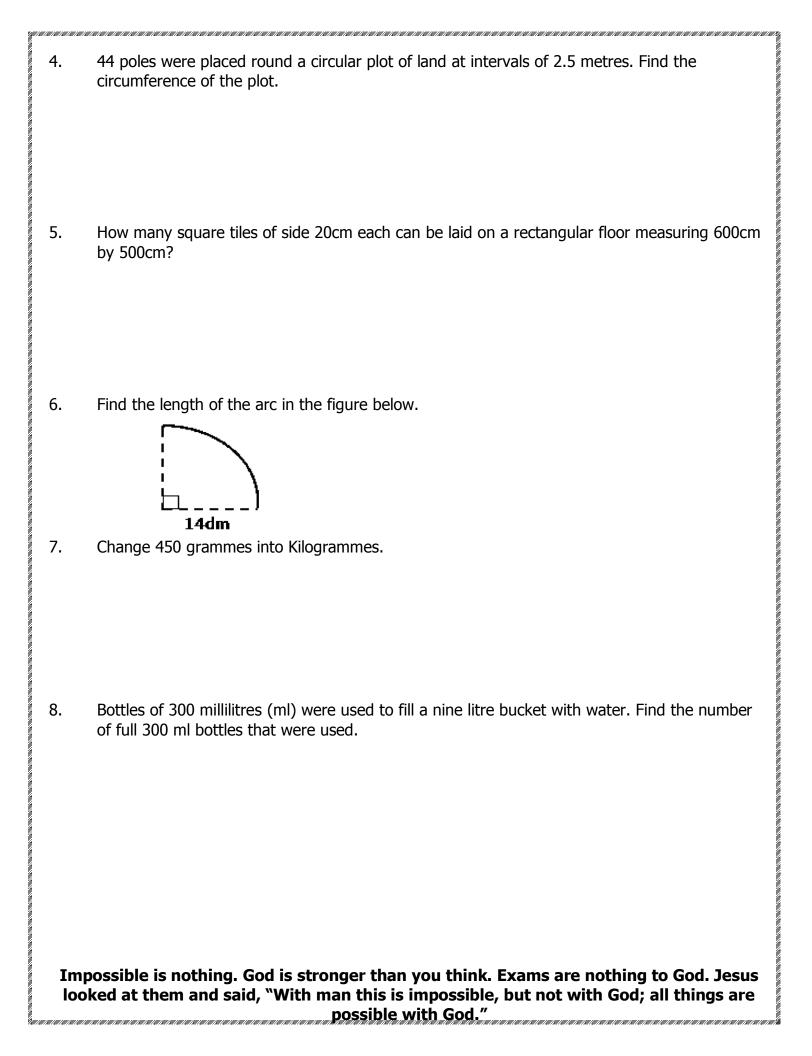
# SET V MEASUREMENTS: LENGTH, MASS AND CAPACITY

**SECTION A (2 Marks each)** 

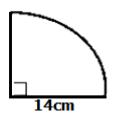
1. Express 15.4 litres in cm<sup>3</sup>.

- 2. How many 350g packets can be got from 3.15kg of rice?
- 3. Calculate the area of the figure below.

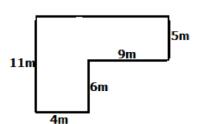




10. Calculate the perimeter of the figure below.

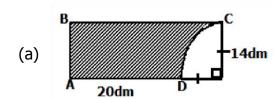


11. Study the figure below and find its perimeter.



12. Calculate the radius of a circle whose circumstance is 88dm.

## SECTION B (13marks)



13. Use the figure below to answer the questions that follow.

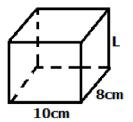
Find the area of the shaded part. (3marks)

(a) Calculate the distance around figure **ABCD**.

(2marks)

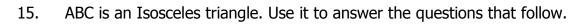
14. The sum of the lengths of all the edges of the prism below is 96cm.

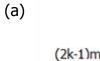
(a)

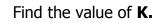


Find the length of edge L.

(2marks)







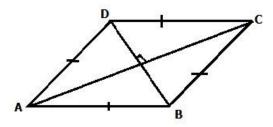
(2marks)

b) Work out its area.

(2marks)

(k+2)m

16. The perimeter of the rhombus below is 60cm. Diagonal AC = 24cm.



a) Calculate the length of diagonal **BD**.

(2marks)

b) Work out its area.

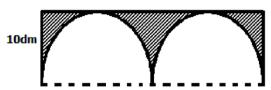
(1mark)

17.	A tyre of a bid	cycle has a diameter	of 42cm. If the	bicycle is to cover	1.98km,
-----	-----------------	----------------------	-----------------	---------------------	---------

a) Find the number of revolutions that the tyre will make. (3marks)

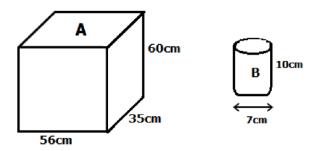
b) Given that the tyre makes 300 revolutions per minute, how long will it take the bicycle to cover that distance? (1mark)

18. Study the figure below and use it to answer the questions that follow.



Find the area of the shaded part in the figure above. (Take  $\pi = 3.14$ ) (3marks)

19. Tins of size **B** were packed in Box **A** as shown below.



a) How many tins were packed in the first layer?

(1mark)

b) Calculate the total number of tins that were packed in the box.

(2marks)

# SET VI

# **TOPIC: DATA HANDLING**

**SECTION A** (12 marks)

1. Mr. Kigozi counted pupils with black shoes in a class and tallied them as follows;



How many pupils had black shoes?

2. Find the average of 8, 5, 3, and 4.

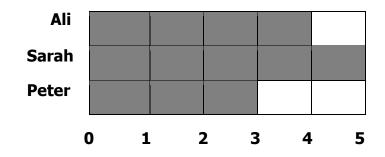
3.

represents 5 trees. How many trees are represented by?



4. The average mass of 5 bags of cement is 60kg. Find the total number of kg in the 5 bags of cement.

5. The graph represents the amount of money won by 3 students in a sports betting.



Amount of money in million shillings

How much more money did Ali get than Peter?

6.	Milly	scored /	the	following	marks;
----	-------	----------	-----	-----------	--------

Eng.: 68, SCI.: 72, SST:68, MTC: 92 and computer 50.

Find the modal frequency.

### **SECTION B** (13 marks)

7. A farmer planted his land as follows; Maize 2/5 of the land.

Beans  $\frac{1}{3}$  of the land.

Peas 1/5 of the land and elephant grass on the remainder.

(4marks)

Draw a pie-chart to represent the above information.

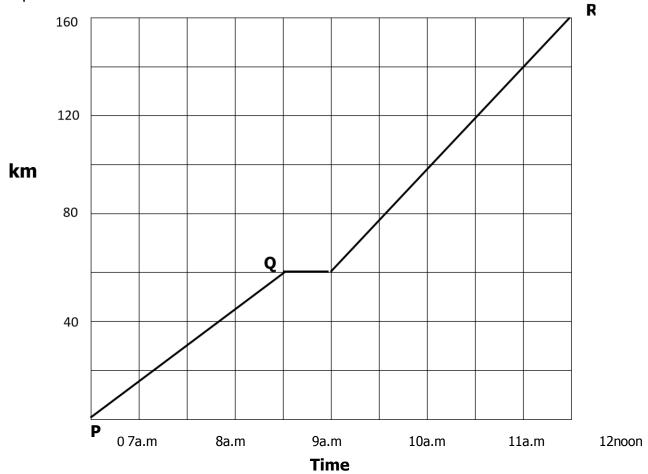
8. Study and complete the table below. (3marks)

Marks	Frequency	Total
54	3	162
64	2	
	3	210
85		340

b) Find the median mark. (1mark) c) Find the mean. (1mark)

d) Find the range. (1 mark)

9. A motorist drove from town **P** to town **R** via town **Q**. Study the graph and answer the questions that follow.



a) How far is town  ${\bf Q}$  from  ${\bf P}$ ?

(1 mark)

b) For how long did the motorist stay at town **Q**?

(1 mark)

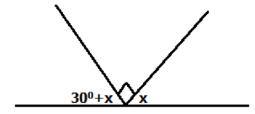
c) Find the scale on vertical axis.

(1 mark)

#### **SET VII**

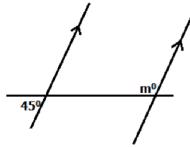
# TOPIC: GEOMETRIC CONSTRUCTION <u>SECTION A</u> (12 marks)

1. Find the value of  $\mathbf{x}$  in the figure below.



2. Draw an angle of  $60^{\circ}$  using a protractor.

3. Find the size of the angle m in the diagram below.



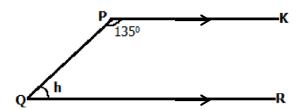
4. Using a ruler a pencil and a pair of compasses only construct an angle of 135°.



6. Show the lines of the folding symmetry in the figure below.

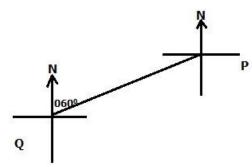


- 7. The complement of y is  $60^{\circ}$ . Find the value of **Y**.
- 8. In the figure below **PK** is parallel to **QR**. Find the value of **h**.

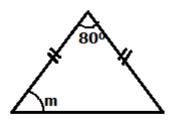


9. Using a ruler, a pencil and a pair of compasses only, construct an angle of 300°.

10. Find the direction of **P** from **Q** in the figure below.



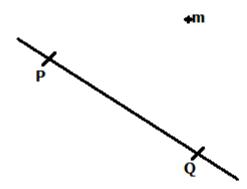
11. Find the value of **m** in the figure below.

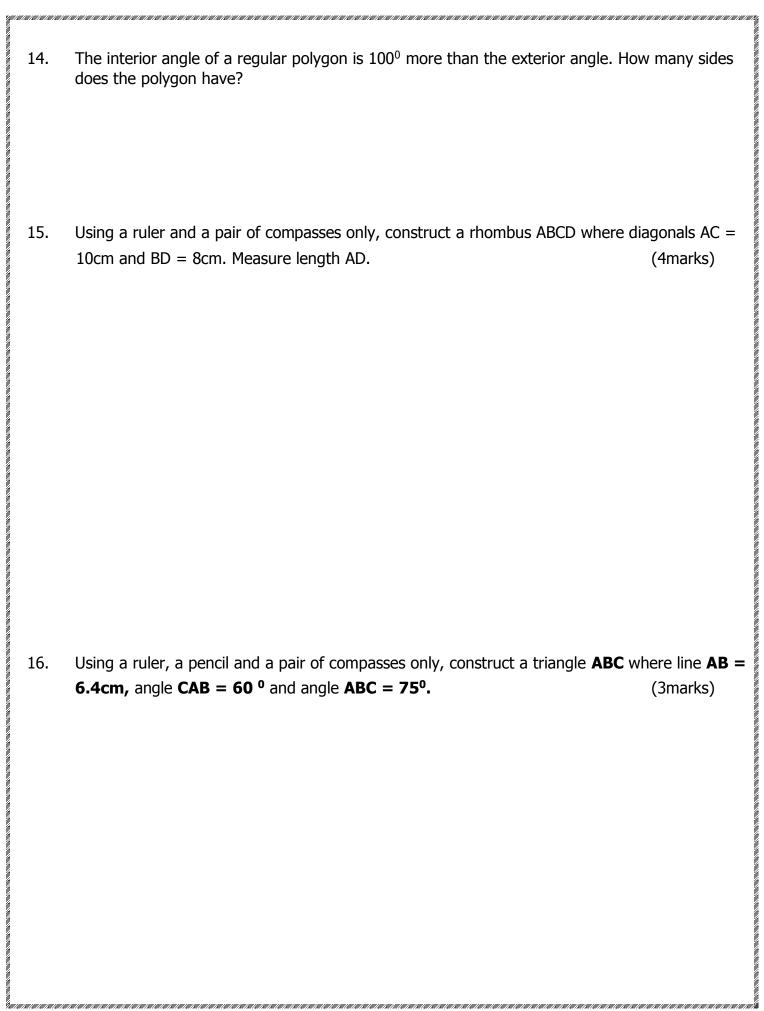


12. Through what angle does the minute hand of a watch turn in 30 minutes?

### **SECTION B** (13 marks)

13. Using a ruler, a pencil and a pair of compasses only drop a perpendicular line from point **m** to meet **PQ** at **R**. (2marks)





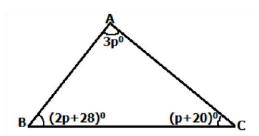


(1mark)

17. Draw a triangular pyramid (Tetrahedron) in the space below.

(1 mark)

18. Use the figure below to answer questions that follow.

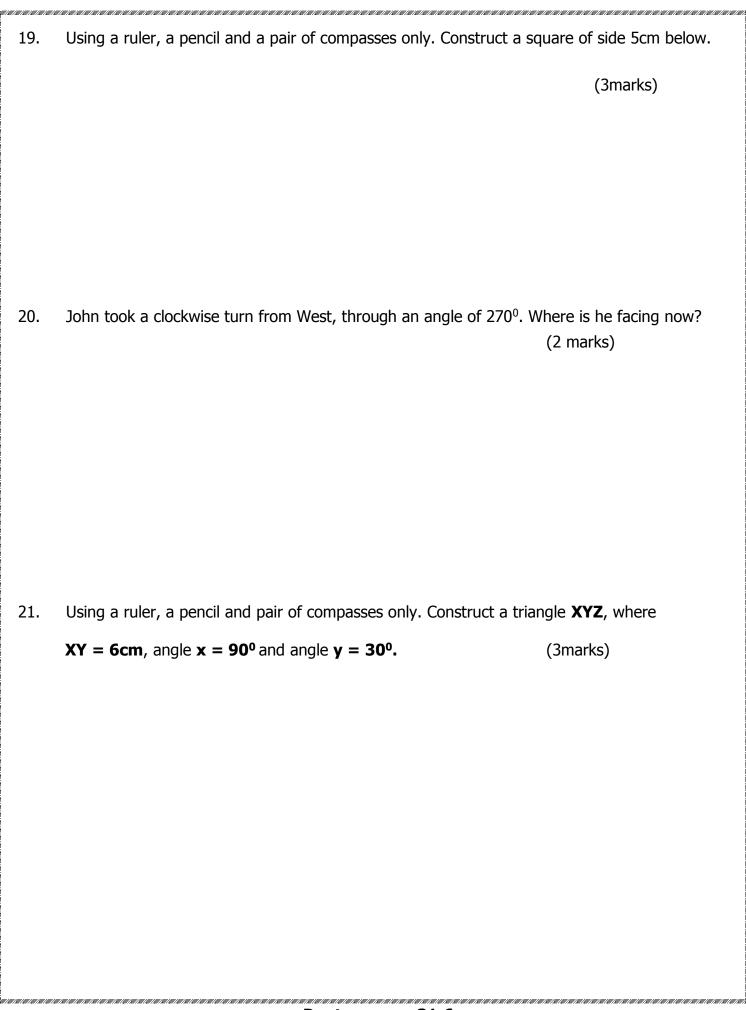


a) Find the value of **P**.

(2marks)

b) What is the size of angle **ABC**?

(2 marks)



# SET VIII TOPIC: TIME

### **SECTION A** (12 marks)

1. How many months of the year have 30 days?

2.	Add; <b>HRS</b>	MINS	
	3	4 5	
	+ 2	5 0	

3. Sophia spent a total of 5 hours 20 minutes at school. She played for 1 hour 30 minutes. For how long did she stay in class?

4. Express 2:30 p.m. in 24-hr clock.

5. Express 36km/hr. to m/second.

6.	A 30 minute lesson ended at the time shown on a clock face below. When did it start?
7.	SECTION B (13 marks)  Agnes left her home at 8:00am riding a bicycle and arrived at his place of work 36km away
	from her home at 9:15a.m. Find her average speed for the journey. (3marks)
8.	How long will it take a bus to cover a distance of 120km at 40km/hr? (2 marks)
9.	Moses took 40 minutes to drive from home to school at a speed of 90km/hr. How far is his home from school? (2 marks)

10. The table below shows arrival and departure time for a bus that travels from Kampala to Hoima daily.

Town	Arrival time	Departure time
Kampala		7:30 a.m.
Busunju	8:10 a.m.	8:30 a.m.
Bukomero	9: 30 a.m.	9:45 a.m.
Kiboga	10:15 a.m.	10:40 a.m.
Hoima	11: 40 a.m.	

a)	At what	time (	does	the	bus	leave	Kampala?	
----	---------	--------	------	-----	-----	-------	----------	--

(1 mark)

(1 mark)

c) How long does the bus take to travel from Bukomero to Kiboga?

(2 marks)

d) Find the total time taken by the bus to travel from Kampala to Hoima?

(2 marks)

# **SET IX**

# **TOPIC: MONEY**

	SECTION A (12marks)
1.	How many 500 shillings coins are equivalent to a ten-thousand-shilling note?
2.	At a forex bureau one US dollar costs Ug.sh. 3700. How many US dollars can one buy with Ug sh. 1480000?
3.	A television set costs £150. How much is this in Uganda shillings if £1 is equivalent to Ug.sh. 4800?
4.	How much change do I get if I spend sh. 6500 from sh. 20000?
5.	Paul gave 5 one thousand-shilling notes to a shopkeeper. How much money was this?
6.	The bursar has banknotes numbered from AP004300 to AP004399 consecutively. If each note is worth ten thousand shillings, how much money does the bursar have?

#### **SECTION B** (13 marks)

7. Ivan went for shopping and bought the following items.

Complete the table below.

(4 marks)

Item	Quantity	Unit cost	Amount
Rice	2 ½ kg	Sh. 3000	Shs
Meat	3kg	Sh	Sh. 36000
Cooking oil		Sh. 2500	Shs. 10000
Total Expenditure			Sh

8. Study and complete Bogere's shopping bill below.

Item	Quantity	Unit cost	Amount
Sugar	3kg	Shper kg	Sh. 14400
Rice	kg	Sh. 5000 per kg	Sh. 2500
Milk	250ml	Sh. 3000 per litre	Sh
Biscuits	2 packets	Sh per packet	Sh
Total Expenditure			Sh. 29650

9. Kimuli bought a coat sh. 35000 and sold it at shs. 42000. How much was his profit?

(2 marks)

10. A pupil bought a ball at shs. 15000. He sold it and made a loss of shs. 3000. What was the selling price of the ball? (2 marks)

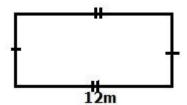
# SET X SECTION A

1. Add: 42 + 13

**2.** Write 40, 709 in words.

3. Expand 793 using values.

4. The area of the figure below is 60m<sup>2</sup>. Find the value of W.



5. A man bought a radio at sh. 70,000 and sold it at a loss of sh. 7,000. How much money did he sell it?

6. Tell the time on the clock face below.



- 7. Find the median of 4, 0, 6, 8, 12, 4 and 13.
- 8. Work out:  $3 2 1_{five}$

9. Using a ruler, a pencil and a protractor only, draw an angle of 65<sup>0</sup>.

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

11	Find the Lowert Common Multiple (LCM) of 19 and 24
11.	Find the Lowest Common Multiple (LCM) of 18 and 24.

12. Given 
$$R = \{a, b, c\}$$
. List down all the subsets in set  $R$ .

13. Solve: 
$$3y - 7 = 29$$
.

18. Find the square root of 64 using prime factorization.

19. Share 1818 books among 6 children.

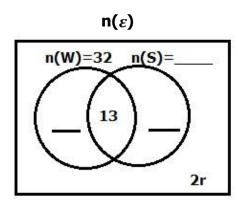
20. Work out -3 + +7 using the number line below.



#### **SECTION B**

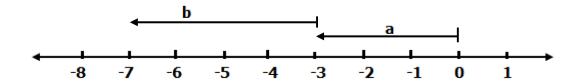
- 21. At a party attended by 50 guests, 32 were served with water (W), 210 were served with Soda (s) only. 13 guests were served with both drinks while 2r did not take any of the two drinks.
- a) Complete the Venn diagram below using the information above.

(3marks)



b)	Find the value of <b>r.</b>	(2marks)
c)	How many guests were served with soda altogether?	(1mark)
22.	In a class of 120 pupils, 3/5 of them are girls while the rest are boys.	
a)	What fraction of the class is boys?	(1mark)
b)	How many more girls than boys are there in the class?	(3marks)
23.	Given the digit 7, 3, 1 and 8.	
a)	Write the largest four-digit number formed using the digits above.	(1mark)
b)	Find the difference between the largest and smallest numbers formed using	a the digits above
D)	Thid the difference between the largest and smallest numbers formed using	
		(3marks)

24. Study the number line below and use it to answer the questions that follow.



(a) Identify the integers represented by the arrows. (1 mark @)

**a**\_\_\_\_\_\_ b \_\_\_\_\_

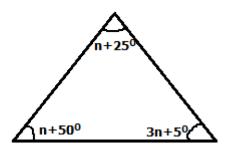
- b) Complete the number line above and drawing the third arrow. (1mark)
- c) Write down the mathematical sentence shown on the number line above. (2marks)
- 25 a) Given  $\mathbf{p} = \mathbf{3}$ ,  $\mathbf{q} = \mathbf{4}$  and  $\mathbf{r} = \mathbf{5}$ , find the value of  $\frac{2p+q}{r}$ . (2marks)

b) Solve:  $\frac{3}{5}y = 6$  (2marks)

c) Simplify: 4p - 3m - p + 5m. (2marks)

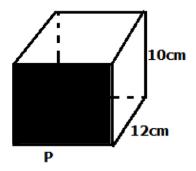
26 a) **d** and  $\mathbf{d} + \mathbf{20^0}$  are supplementary angles. Find the value of  $\mathbf{d}$ . (2marks)

b) Calculate the size of angle n in the figure below. (3marks)



27. Below is a rectangular prism that holds 3.6 litres of water when full. Study it carefully

a) Find the value of **p.** (3marks)



b) Work out the area of the shaded part.

(2marks)

28a) Work out:	Hrs.	Min
	8	4 2
	- 3	5 6
		_

(2marks)

b) A motorist covered a distance of 280km from 8:00am to 11:30 am. At what speed was he moving? (3marks)

29. The table below shows the items Maria bought from the shop.

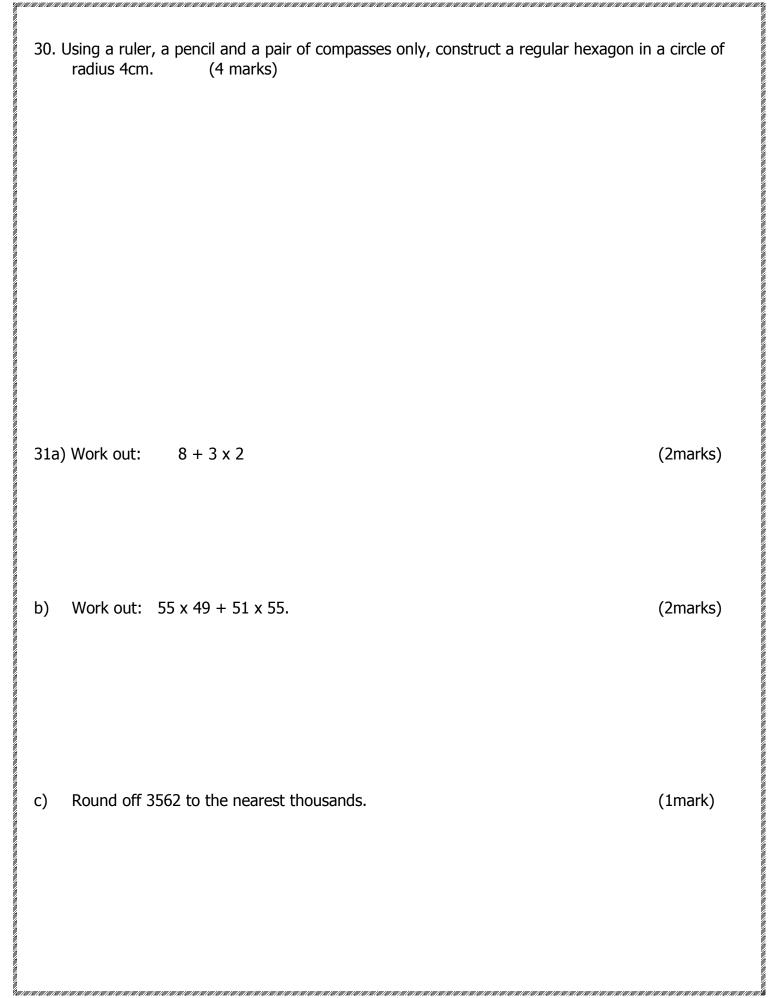
a) Complete the table.

(5marks)

Item	Quantity	Unit price	Amount
Sugar	3 kg	Sh. 3200 per kg	Sh
Milk	litres	Sh. 1800 per litre	Sh. 2700
Bread	2 loaves	Sh per loaf	Sh. 9000
Tea leaves	250gm	Sh. 800 per kg	Sh
TOTAL			Sh

b) If her change was sh. 3500, how much money did she have at first?

(1 mark)



32. The tally graph below shows the number of patients that were diagnosed with different illness at a medical facility. Study it carefully and use it to answer the questions that follow.

Illness	Tally
Malaria	
Covid-19	
Cough	₩
Dysentery	·

a) How many patients were diagnosed with malaria?

(1 mark)

b) How many more patients were diagnosed with cough than covid-19?

(2marks)

c) Find the average number of patients that went to the facility?

(2marks)

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