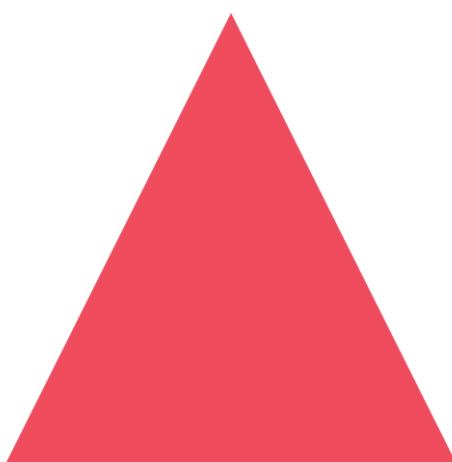


Mathematics

Tekart Revision Practice Book

Vol 3



Primary Seven

Index No:

Name:

School:

Year:

SECTION A: 40 MARKS

1. Multiply: $4 \quad 1$

$$\begin{array}{r} \underline{\times} \\ \hline \end{array}$$

2. Write in numerals: "Twenty seven thousand seventeen"

3. Simplify: ${}^8 - {}^5$

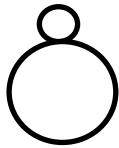
4. Find the missing number in the sequence below.

_____, 20, 16, 13, 11, 10

5. Given that $p=5$, $q=0$ and $r=3$. Find the value of $pq + pr$.

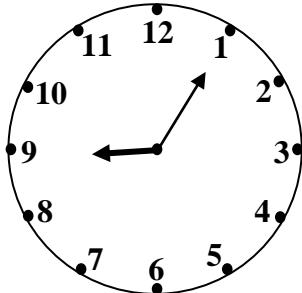


6. How many lines of folding symmetry has the figure below?



7. With the help of a ruler, a pencil and a pair of compasses only, construct an angle of 30° in the space provided below.

8. A forty minute lesson ended at the morning time shown on the clock face below.



At what time did the lesson end?

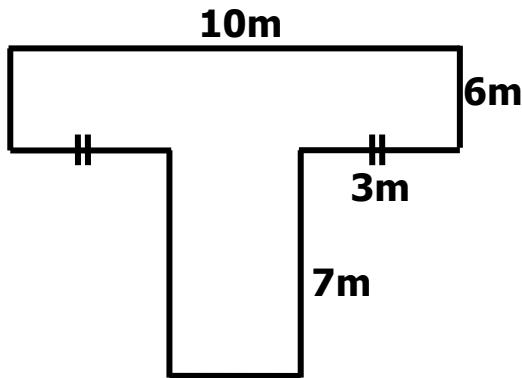
9. Justine exchanged US\$550 for Ug sh. 2,117,500. Work out the exchange rate.

10. Given that: A={all square numbers between 1 and 25} B= {all factors of 12}

Find $n(A-B)$

11. In a class of 120 pupils, 0.45 of them are boys. How many girls are in the class?

12. The figure below shows a flower garden. Use the information ,given to work out the distance round the garden.



13. The supplementary angle of $(3p-25)^0$ is $2p^0$. Calculate the value of P in degrees.

14. Shaidha withdrew 100 ten thousand shillings notes numbered consecutively up to AP534300. Find the registration number of the first note.

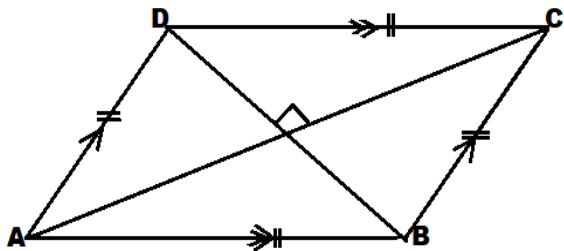
15. Given that $2^t \times 3^2 = 144$. Find the value of t.



16. The average weight of 4 animals; a cow, a bull, a bullock and a heifer is 120kg. a cow weighs 100kg and a bull weighs 130kg. calculate the weight of the heifer if a bullock is as heavy as a heifer.

17. Find the size of each exterior angle of a regular nonagon

18. The figure below shows a rhombus where AB =20dm and diagonal AC=32dm. Calculate the length of diagonal BD.



19. Workout: $\frac{5}{6} - \frac{3}{4}$

20. Lorna counted the number of passengers carried by a boda boda cyclist on a certain day as follow;



If each passenger paid sh. 2000 for the service, how much money did the cyclist collect that day?



Section B: 60 MARKS

21. The digits 3, 0 and 5 are used to form a three-digit numeral by using each digit once.

a) Write down all the numerals formed.

(4 marks)

b) What should be added to the smallest numeral to get the largest numeral formed.

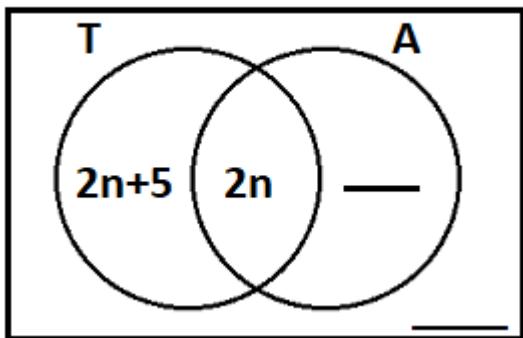
(1 mark)

22. A Primary seven class of 56 pupils voted for Tom (T) and Alice (A) as follows:

$(2n+5)$ pupils voted Tom only, $(3n-15)$ pupils voted Alice only and $2n$ pupils voted for both Tom and Alice while the number of pupils who did not vote for any of the two candidates is twice the number of those who voted for both candidates.

a) Complete the Venn diagram below.

$$n(\zeta) = 56$$



(2 marks)

b) Find the value of n.

(2 marks)

c) How many pupils voted only one candidate?

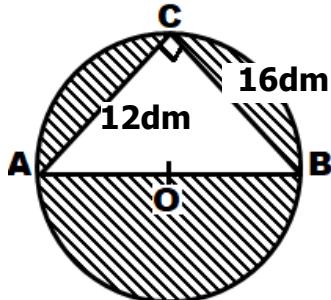
(1 mark)

23. A market vendor bought 30 apples at sh. 1500 each. If 5 apples got spoilt and she sold the remaining apples making a profit of sh. 5000. At what price did she sell each apple? (5 marks)

24. The figure below shows a triangle inside a circle. Study it carefully and answer questions that follow.

a) Calculate the area of the triangle ABC.

(2 marks)



b) Work out the area of the shaded part. ($\pi = 3.14$).

(3 marks)

25. The sum of 3 consecutive even numbers is 48. If the largest number is K.
a) Find the numbers.

(3 marks)

b) Express the smallest number in standard form.

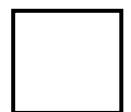
(2 marks)

26. There are 2700 people in a village. 60% of them are males and $\frac{3}{5}$ of the females are girls.

a) Find the number of males in the village.

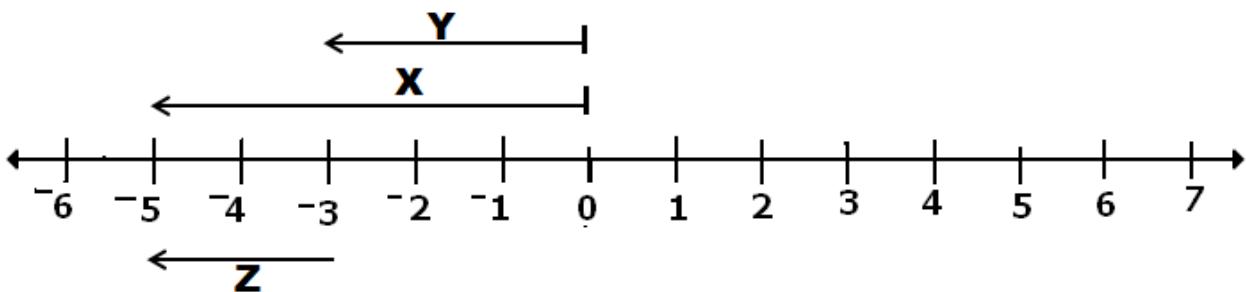
(2 marks)

b) Workout the ratio of girls to males in the village.



(3 marks)

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



a) Write down the integers represented by the arrow.

X _____

Y _____

Z _____

(3 marks)

b) Write down the mathematical statement represented on the number line.

(1 mark)

28. a) With the help of a ruler, a pencil and a pair of compasses only, construct a triangle PQR where $PQ = QR = PR = 6.0\text{cm}$.

(4 marks)

b) Bisect angles PQR and QPR and let the bisectors meet at point O. Measure angle POQ

(2 marks)

29 A rectangular sheet of metal below is to be folded to form a hollow cylinder.

a) Work out the area of the rectangular sheet.

(2 marks)



20cm

44cm

b) Calculate the volume of the hollow cylinder.

(3 marks)

30. When marking a test, a teacher awarded 4 marks for every correct answer and deducted 2 marks for every wrong answer. The test contained 25 questions.

a) Peter got 18 correct answers. How many marks did he get?

(2 marks)

b) Amanda scored 70 marks. How many wrong answers did she get?

(3 marks)



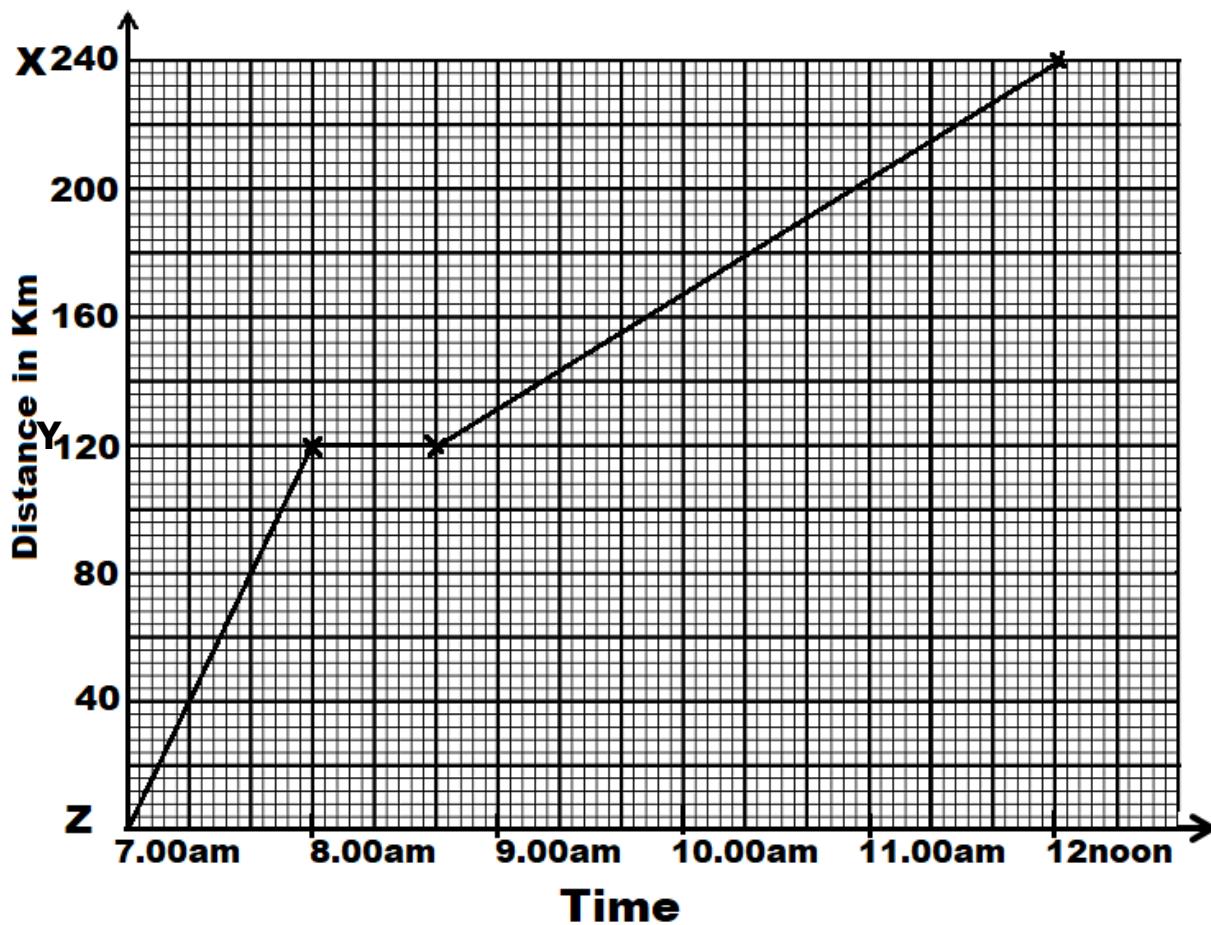
31. a) Musa was facing west. He then turned clockwise through an angle of 180° . Find his new direction.

(2 marks)

b) The bearing of the mango tree from the guava tree is 083° . Workout the bearing of the guava tree from the mango tree.

(2 marks)

32. The graph below shows a motorist's journey from village Z to village X via village Y.



a) At what time did the motorist arrive at village Y?

(1 mark)

b) For how long did the mostorist rest at village Y

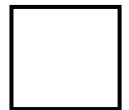
(1 mark)

c) How far is village Z from village Y?

(2 marks)

d) Calculate the average speed of the motorist for the whole journey.

(2 marks)



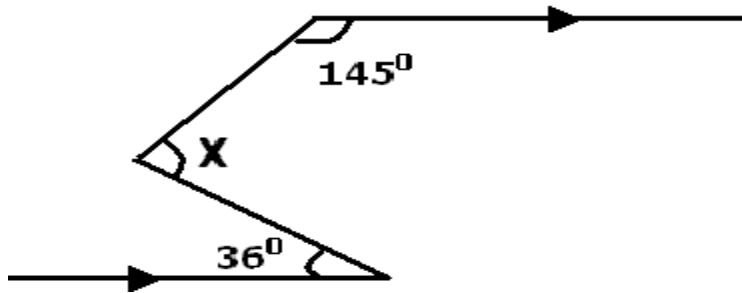
SECTION A:(30 marks)

1. Multiply: 3×12 .
 2. A set has 15 proper subsets. How many members does that set have?
 3. Find the next number in the sequence: 1, 4, 9, 16, _____.
 4. By what percentage did 72 pupils decrease to become 48 pupils?
 5. Using a dial workout $3 + 4 = \underline{\hspace{2cm}}$ (mod 5)



6. The mean of 8 numbers is 7.5. Find their sum.

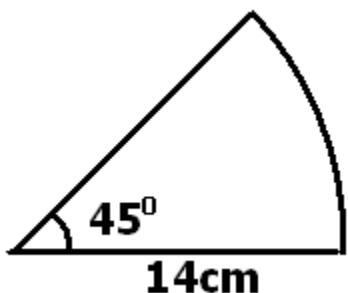
7. Calculate the size of angle marked X in the figure below.



8. The LCM of two numbers is 24 and their HCF is 4. If one of the numbers is 12, find the other number.

9. Express 12:45 p.m. to military clock system.

10. Calculate the area of the figure below.



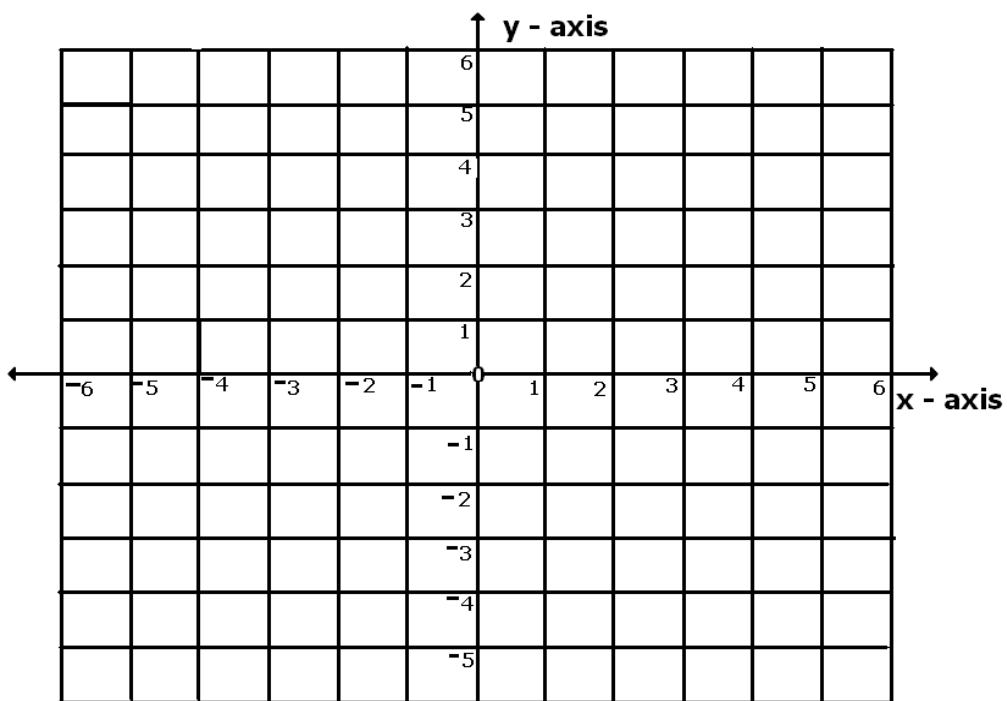
11. If I multiply a number by 4 and add 5 to the result, my answer is 29. What is the number?

12. Subtract: $3\frac{2}{3} - 1\frac{3}{4}$

13. Kamoga ran 100 metres in 10 seconds. How fast was he in kilometers per hour?

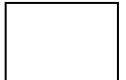
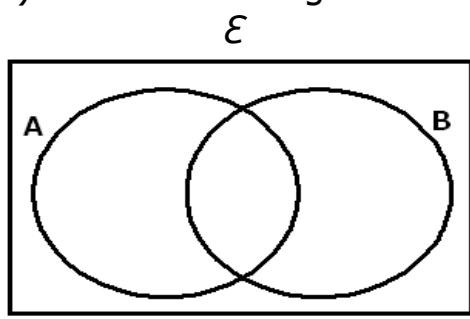
14. Convert **23** to binary.

15. Plot R (-2 , $+3$) on the grid below.



16. Prime factorise 36 and write your answer in set notation.

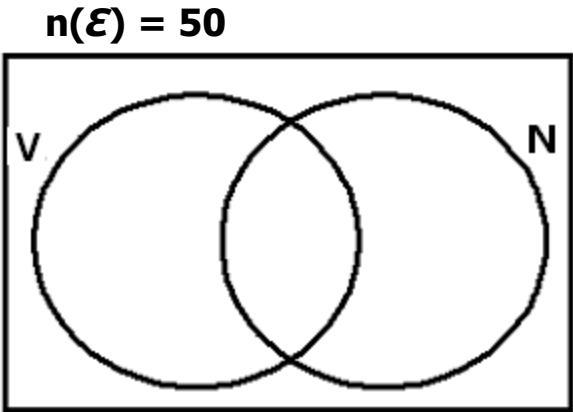
17. Find the value of $\frac{1}{2} a - 2b + c$, when $a = 8$, $b = 2$ and $c = 3$.
18. Using a pair of compasses, a pencil and a ruler only, construct an angle of 150° in the space provided below.
19. Acham bought soap at Sh. 4500 and sugar at Sh. 8500. She paid with a twenty thousand shilling note and she was given Sh. 9000 as change. How much more was she given than she should have received?
20. Shade $(B - A)'$ in the Venn diagram below.



Section B: (60 marks)

21. In a club of 50 women, 11 play Volleyball (**V**) only, (**p + 6**) play Netball (**N**) only. **P** play both Volleyball and Netball. **9** play none of the two games.

- (a) Represent the information above in the Venn diagram below. **(2 marks)**



- (b) Work out the value of p. **(2 marks)**

- (c) What fraction of women play Netball? **(2 marks)**

22. The sum of three consecutive odd numbers is 105. If the middle number is $(y+1)$,

(a) Find the numbers. **(4 marks)**

(b) Work out their range. **(1 mark)**

23(a) Evaluate: $\frac{1.7 + 3.1}{0.25 \times 2.4}$ **(3 marks)**

(b) Simplify: $\frac{2}{3} \div \frac{3}{4} + 1 \frac{1}{2}$ **(2 marks)**

24(a) In the space provided below, use a pair of compasses, ruler and pencil only to construct a triangle EFG, where EF = 7cm, $\angle EFG = 120^\circ$ and FG = 6cm.

(4 marks)

(b) Measure EG.

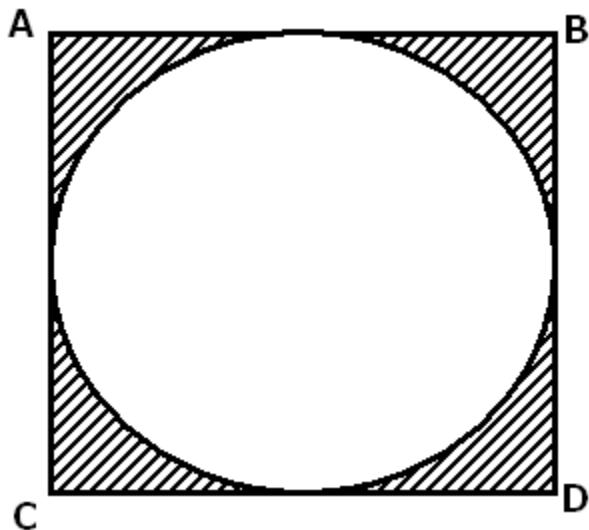
(1 mark)

25. In a tea factory, on Monday 36,000 packets were packed. On Tuesday, 1340 more packets were packed. But on Wednesday due to power failure, only one third of Monday's were packed.

(a) What was the number of packets packed on Tuesday? **(2 marks)**

(b) Calculate the total number of packets packed in three days. **(3 marks)**

26. Given that $AB = BD = 14\text{cm}$ in the diagram below, calculate the area of the shaded part. (Take π as $\frac{22}{7}$). **(4 marks)**



27. In a Math test, children scored the following marks:
35 , 70 , 40 , 35 , 36 , 68 , 94 , 25 , 87 , 30

(a) Find the mode. **(1 marks)**

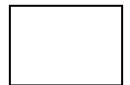
(b) Calculate the median. **(2 marks)**

(c) Work out the mean. **(2 marks)**

28. Maraka went shopping with 4notes of twenty thousand shillings each and bought 2 bunches of matoke at Sh.15,000 a bunch. $1 \frac{1}{2}$ kg of meat at Sh. 12,000 per kilo, 3kg of rice at Sh. 3,600 @ kilo , $\frac{1}{4}$ a sack of charcoal at Sh. 12,000.

(a) Work out his total bill. **(4 marks)**

(b) If he was given a discount of 10% for paying cash, how much money did he receive as his change? **(2 marks)**



29(a) Solve for x in $5(4x + 6) = 6(4x - 1)$. **(2 marks)**

(b) Given that $3^{2y} \times 3 = 81$. Find the value of y. **(3 marks)**

30. Okore spends $\frac{2}{5}$ of his income on food and then $\frac{2}{3}$ of the remainder on rent and clothing. He saves Sh. 80,000 every month.

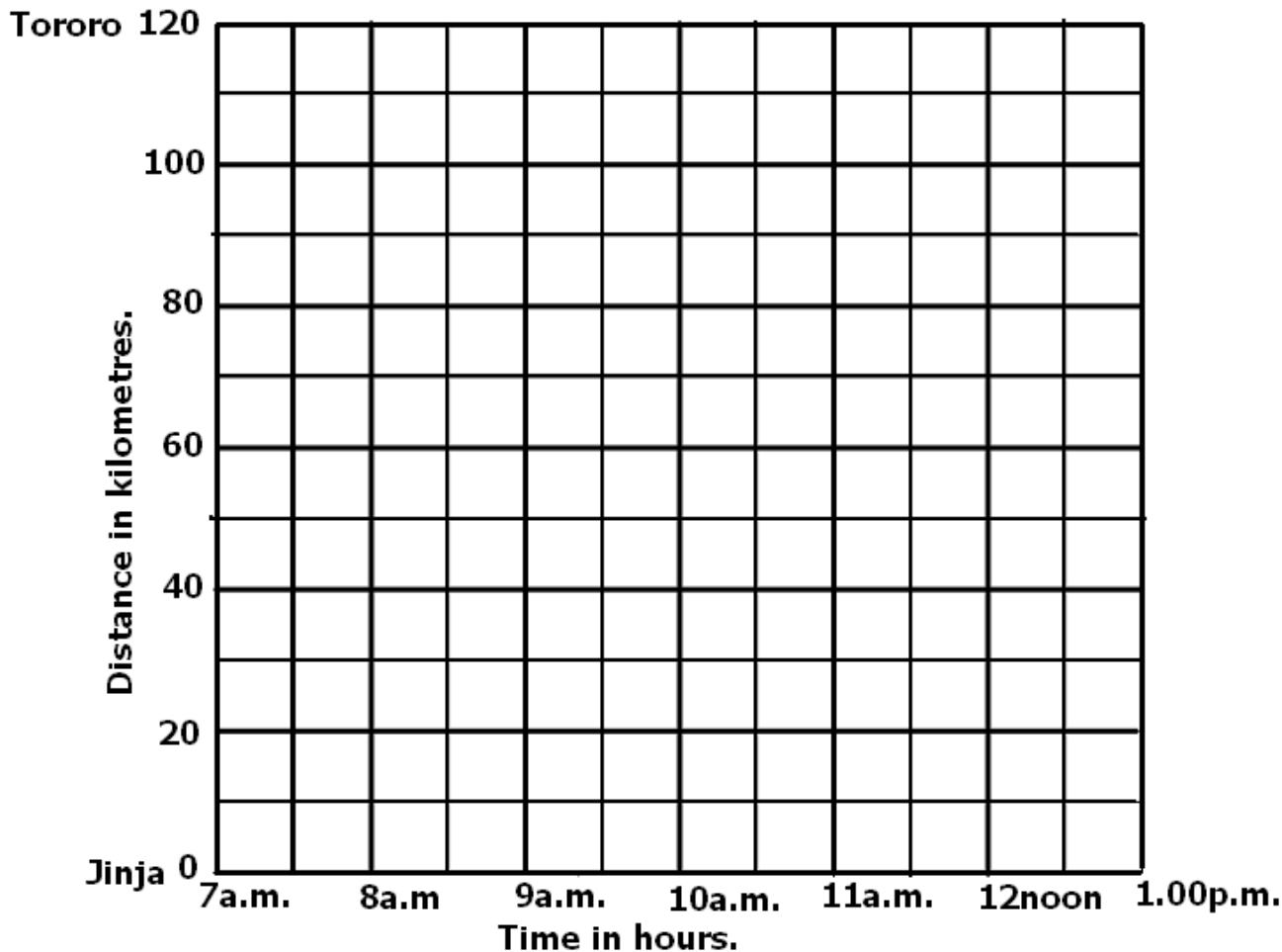
(a) What fraction does he spend on rent and clothing? **(3 marks)**

(b) Calculate his monthly income. **(2 marks)**



31. Mr. Ocwo left Jinja at 7:00 am and covered 50km in 1 hour to Iganga. He rested for $\frac{1}{2}$ an hour and covered the next 40km in $\frac{1}{2}$ an hour to Bugiri. He took a break of 30 minutes covering the remaining 30km to Tororo where he arrived at 10:00 am. He left Tororo at 11:00 a.m. and drove back to Jinja at a speed of 60 km per hour.

- (a) Show Mr. Ocwo's journey on the graph below. **(5 marks)**



32.(a) Subtract: 1010_{two} – 111_{two} **(2 marks)**

(b) If today is Thursday, what day of the week will it be after 45 days? **(2 marks)**

END



SECTION A:

1. Work out:

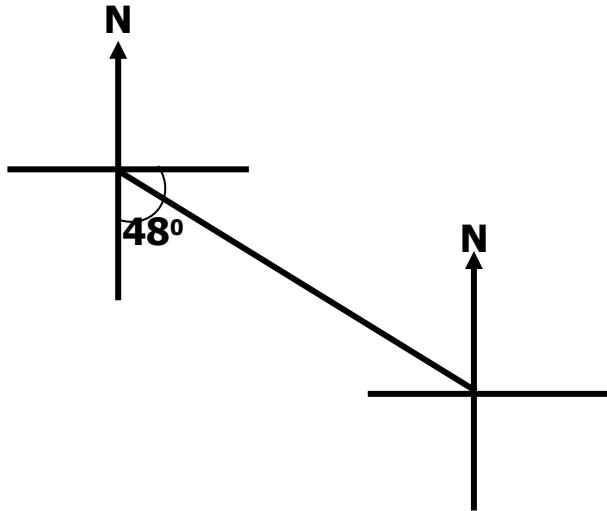
$$\begin{array}{r} 5 & 2 \\ - 4 & 2 \\ \hline \end{array}$$

2. Write in words: **Six hundred three thousand four hundred ninety four.**

3. Given that $M = \{\text{all vowels}\}$ and $N = \{a, b, c, d, e\}$. Find $n(N-M)$.

4. Convert 101_{two} to a decimal base.

5. In the figure below, find the bearing of town P from K

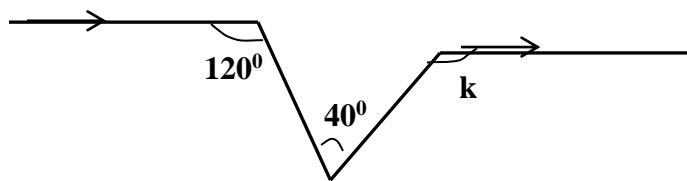


6. Find the square of the next term in the sequence below.

81, 27, 9, 3, 1, _____

7. A customer paid sh.72, 000 for a shirt after a discount of 10%. What was the marked price of the shirt?

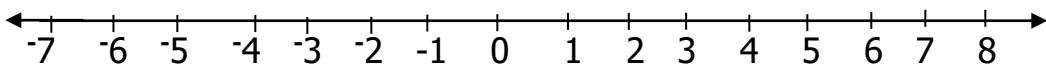
8. Find the value of **k** in degrees.



9. A motorist covered 80km in 40 minutes. At what speed was he travelling in km/hr?

10. Solve the inequality: $2 - \frac{1}{3}y \leq 6$

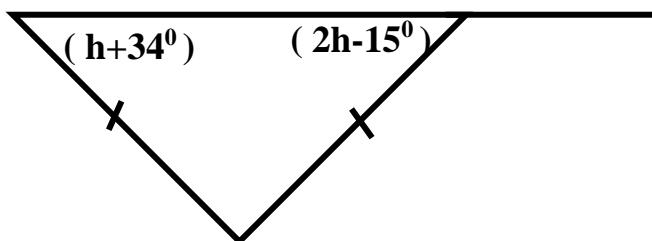
11. With the help of the number line below, work out 3×2 .



12. How many 250gm packets can be got from a 50kg bag full of wheat flour?

13. Using a ruler, a sharp pencil and a pair of compasses only, construct an angle of **105°** .

14. On the figure below find the value of **h**



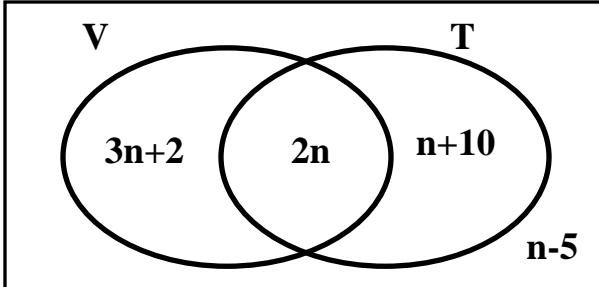
15. Subtract: $6y + 5$ from $y - 3$



16. If $p+4 = 1 \pmod{5}$, find the value.
17. A tin contains 45 blue and red pens. The probability of picking at random a red pen is $\frac{2}{3}$. How many blue pens are in that tin?
18. The area of a square garden is 0.64km^2 . Find the length of each side of the garden.
19. Simplify: $\frac{1}{2}$ of $\frac{3}{4} \div \frac{3}{5}$
20. A double forty five minute lesson started at **2:45pm**. At what time did it end?



SECTION B:

21. Given that the number of tourists who visit Uganda from Europe every year is **87,809**
- a) Expand that number using powers of base ten. **(2 mks)**
- b) Work out the product of the value of 7 and the place value of 9. **(3 mks)**
22. The Venn diagram below shows players in a certain club that enjoy playing Volleyball (**V**), Tennis (**T**) and other games. Study it carefully and use it to answer the questions that follow.
- 
- a) Given that the number of players who play tennis is equal to those who don't play tennis, find the value of **n**. **(2mks)**

b) How many payers are in this club? **(2 mks)**

c) What is the probability that a player picked at random plays either game? **(1 mk)**

23. A trader used $\frac{3}{4}$ of her total sales to buy new goods, 50% of the remainder to pay for transport costs and banked sh.5, 000,000. How much was her total sales?

(5 mks)

24. Amos is 20 years older than Paul. In six years' time, Paul will be half as old as Amos.

a) How old is each now? **(3mks)**

b) How old will Amos be then?

(2 mks)

25. The interior and exterior angles of a regular polygon are in the ratio of 3:2 respectively.

a) Name the polygon.

(3 mks)

b) Work out the number of right angles the polygon has.

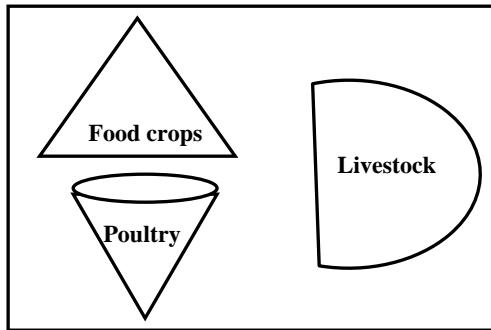
(2 mks)

26. a) Work out: 3 3 4_{six}
 + 1 2 4_{six}

b) Given that $83_{\text{nine}} = 203_p$, Find the value of **p**

(3 mks)

27. Below is Mr. Matovu's farm. Study it carefully and answer the questions about it.



Given that the distance round the plot gazetted for livestock is 144m, calculate the area of the livestock plot. ($\pi = \frac{22}{7}$) **(4 mks)**

28. A parent went shopping and bought the following;

- 3 dozens of books at sh.700 per book
- 45 passion fruits at sh.1,000 for every 5
- 750ml of cooking oil at sh.9,000 each litre

a) Calculate her total expenditure.

(4mks)

b) If she was given change of sh.3,050, how much money did she go with? **(1mk)**

29. Joseph borrowed shs.450,000 from a village SACCO at a simple interest rate of $12\frac{1}{2}\%$ per annum for a loan period of 2.5 years.

a) Calculate the simple interest he paid after one year. **(2 mks)**

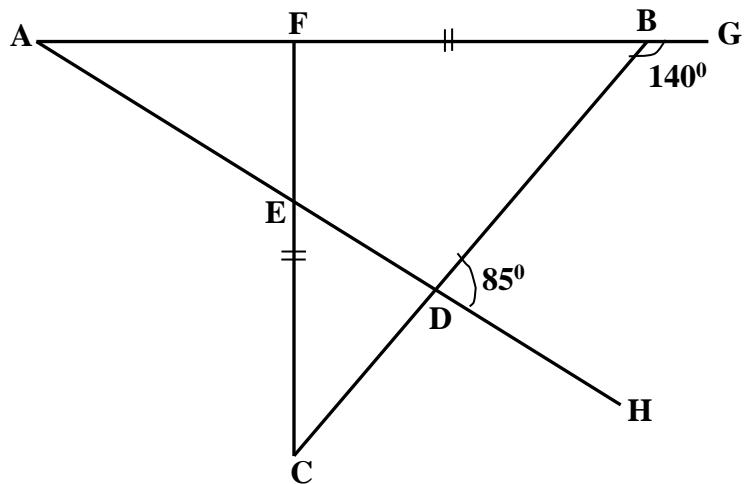
b) Find the total amount of money he paid to the bank by the end his loan period. **(3 mks)**

30. a) Using a ruler, pencil and a pair of compasses only, construct a triangle **NBS**, where **NB**= 7cm, angle **NBS**= 120° and angle **BNS** is $\frac{1}{4}$ of **NBS**. **(4 mks)**

b) Measure angle **NSB** _____

(1 mks)

31. In the figure below. AG is a straight line. Line FB = FC. Angle GBD = 140° and HDB = 85° . Use the figure to answer the questions that follow.



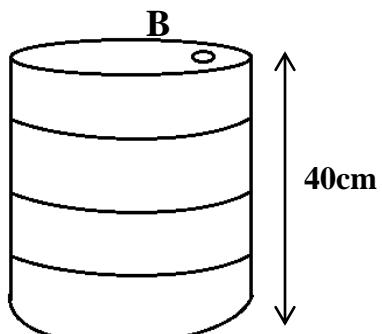
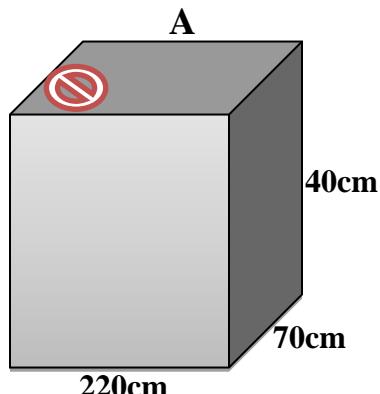
a) Find the size of angle FAE.

(3mks)

b) Work out the size of angle FED.

(2mks)

32. The two petrol tanks **A** and **B** shown below hold the same amount of petrol when filled up completely.

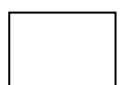


a) Find the amount of petrol tank **A** can hold in litres when full?

(3mks)

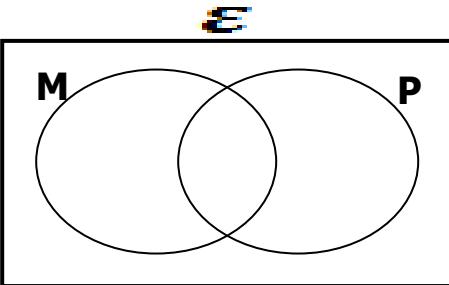
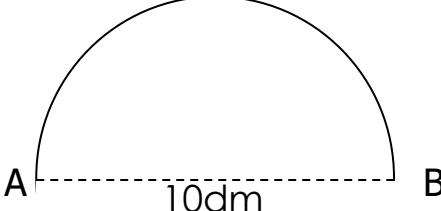
b) Find the diameter of tank **B** (take $\pi = \frac{22}{7}$).

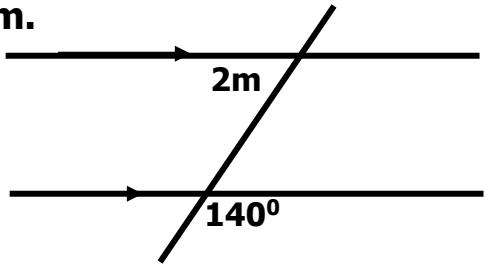
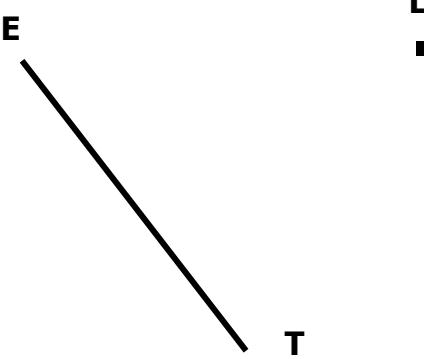
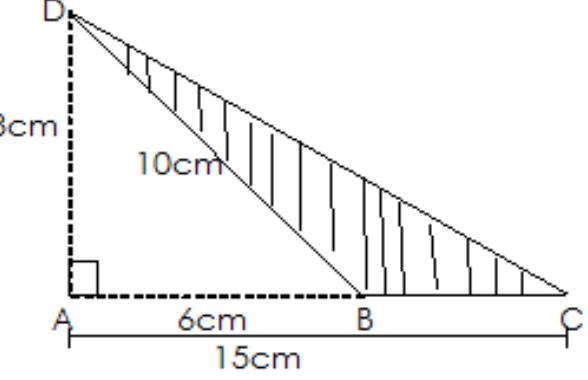
(3mks)



END

SECTION A

1	Work out: $\begin{array}{r} 1 \ 2 \ 4 \\ - \ 1 \ 8 \\ \hline \end{array}$	2	Write 55,012 in words.
3	Shade $(M \cap P)^I$ in the figure below; 	4	Find the next numbers in the sequence below; $1, 4, 2, 5, 3, \underline{\quad}, \underline{\quad}$.
5	A trader bought $1\frac{1}{2}$ dozen of books and sold each at sh. 2000 making a profit of sh. 4000. Find the cost price of all the books. <input type="text"/>	6	Find the length of the arc AB in the figure below: (Take $\pi = 3.14$) 
7	Find the square root of $3\frac{1}{16}$.	8	Solve for k: $2k - 5 = 13$
9	Name the regular polygon whose interior angle is 135° .	10	Round off 45.37 to the nearest whole number. <input type="text"/>

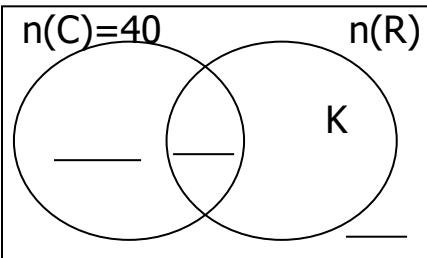
11 In the figure below find the value of m .	12 Express 0025 hours in 12hr clock system.
	<p>In the diagram below, drop a perpendicular from L to meet line segment ET at point B.</p> 
13 In a box, there are 63 blue and red pens. The probability of picking a blue pen is $\frac{3}{7}$. How many red pens are in the box?	14 A lady borrowed sh. 180,000 from a village savings account at an interest rate of 10% per month. How much money did she pay back after 6 months? <p>16 Find the area of the shaded part in the figure below If AB = 6cm and AC = 15cm.</p> 

17	The bearing of town P from town Q is 200° . What is the bearing of town Q from P?	18	How many $\frac{1}{4}$ kg packets can be used to pack 12kg of sugar?
19	Using tallies, change 18_{ten} to base five.	20	Express 200 metres as a ratio of one kilometer.



SECTION B (60 MARKS)

21	The previous electricity metre reading at Kato's meter box was taken as 08476 . The new metre reading is 08511 .		
a	How many units of electricity did Kato consume? (2 Marks)	b	If the cost of each unit is sh. 800, calculate the amount of money to be paid by Kato if VAT of 18% is levied on the total cost. (2 Marks)
22	<p>In a certain village, 40 farmers rear cows (C), K farmers rear rabbits (R) only, K + 2 farmers rear both cows and rabbits while 2K rear neither rabbits nor cows.</p> <p>a). Use the above information to complete the Venn diagram below correctly</p>		



b

If 30 farmers don't rear cows, how many farmers are in the whole village?

(3 Marks)

(2 Marks)

23 The table below shows the marks scored by P.6 pupils in a certain test.

Marks scored	55	70	40	80
No. of pupils	x	4	3	1

a If 5 pupils score below 70, how many pupils sat for the test altogether?

(2 Marks)

b Work out the mean.

(2 Marks)

c What was the modal frequency?

(1 Mark)

24 a) A mother is thrice as old as her son. In five years' time, the ratio of the mother's age to the son's age will be 7:3 respectively. How old is each of them now?

(4 Marks)

b) Solve the inequality: $6 \geq -3p > -9$ and give the solution set.

(2 Marks)

- 25 The time table below shows how a bus moved from town P to S through different towns as shown in the table. Study it carefully and use it to answer questions that follow.

Town	Arrival	Departure
P		1000hrs
Q	1030hrs	1045hrs
R	1130hrs	1210hrs
S	1330hrs	

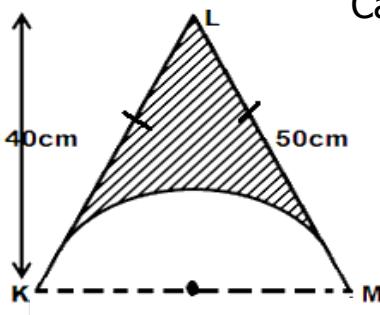
- a For how long did the bus take to move from town Q to town R? **(1 Mark)**
- b Change the arrival time at town S in 12hr clock time. **(2 Marks)**

- c If the distance from town P to town S is 210km, calculate the average speed of the bus for the whole journey. **(2 Marks)**

26 The figure below shows a triangular card with a semi-circular part cut off.

Calculate the area of the shaded part (take $\pi = \frac{22}{7}$)

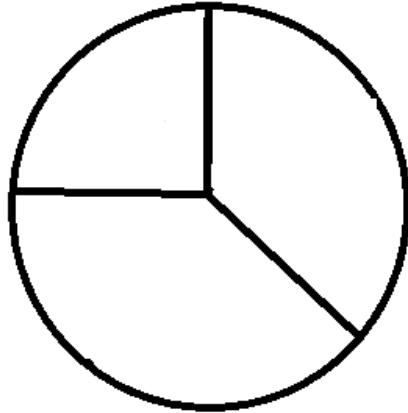
(5marks)



27 The pie-chart below shows a man's monthly expenditure.

(a) Find the value of y

(2 Marks)

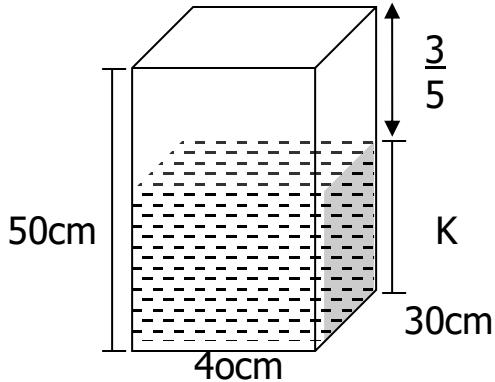


b Given that he spends shs.120,000 more on savings than rent, Calculate his monthly salary.

(3 Marks)

- 28 The tank below holds water to a certain level. Study it carefully and use it to answer the questions that follow.

a) Find the value of K. **(3 Marks)**



- b) Find the amount of water needed to fill the tank in litres. **(3 Marks)**

- 29 A boy's stride is 50cm long. He makes 100 strides in only one minute.

a) How long does he take to walk a distance of 4km?

(3 Marks)

b) Calculate the boy's average speed for the whole journey.

(2 Marks)

30 Below are the exchange rates at Bamboo forex bureau. Study it carefully.

Currency	Buying rates	Selling rates
US\$	Ugsh. 3500	Ugsh. 3600
Ksh 1	Ugsh29	Ugsh30
1 British pound	Ugsh 4100	Ugsh 4200

a A trader had Ugsh. 504,000 which he exchanged for British pounds. How many pounds did he get? **(2 Marks)**

b If a radio costs Us\$600, Find the cost of the same radio in Kenya shillings.

(3 Marks)

- 31 Using a ruler, pencil and pair of compasses only, construct a parallelogram ABCD where AB= 6cm, angle DAB = 120° and AD = 4cm. Drop a perpendicular line from C to meet AB at X. **(5 Marks)**

- 32 A fruit vendor bought some oranges from a village fruit farmer. When she grouped them in heaps of 8, 5 oranges remained, when she put them in heaps of 7, only one orange remained and when she grouped them in heaps of 6, 5 oranges were left. How many oranges did the vendor buy from the farmer? **(5 Marks)**



END

SECTION A: 40 MARKS

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

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

1. Work out: $2 \overline{)2 \quad 4}$

2. Write 94 in Roman numerals.

3. Given that **K**= { b,c,e,f,h} and **L**= {a,b,d,f,h}. Find $n(K \cap L)^c$

4. Express 2570 grammes as kilograms.

5. Subtract $p-5$ from $3p$

6. Work out: $2\frac{1}{3} + \frac{3}{4}$

7. Double the next number in the sequence;
1, 3, 6, 11, 18, ____

8. Using a pair of compasses and a ruler, construct an angle of 75° in the space provided below.

9. The table below shows the marks scored by different pupils in a test. Use it to answer the question that follows.

Marks scored	70	50	90	80
Number of pupils	2	3	4	1

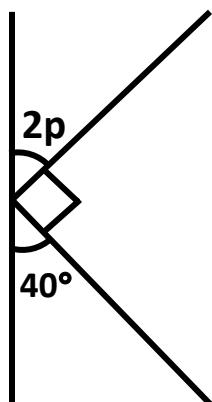
How many pupils scored above the median mark?

10. A milkman sells milk in half litre cups.

How many full cups of milk will he sell if he had a twenty litre jerrycan full of milk?



11. Find the value of P in the diagram below in degrees.



12. Mr. Ssendawula woke up at five in the morning after sleeping for $6\frac{1}{3}$ hours.
At what time did he start sleeping?

13. Given that $a = -2$ and $b = 3$. Evaluate $2b - a^2$

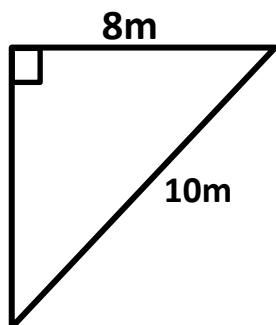
14. Round off 68.96 to one place of decimal.

15. A trader sold a dress at sh.37,000 making a loss of sh.13,000.
How much did the trader buy the dress?

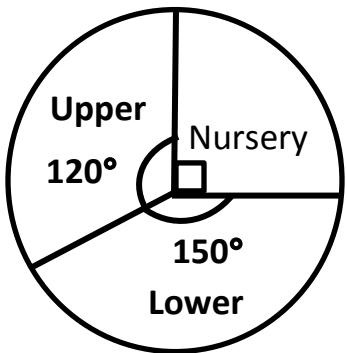


16. Find the smallest number of books when divided among 12 or 18 pupils equally, leaves no remainder.

17. Below is a triangular mat. Find the total distance round it.



18. The number of pupils in a certain School decreased by 20%.
If the new number of pupils now is 280.
Calculate the number of pupils in the school before.
19. A motorist covered 90km in $2\frac{1}{2}$ hours. How long will he take to cover 24km while using the same speed?
20. The pie chart below shows the number of pupils in Nursery, Lower and Upper primary section in a certain school of 1800 pupils.



How many pupils are in the Nursery section?

SECTION B: 60 MARKS

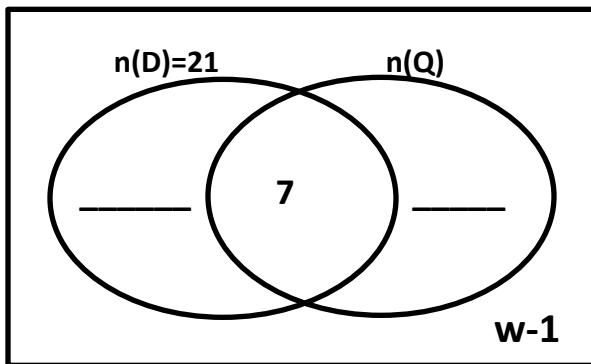
Answer all the questions in this section

Marks for each question are indicated in the brackets

21. During a National competition of 36 participants, 21 participated in debating (D), $(w+6)$ participated in quiz only, 7 participated in both activities while $(w-1)$ did not participate in any of the two activities.
- (a) Use the above information to complete the venn diagram below.

$$n(\Sigma) = 36$$

(2marks)



- (b) How many pupils participated in debating complement?

(3marks)

22. (a) Work out: $423_{\text{five}} - 234_{\text{five}}$ **(2marks)**

- (b) Given that $43_y = 23_{\text{ten}}$. Find the unknown base. **(3marks)**

23. The total of three consecutive counting numbers is 24.
If the largest number is k. Find the sum of the first two numbers.
(4marks)

24. The table below shows the marks scored by a pupil in different Mathematics tests. Use it to answer the questions that follow.

Marks (%)	50	80	60	45
Number of tests	2	4	P	3

(a) Find the value of p if his average mark was 61.

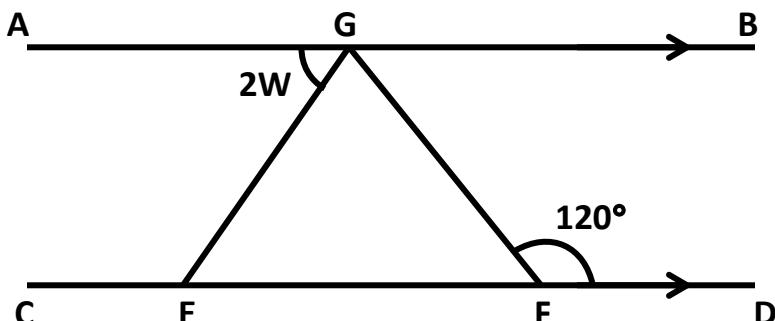
(3marks)

(b) How many tests did he do altogether?

(1mark)

25. In the figure below, line AB is parallel to line CD.
Angle GFD is 120° and angle EGF is 70° less than angle GFD.

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



(a) Find the value of w in degrees.

(2marks)

(b) Calculate the size of angle GEC.

(2marks)

26. (a) Solve for q: $7 - q = 4$

(2marks)

(b) Solve the inequality $8 > 2k - 2$ and find the solution set if k is a natural number.

(3marks)

27. Muzafulu bought a cylindrical water tank of radius 35cm from neighbourhood Hardware, He rolled the tank on the ground 50 times to his home.

(a) How far is the Hardware from his home? (Use $\pi = \frac{22}{7}$)

(4marks)

(b) If the tank had a cover of the same diameter.

Calculate the area of the cover.

(2marks)

28. In a class, $\frac{1}{6}$ of the pupils passed in Division **I**, $\frac{2}{3}$ of the remainder passed in Division **II** while the rest passed in Division **III**.

(a) Calculate the fraction for the pupils who passed in Division **III**.

(3marks)

(b) How many pupils were in the class if 30 pupils passed in

Division **III**?

(2marks)



29. The information below shows the cost of foreign currencies at a certain forex bureau. Use it to answer the questions that follow.

1 US dollar (\$) = Ugsh.3600

1 British Pound Sterling(£) = Ugsh.4600

1 Kenya shilling (Ksh) = Ugsh.36

(a) The cost of a new pair of shoes is Ksh.18,000.

Find the equivalent cost of the same pair of shoes in United States dollars.

(3marks)

(b) Convert Ugsh.1,104,000 to British Pound Sterling. **(2marks)**

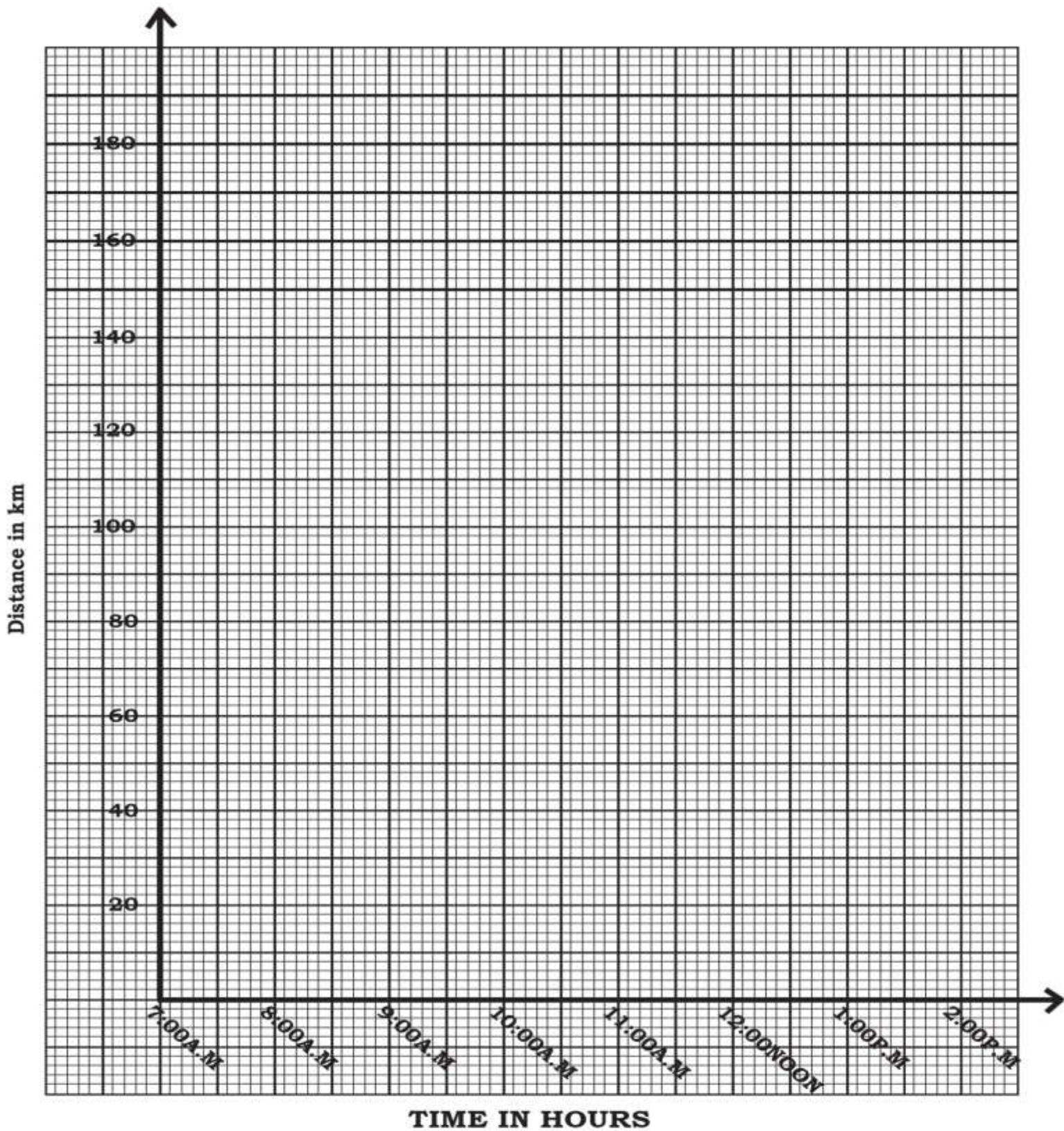
30. (a) Work out: $\frac{0.56 - 0.2}{0.6 \times 0.3}$ **(3marks)**

(b) Write 0.66... as a common fraction in its lowest term. **(2marks)**

31. Using a pair of compasses and a ruler,
a) construct a rhombus PQRS where diagonal PR=16cm and
diagonal SQ=12cm. **(4marks)**

b) Find the total distance round the rhombus you have constructed in
question 31 a above. **(2marks)**

32. A cyclist left Mukono for Iganga at 7:00a.m. After cycling for $1\frac{1}{2}$ hours
at a speed of 60km/hr, the bicycle got a mechanical problem at Jinja.
The mechanic took 90 minutes to repair the bicycle.
The cyclist then continued with his journey of 180km from Mukono to
Iganga where he reached at 1:00p.m.
(a) Use the given information to show the cyclist's journey on the graph
on page **12** **(4marks)**



(b) Calculate the speed the cyclist used to reach Iganga after repairing his bicycle. **(2marks)**

END

SECTION A: 40 MARKS

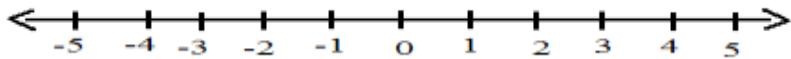
*Answer **all** questions in this section*

Questions 1 to 20 carry two marks each

1. Work out: 23×3
 2. Write in figures: Ninety thousand, forty.
 3. Simplify: $4y - 3(y - 1)$
 4. Given that $Q = \{\text{the last 3 letters of the English alphabet}\}$.
List all the proper subsets in Q .
 5. Subtract: 113_{five} from 432_{five}
 6. Express 4.5 metres as centimetres.

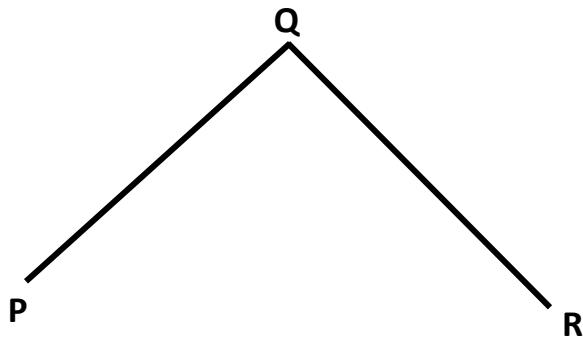


7. Work out: $-5 + -2$ on the number line below



8. Work out: $55.5 - 2.03 + 0.05$

9. Use a protractor to measure the size of angle PQR below.

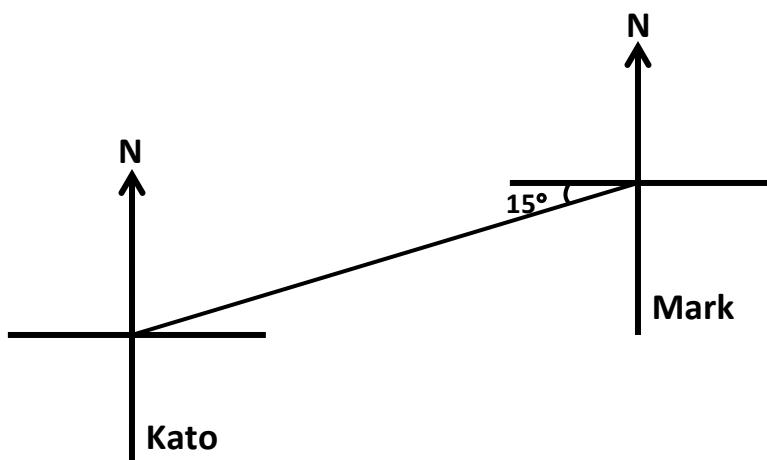


10. The mean of 2.5, 0.3, $k+1.9$ and 0.6 is 1.7 . Find the value of k.

11. Solve for n: —

12. The diagram below shows the position of Kato and Mark.

Use it to answer the question that follows



Work out the bearing of Mark from Kato.

13. Find the Highest Common Divisor(HCD) of 24 and 36.

14. In a market, one buys 3 water mellons at sh.12,000.

How many similar water mellons does one buy with sh.28,000?

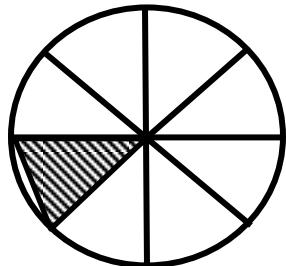
15. The table below shows the temperature of juice in a fridge recorded at different times of the day.

Temperature	-7°C	-5°C	2°C	3°C	-1°C
Time of the day	12:00midnight	2:00a.m	12:30p.m	1:00pm	7:00pm

Calculate the range in temperature which was recorded during the morning hours.

16. The diagram below shows the part of the cake which was given to Jane.

Express the part she got as a percentage of the whole cake.



17. Mungriek bought 5 crates of soda with 24 bottles each.

How many litres of soda did she buy if each bottle had 30 ml?

18. Dannah bought $3\frac{1}{2}$ kg of lato milk in small packets of 250g each.

If each packet was for sh.5,000, how much money did she pay for all the packets?

19. Jollyn went to the bed at “twenty minutes to one in the morning”. Express the time she went to the bed in the military time.

20. A taxi uses 9 litres of fuel to cover 27 kilometres .What distance will the same taxi go if it was filled with 15 litres of fuel?



SECTION B: 60 MARKS

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

21. The table below shows the marks scored by different pupils in an Examination. Use it to answer the questions that follow.

Mark	Tally	Total mark
40		160
_____		150
75	_____	_____
60		_____
		730

Complete the table above.(Show your working)

(4marks)

22. The time table below shows the departure time and arrival time of the Link bus from Kampala to Iganga. Study and use it to answer the questions that follow.

Towns	Arrival time	Departure time
Kampala		8:00a.m
Mukono	8:50a.m	9:10a.m
Jinja	10:20a.m	10:30a.m
Iganga	1:15p.m	

a) For how long did the bus take to travel from Mukono to Jinja?

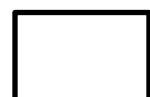
(1mark)

b) Calculate the total time the bus took while waiting for the passengers.

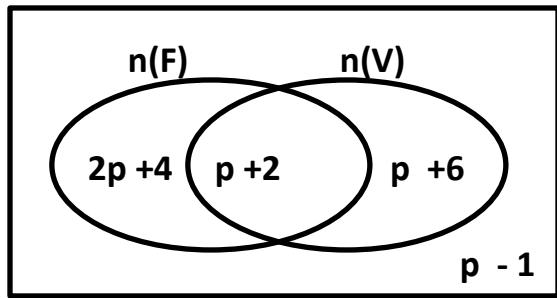
(1mark)

c) If the distance from Kampala to Iganga is 630km, calculate the average speed for the whole journey.

(3marks)



23. On a sports day, players played football(F) and volleyball(V) as shown in the venn diagram below. Study and use the venn diagram to answer the questions that follow.



a) If 18 players did not play volleyball, how many players played volleyball only? **(3marks)**

b) Find the probability that a player picked at random to be the best player was a footballer. **(2marks)**

24. Kasozi set two different alarms in his watch which were ringing in the ratio of 3:4 respectively. Their Greatest Common interval was 10 minutes. If they last rung together at 11:30a.m.
At what time will they ring together again? **(5marks)**

25. a) Study and complete Mikiibi's shopping table below. **(5marks)**

Item	Quantity	Unit cost	Total cost
Meat	1- kg	Sh.14,000	Sh.....
Rice	2-	Sh.....	Sh.10,000
Sugarkg	Sh.3,000	Sh.6,750
Cooking oil	3 litres	Sh.....	Sh.....
Total Expenditure			Sh.64,750

b) If he was given a discount of 20%, how much money did he pay?
(1mark)

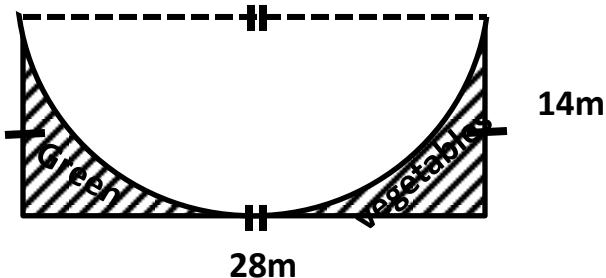
26. The interior angle of a regular polygon is thrice its exterior angle.
Calculate the interior angle sum of the polygon. **(4marks)**



27. The diagram below shows how Mr.Ssenkala used part of his compound.

Find the area covered by the green vegetables.

(5marks)



28. A milk container was – full of milk. When 12.5 litres of milk were added, the container became – full of milk.

How many litres of milk are in the container now?

(4marks)



29. Using a ruler and a pair of compasses only,
a)Construct a parallelogram KLMN where line KL =6cm, angle LKN=120°
and line LM =4.6cm. **(4marks)**

b)Drop a perpendicular from point M to meet line KL at T.
Find the area of the parallelogram. **(2marks)**

30. During the general registration sim update, MTN registered 25% of the customers, Airtel registered 50% of the remaining customers and Lyca registered rest of the customers.

a)What fraction did Lyca register? **(2marks)**

b)If all the Telecom companies registered 32,000,000 customers.
Calculate the number of customers registered by each Telecom company.

(3marks)



31. a) Solve the inequality: $5 - X > 2$

(2marks)

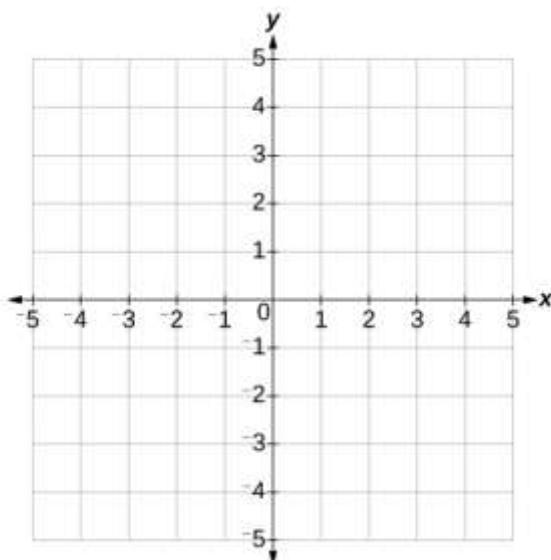
b) Max is 5 years old. Daniel is 25 years old.

After how many years will Daniel's age be thrice as old as Max?

(3marks)

32. a) On the grid below, plot the points A(2, -4), B(2, 4), C(-2, 4) and D(-2, 0).

(4marks)



b) Join A to B, B to C, C to D and D to A.
(1mark)

c) Find the area of the figure formed after joining all the points.

(1 box represents 1cm)

(1mark)

END



SECTION A: 40 MARKS

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

Questions 1 to 20 carry two marks each

1. Work out: $573 - 141$

2. Round off 847 to the nearest tens.

3. Express 7530 kilogrammes as tonnes .

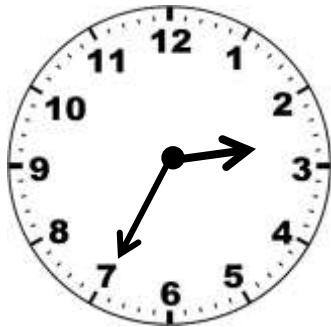
4. Complete the sequence below and find their range.
3, 1, -2, -7, -14, _____

5. What number has been expressed in scientific notation
 5.47×10^3 ?

6. Simplify: $7m + 5n - 4m - 3n$

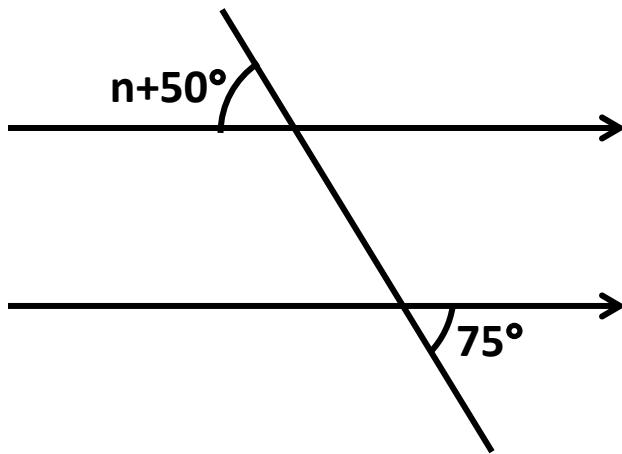
7. If set Q has 15 proper subsets. Find $n(Q)$

8. Write the morning time shown on the clock face below in the 24 hour clock system.



9. Using a pair of compasses, ruler and a very sharp pencil only, construct an angle of 105° in the space provided below:

10. In the diagram below, find the value of n in degrees.



11. Work out : 4- 1-

12. Solve for n: — = 3

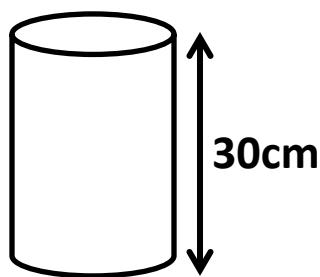
13. The list below shows the marks obtained by Joseph in a mathematics test.
70,90,80,60 and k.
If his least mark was k and 40 as his range. Find his median mark.
14. The smallest number that can be divided by either 12 or w leaving 3 as a remainder is 39. The Greatest Common Factor (GCF) of the two numbers 12 and w is 6. Find the value of w
15. Amos planted 40 orange trees round his rectangular compound at intervals of 5 metres from each tree.
Calculate the total distance round his rectangular compound.



16. Kagoda bought 3 plates and 2 cups at sh.6500. The cost of each plate was sh.1500. How much did he pay for each cup?

17. A cheetah was running at a speed of 30 metres for every 3 seconds. Express the speed it was running in km/h

18. The base area of the figure below is 616cm^2 .



Calculate its capacity in litres.

19. In a school garden, a fifth of the trees are mango trees and a half of the remainder are orange trees. If the garden has 16 orange trees, how many mango trees are in the garden?

20. Jakisha rode a car wheel of radius 7cm for a distance of 44km. How many revolutions did it make?



SECTION B: 60MARKS

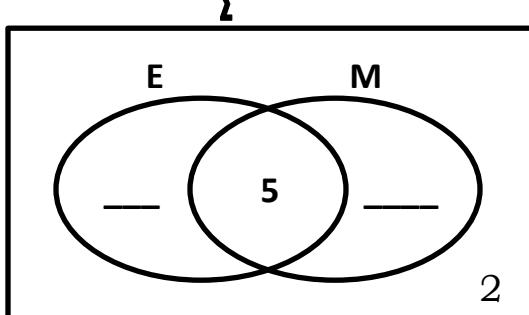
*Answer **all** the questions in this section*

Marks for each question are indicated in the brackets

21. In a class, 15 pupils like Mathematics (M), 5 pupils like both Mathematics and English(E), k pupils like only one subject while 2 pupils like neither of the two subjects.

(a) Use the given information to complete the venn diagram below.

(2marks)



(b) If 9 pupils do not like mathematics, find the number of pupils in the class.

(3marks)

22. (a) Find the number that has been expanded to give: $(1 \times 3^2) + (2 \times 3^0)$

(2marks)

b) Given that $23_y = 31_{\text{four}}$. Find the value of y

(2marks)

23. A regular polygon has 12 right angles.

a) Name the polygon.

(3marks)

b) Calculate the total of all its interior angles.

(2marks)

24. (a) Twelve days ago from today was Friday.

What day of the week is today?

(3marks)

(b) Use a clock dial to work out: $2 \div 3 \pmod{5}$

(2marks)



25. Mr. Mutyaba wanted to cover his floor measuring 3.5m by 3m with square tiles of 50cm each. How many square tiles will he need to cover the entire floor? **(4marks)**

b) If each box containing 10 pieces of square tiles costs sh.50,000.
How much money will he need to buy all the required tiles for him to
cover his room completely? **(2marks)**

26. a) Solve for y: $2^y - x - 2^2 = 8$ **(2marks)**

b) Solve and give the first three values of the solution set for :

4 - 2m < 6 **(3marks)**



27. The table below shows how different types of crops are bought and sold on Mr.Bossa's food store. Use it to answer the questions that follow.

Type of crop	Buying	Selling
1kg of G.nuts	Sh.3500	Sh.3700
1kg of Rice	Sh.2000	Sh.2200
1 kg of maize	Sh.550	Sh.650

a)One day, Mr.Bossa made a profit of sh.24,000 on G.nuts.

Find in kilograms ,the mass of G.nuts sold.

(2marks)

b)Paul had 600 kilograms of maize. He exchanged them for rice, the rice was packed in small bags of 25 kilograms each.

How many small bags did he get?

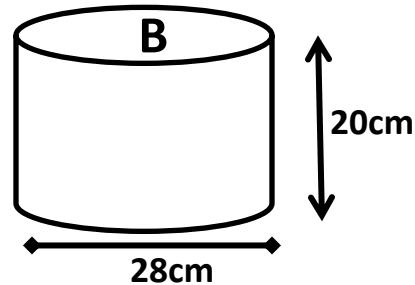
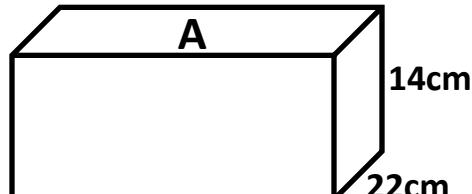
(3marks)

28. A candidate spent - of her pocket money on buying shoes, sh.75,000 on books, 5% of the remainder on pens and — on savings.
- a) If her pocket money was sh.200,000. Calculate the fraction of her pocket money she spent on buying the pens. **(3marks)**

b) How much money did she save? **(2marks)**



29. The two containers **A** and **B** below when filled with water hold the same capacity. Study carefully and use them to answer the questions that follow.



a) Find the length of container **A**. **(4marks)**

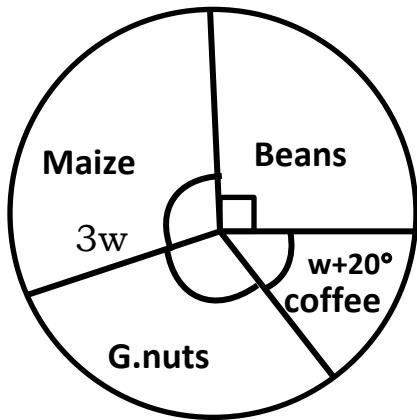
b) If the curved face of container **B** is cut to form a rectangular plate whose width is 20cm. Calculate the length of the plate formed. **(2marks)**

30. Kiptegeyi left town **M** for town **N** at 11:30a.m running at a speed of 20km/h for 2 hours. He left town **N** at 2:00p.m for town **P** using a speed of 16 km/h. If he reached town **P** at 5:30p.m, calculate his average speed for the whole journey. **(5marks)**

31. The pie chart below shows 180 acres of land which Mr.Bukulu used to plant different crops. He planted 25 acres of G.nuts.
Use it to answer the questions that follow.

a) Find the size of land he used to plant coffee.

(4marks)



b) Express as a percentage ,the size of land used to plant beans.

(1mark)

32. Hassan moved from his home to the Bus park a distance of 60km on a bearing of 135° . After reaching the Bus park, he continued to the market which is 50 km away on a bearing of 060° from the Bus park .

a)Using a scale of 1cm to represent 10 km, draw an accurate diagram to show the route of Hassan.

(5marks)

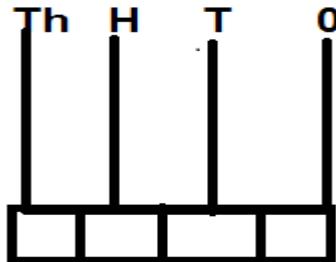
b)Find the shortest route between the market and his home. **(1mark)**

END



Section A (40 marks)

1. Represent 3502 on the abacus below



2. Given that $P = \{a, b, k\}$. Find $n(P)$.

3. Simplify $-7 + -2$ using number line.

4. Find the product of the next two numbers in the sequence:

29, 23, 19, 17, 13, ___, ___

5. Complete $2 - 35 = \underline{\quad}$ (finite 7) using dial method.

6. Musa travelled at 72km/hr to cover 36km. Change the time taken to seconds.

7. The cost of 3 basins from the supermarket is sh. 15000. Find the cost of 2 basins from the same supermarket?

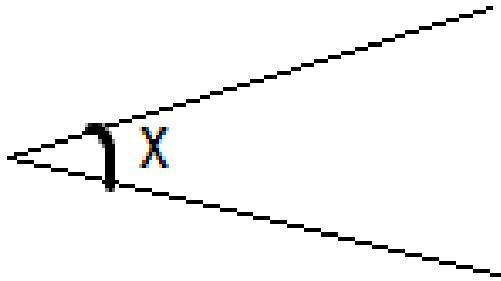
8. Solve for **m** : $2m - 1 = 13 - m$

9. Find the place value of 5 in 2457.

10. Jane scored the following marks in an exam
English 70%, Science 65%, Mathematics 85% and
87% in Kiswahili. Find her median score.



11. Using a pair of compasses, ruler and pencil only
bisect the angle marked with **x** below.

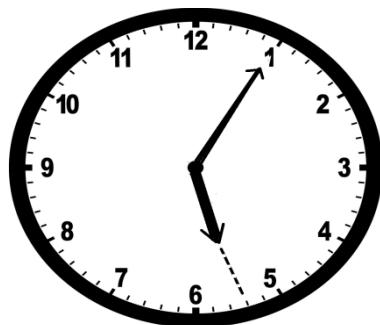


12. Express 200g as a percentage of 1kg.

13. The exterior angle of a regular polygon is thrice more than its interior. Name the polygon.

14. Prime factorize 36 and give your answer in set notation.

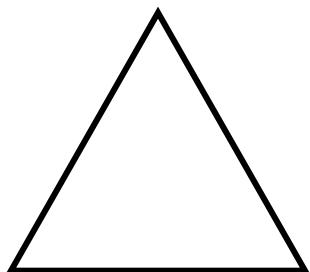
15. Write the evening time shown the clock face in 24 hour clock system.



16. I think of a number when you multiply it by $\frac{1}{2}$, it becomes $\frac{1}{4}$ of 8. Find the number.

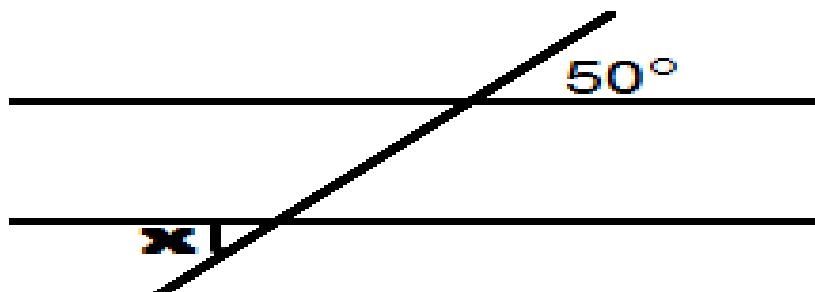
17. Expand 246.35 using exponents.

18. Name the geometric figure below.



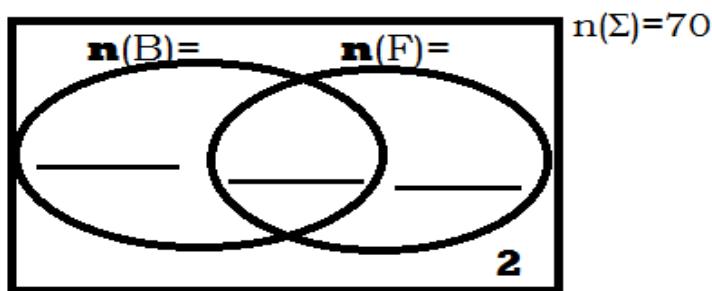
19. Find the Greatest Common Multiple of 8 and 12.

20. Find the value of x



Section B (60 marks)

21. At a birthday party that was attended by **70** guests, **40** were served beer (B), **36** were served Fanta (F) while **h** were served both drinks and 2 missed the drinks. Represent the above information on the Venn-diagram below.



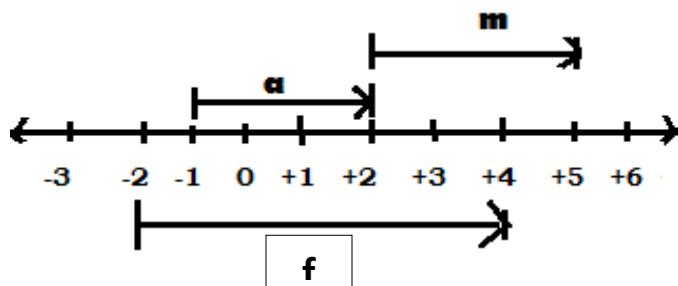
Find the value of $n(B-F)$

22. At Centenary Bank, money is bought and sold in Uganda currency at different bureaus as shown below:

Currency	Buys	Sells
1 Ksh.	Ugsh.35	Ugsh.40
1 Dollar	Ugsh.1200	Ugsh.1250
1 Euro	Ugsh.4600	Ugsh.4700

- a) How much Uganda shillings will be obtained from 23 dollars?
- b) Namukasa came from abroad with 150 Euros and Ksh. 3500. How many dollars will she get from the bank?

23. Study the number line below and use it to answer questions about it correctly.



- a) Name the integers represented by:
- i) a _____ ii) m _____ iii) f _____
- b) Write a mathematical sentence represented on a number line.

24. Complete the magic square below correctly.

12	a	14
b	15	e
c	d	18

25. Today is Friday, what day of the week was it 124 months if each month is twice 15 days?

Workout correctly:

Weeks	Days
12	2
- 7	6

26. Using a pair of compasses, ruler, protractor and a pencil only, construct a regular pentagon using a radius of 4.5cm.

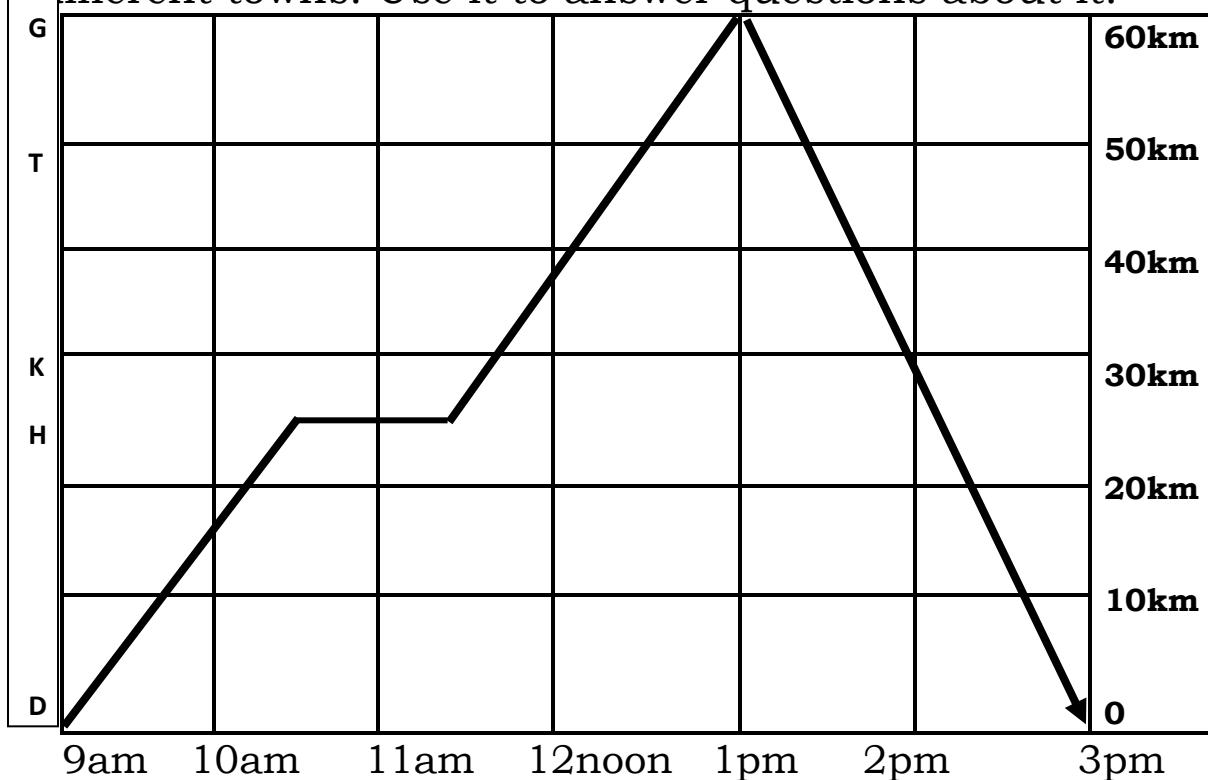


27. Mr. Joel spent his salary in parts as $\frac{2}{7}$ of his salary
 $\underline{\quad}$
 $\frac{3}{\quad}$ to clothes, $\frac{5}{\quad}$ of the remainder to food, again $\frac{4}{6}$ of the
 remaining part for transport and save sh.72000.

Find Mr. Joel's salary.

If his salary is increased in a ratio of 3:4, find his new salary

28. The graph below shows how Annette moved through different towns. Use it to answer questions about it.



a) How far is town K from town D?

- b) For how long did she rest for the whole journey?
- c) Write the time he reached at town D in 24hour clock system
- d) Calculate the average speed for the whole journey.
29. At Mukono Taxi Park, there are 165 buses that can carry 65 passengers and two operators for each bus. All the taxis carry 876 people in one trip. If each taxi can carry only 10 passengers without counting the two operators for each taxi, how many taxis are at the park altogether?

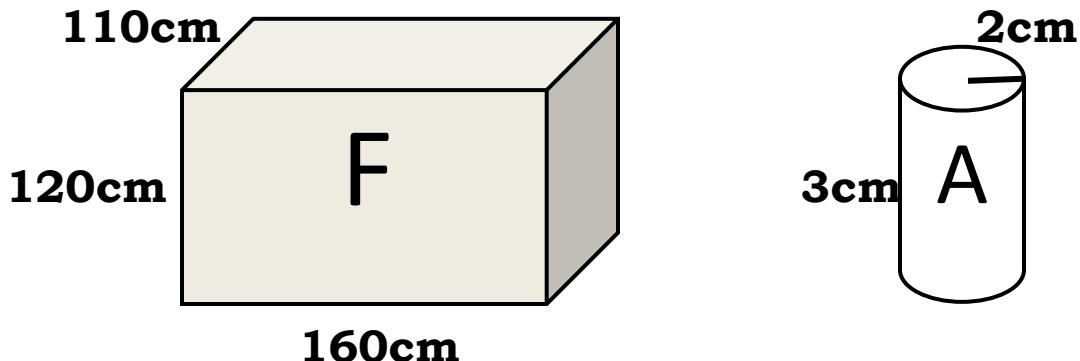
If each passenger carried by bus pay sh. 250 and sh.150 for a taxi, how much is collected from the passengers from the park altogether?

30. Find the solution set for x in the inequality below:

$$x - 5 \leq 3x - 13 < 1$$

The area of a square field is 81m^2 . If Mr. Cheptegei moved around it covering 1800m, how many times did he move around the field?

31. Cans of A were parked in can F. Study them carefully and use them to answer question about them correctly.



- How many cans of **A** were parked at the first layer altogether?
- Find the volume of can marked F above.

c) Find the volume of the space left empty after parking cans of “A” in can “F”?

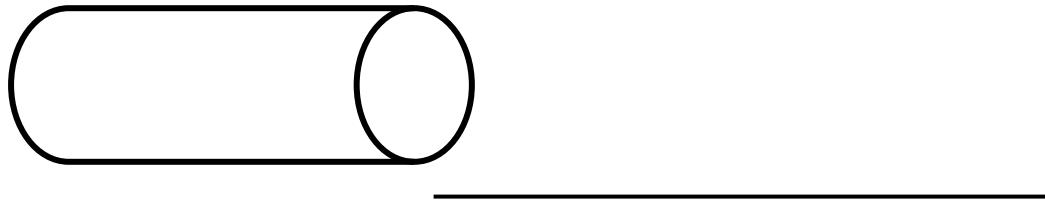
32. Workout : 1 2 1_{four}
 x 1 3_{four}

Find the value of p in $204_p = 166_{\text{ten}}$



SECTION A (40 marks)

1. Name the geometric figure shown below.



2. Find the sum of the next two numbers in the sequence:

1, 2, 6, 24, _____, _____

3. Expand 656827 using place values.

4. Work out: $\frac{3}{4} - \frac{1}{2} \times \frac{1}{4} + \frac{3}{8}$

5. Solve : $\frac{2m - 1}{7} = 23 - m$

6. Daniel travelled from Mukono to Masaka covering 235km in 18000seconds. Calculate his average speed.

7. In a class of 75 pupils, two pupils were selected to join the Luddo competition. If both children tossed the dies at once, what is the probability of the sums of the two pupils being even?

8. $2p^\circ$, 45° and 15° are centre angles. Find the actual value of p.

9. Find the reciprocal of the value of $\frac{1}{2} + \frac{1}{4}$.

10. How many $\frac{3}{4}$ liter cups can be obtained from a 7.5 liter pot?



11. Given that represent 12 whistles. Draw pictures to represent 48 whistles.

12. Simplify : $34 (- 50 - 50) \times 4 + 100 \div 5$

13. The cost of 3 books is sh.4500. Jackson bought 2 books of the same kind on a reduction of sh. 200 each book. How much did he pay altogether?

14. Express 452 in Roman numerals.

15. Express the minutes to 19:00 if it is 18:45 to hours.

16. Simplify $-2 - 5 + 3$ using a number line.

17. Queen has a bundle of sh. 20000 notes numbered from AX 8064217 to AX 8064226. How much was she having?

18. The base area of the cube is 25cm^2 . Find the volume of the cube.

19. Describe the unshaded region.

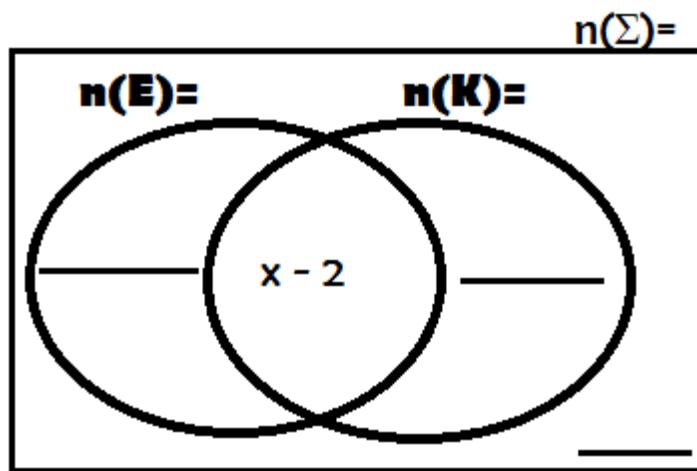


20. Using a ruler, pencil and a protractor only, draw an angle of 60° in space provided.



SECTION B (60 marks)

21. In a class of seventy-five pupils, two pupils were asked not write any exam. 35 were asked to write English (E), 37 were asked to write Kiswahili (K) while $x - 2$ wrote both English and Kiswahili. Represent the above sets on a Venn diagram below.



Find the value of x

What is the probability of picking a pupil who did not write the exam?

22. Write 6547186 in words.

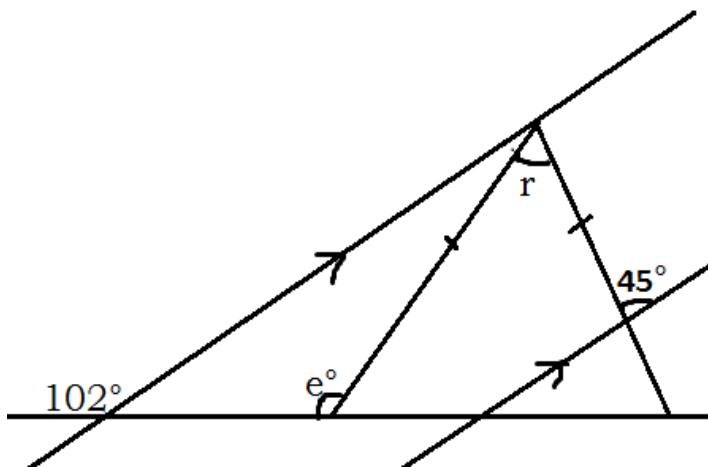
Find and write the expanded number in scientific notation.

$$(6 \times 100) + (4 \times 10000)$$

23. Workout: $(0.45 + 0.2) \div (0.005) - 2$

In a class, there are 17 boys more than girls. If there 45 pupils in class, find the number of girls.

24. Find the value of r and e.



25. Study the shopping list below and use it to answer about it correctly:

500g of salt at sh. 700 each kg

24 loaves of bread at sh. 1500 each 3 loaves

2kg of sugar at sh. 10000

Find the total expenditure.

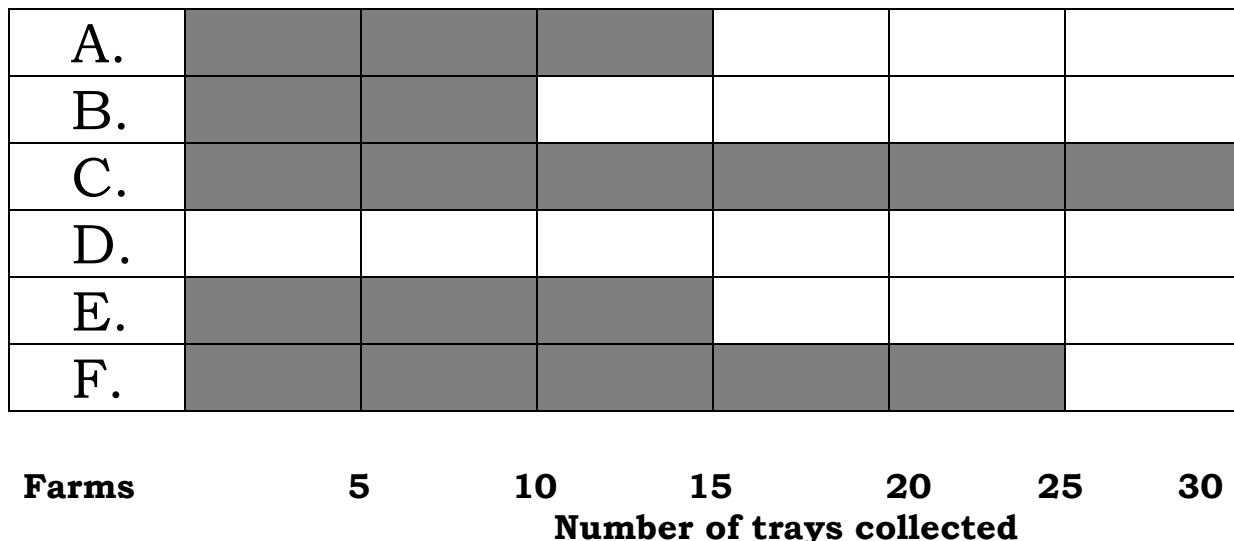
If one who goes with a note of sh.50000 is given a discount of 10% after buying all items on list, what is the change?

26. Annette is 3years less than Peter who is half as old as his brother Trevor. If the difference between Trevor's age and Annette's age is 15years, find their total age?

In how many years from now will Peter be 18years from now?



27. Study the graph below that shows how eggs are collected from different farms and use it to answer questions that follow.



On which farm was the least number of eggs collected?

How many eggs were collected at farm F than B?

How many eggs were collected from all the farms?

Why do you think there wasn't any egg collected at farm D?

28. Peter sailed from Port A on a bearing of 135° to Port B which is 12km apart. He then continued to Port C East of B covering 15km. If he again continued to port D from C on a bearing of 45° a distance of 10km, sketch Peter's journey.

Using a pair of compasses, ruler and pencil only, construct Peter's accurate journey given scale 1cm represent 2km.

Find the actual distance from port D to A

What is the bearing of port B from D?

29. Solve for k:

$$\frac{2(k+5) - 2(k-3)}{4} = 7 + K$$

Given that $r = a$, $b = 3$ and $x = 4r$. Simplify correctly

$$r + b - x$$

30. Workout: $2 \div 11 = \underline{\hspace{2cm}}$ (finite 3)

Today is Wednesday. What day of the week will it be after 45 days from tomorrow?

31. Mr. Grace shares his salary to his children Joy, Jonan, Jackson and Jordan in a ratio of 3:2:1:5 respectively.

If Jordan gets sh. 148000 than Jackson, how much does each get?

If Grace's salary is increased by 25%, find Joy's new share than Jackson.

32. The capacity of a cylindrical tank is 3.08 liters.
Calculate its total surface area if its height is 14cm.



2. Given that set A = {a , e , i , o , u} and set B= {a , b , c ,d , e}. Find n(B - A)

3. Find the sum of the next two numbers in the sequence.

2 , 3 , 5 , 7 , _____ , _____

4. Write the single number from $(9 \times 10^1) + (4 \times 10^3) + (7 \times 10^{-1})$

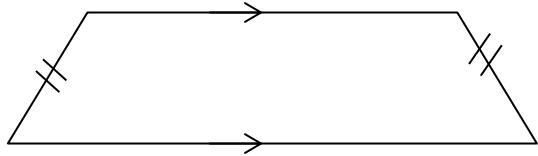
5. Simplify: **-3 - -7**

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

7. Set P has 32 subsets. Find $n(P)$

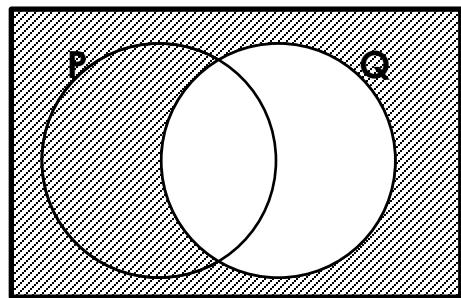
8. The mean of **13, 8, 7** and **y** is **10**. Find the value of **y**.

9. How many lines of folding symmetry are on the shape below



10. A morning lesson that started at 10:45 a.m took $1\frac{1}{2}$ hours. At what time did the lesson end?

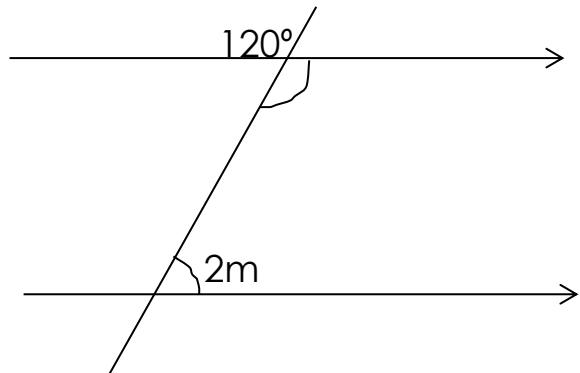
11. The area of a square is 64m^2 . Find the length of each side of the square.
12. Martin was born in the year MCMLXXIX. Express his year of birth as a Hindu Arabic numeral.
13. Describe the shaded region.



14. Multiply: $101_{\text{two}} \times 11_{\text{two}}$

15. Find the square of $1\frac{7}{9}$.

16. Study the figure below carefully.



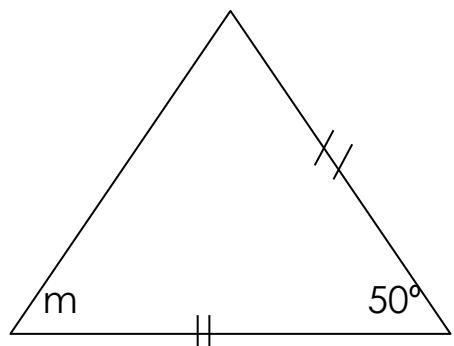
Find the value of M .

17. The school library has 180 textbooks. 20% of the books are science books. Find the number of science books in the library.

18. Work out: $0.09 - 0.3 + 2.01$

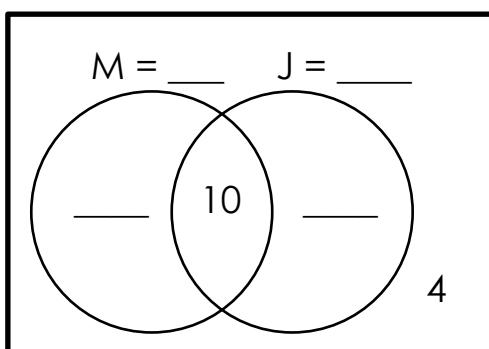
19. A school bursar withdrew five thousand shilling notes numbered from AP004871 to AP004970. How many notes did he withdraw?

20. In the figure below, find the value of M.



SECTION B (60 Marks)

21. Out of the tourists who visited Uganda, 23 visited Mbale (M), **n** visited Jinja (J) **only**, 10 visited both places and 4 did not visit any of the two places.
a) Represent the above information on the Venn diagram below.



(2marks)

b) If 40 tourists visited only one town, find the value of n. **(2marks)**

c) How many tourists visited Uganda? **(2marks)**

22. Given the numeral 3607.85.

a) Find the value of 5 in the numeral. **(2marks)**

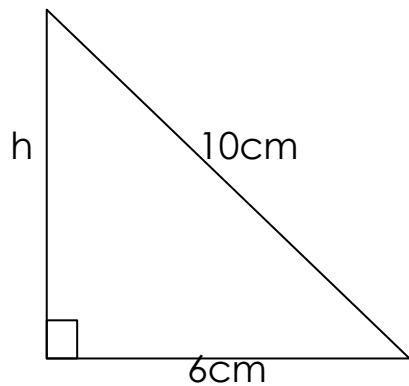
b) Find the product of the place value of 6 and the value of 8. **(2marks)**

23. In Boko Junior School, two bells ring at intervals of 30 minutes and 40 minutes for lower primary and upper primary respectively. If they first ring together at 8:00 am,

a) After how long do they ring together again? **(2marks)**

b) At what time do they ring together again? **(3marks)**

24. a) Find the height of the triangle below. **(3marks)**



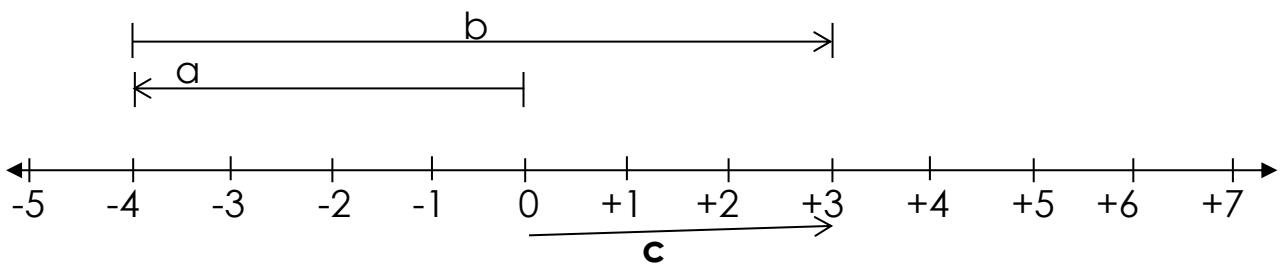
b) Work out the area of the triangle above. **(2marks)**

25. Aber, Brenda and Charles shared a certain number of books in the ratio of 2:3:5 respectively.

a) If Brenda got 15 books, how many books did they share altogether? **(3marks)**

b) How many more books did Charles get than Aber? **(2marks)**

26. Study the number line below and answer the following questions;

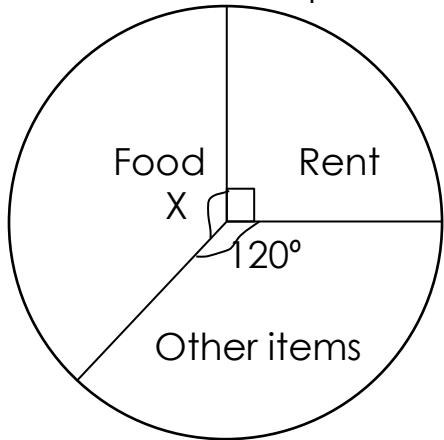


a) What integer has been represented by; **(1 mark each)**

i) $a =$ _____ ii) $b =$ _____ iii) $c =$ _____

b) Write the mathematical statement shown on the number line. **(1mark)**

27. The pie-chart below shows how a man spent his salary of Sh. 72,000. Use it to answer the questions that follow.



a) Find the value of X. **(2marks)**

b) How much more did he spend on other items than on rent? **(2marks)**

- c) What fraction does he spend on food? **(1mark)**
28. A bus moving from Kampala to Mbale took 3 hours to cover the journey at a speed of 80km/hr.
- a) What is the distance from Kampala to Mbale? **(2marks)**
- b) If it returned at a speed of 120km/hr through the same route, find its average speed for the whole journey. **(3marks)**

29. a) Using a ruler, a sharp pencil, a pair of compasses and a ruler only, construct a triangle PQR where PQ = 6cm, angle PQR = 60° and angle QPR = 45° . **(5marks)**

b) Measure PR **(1mark)**

30. Opoka went to Nakumatt supermarket and bought the following items as shown on the table below.
a) Complete the table. **(4 marks)**

Item	Quantity	Unit cost	Amount
Rice	_____ kg	Sh. 3300	Sh. 9900
Cooking oil	2 litres	Sh. 5000	Sh. _____
Wheat flour	$\frac{1}{2}$ kg	Sh. _____	Sh. 2400

Total expenditure	Sh. _____
-------------------	-----------

b) If Opoka went with Sh. 25,000 for shopping. How much was his change.

(1mark)

31. Given that $a = 2b$ and $b = 3$, Find the value of $2(ab) + a$ **(2marks)**

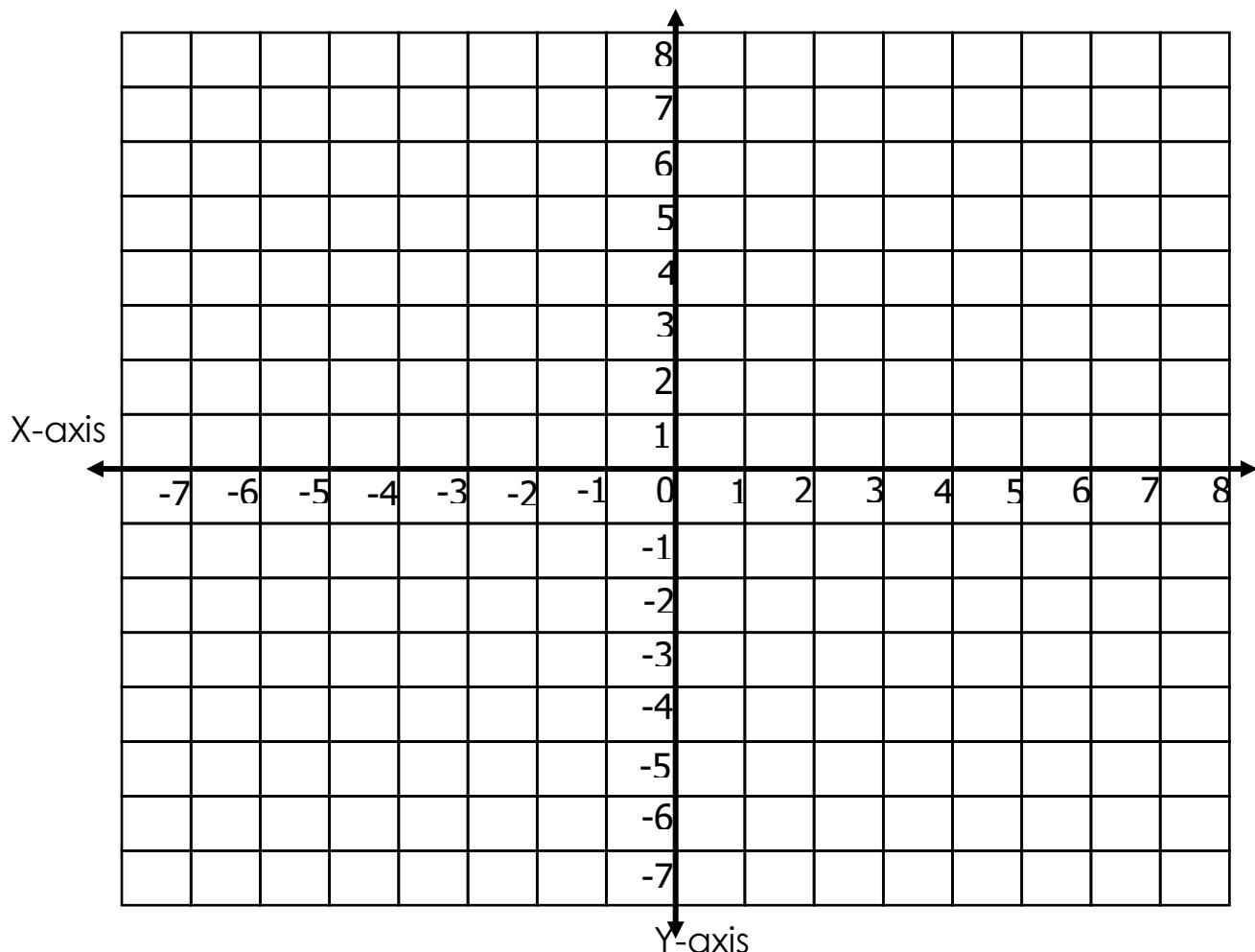
b) Solve: $3(n + 2) - (2n - 4) = 2$

(2marks)

32. a) Plot the following points on the grid below following **(X, Y)** format.

A(-2, +2), B(+1, +5), C(+1, -5), D(-2, -3)

(4marks)



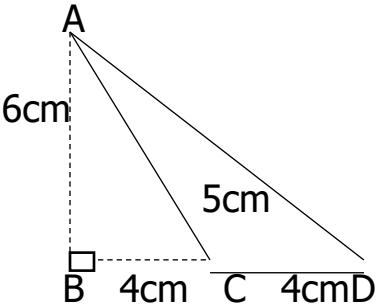
b) Join A to B, B to C, C to D and D to A.

(1mark)

c) Find the area of the figure formed. **(1mark)**

END

SECTION A

1. Divide $27 \div 3$	2. If set A = (vowel letters and set B = { a, b, c, d, e, f}). Find the $n(A \cap B)$
3. If two angles x and $x+40^{\circ}$ are complementary angles. Find the value of x .	4. Write 44 in Roman numerals.
5. Round off 29.96 to one place of decimal.	6. Construct an angle of 120°
7. Simplify: $4^3 \times 10^0$	8. Find the area of ACD 
9. Convert 9000kg to tonnes	10. Find the area of a circle whose diameter is 14cm

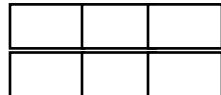
11. Work out $4 \times 6 \div 2$

12. Find the square of 16

13. 4 pens cost sh. 2000. What is the cost of 7 pens of the same kind.

14. What is the place value of 6 in 262.79?

15. Shade 50% of



16. Find the additive inverse of -6

17. Prime factorise 64 and write your answer in power form.

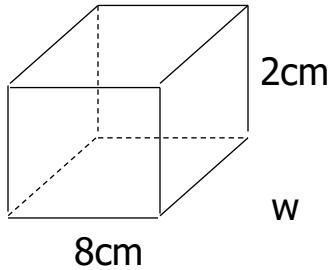
18. Write the next number in the sequence
1, 8, 27, 64, _____

19. Work out: $(6 \times 5) + (4 \times 5)$ using distributive property.

20. Expand 1101_{two} in value form.

SECTION B

21. The volume of a cuboid below is 80cm^3 . Its length is 8cm and height 2cm.
(a) What is its width? (2 marks)



- (b) Work out its total surface area (3 marks)

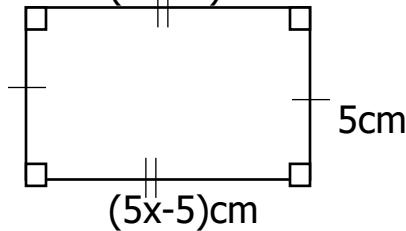
-
22. Given the number 46700
(a) Write the number in standard form. (2 marks)

- (b) Expand the number above using powers of 10. (2 marks)

23. The sum of three consecutive numbers is 27. If the middle number is K.
(a) Find the value of k. (3 marks)

- (b) Find the product of the three numbers. (2 marks)

24. Study the figure below and use it to answer the questions that follow.
(a) Find the value of x. (3marks)



- (b) Work out the perimeter of the figure above. (2 marks)

25. Solve:

(a) $3x^2=12$

(2 marks)

(b) Find the value of $4a^2 - bc$ if $a = 3$, $b = 2$ and $c = 4$ (3 marks)

26. A car takes 3 hrs to cover a certain journey at 60km/hr but it takes only 2hrs to return through the same distance.

(a) Calculate the total distance covered for the whole journey. (3marks)

(b) Work out its average speed for the whole journey. (2 marks)

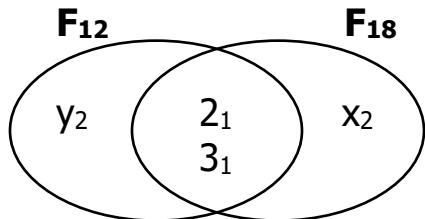
27. There are 20% more boys than girls in the class. Find the percentage:-
(a) boys (3marks)

(b) If there were 100 pupils, find the number of girls. (2 marks)

28. Using a ruler, a sharp pencil and a pair of compasses only. Construct triangle ABC in which $\angle ABC = 60^\circ$, $\angle BAC = 45^\circ$ and AB = 6cm (4 marks)

(b) Measure $\angle C$ (1 mark)

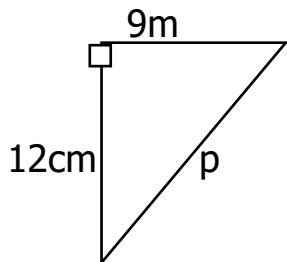
29. Study the figure below and answer the questions that follow. (2 marks each)
(a) Find the value of:



(a) x (b) y

(b) Work out the lowest common multiple of 12 and 18 (2 marks)

30. Below is a right angled triangle



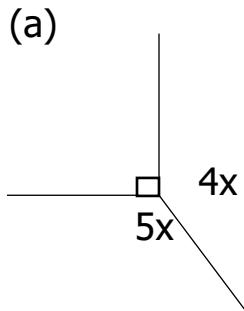
(a) Find the value of P (3 marks)

(b) Work out the perimeter of the figure. (2 marks)

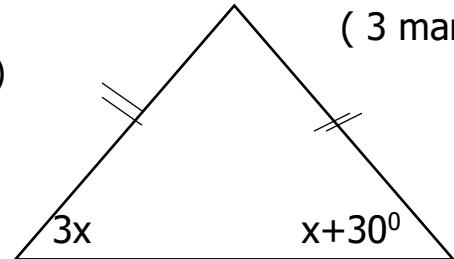
31. (a) A certain amount of money was shared by James, Joel and Julius in the ratio 2:3:5 respectively. If Joel got shs. 30,000, find their total share (2 marks)

(a) Express the share got by Julius as percentage. (2 marks)

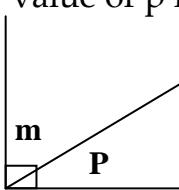
32. Find the value of x

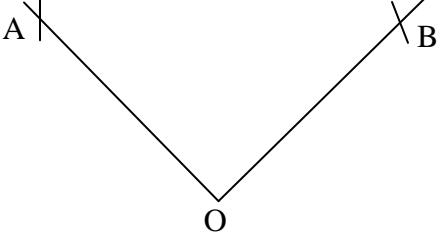


(b) (3 marks each)

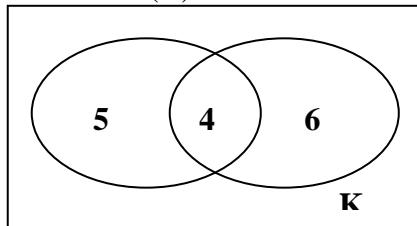


SECTION A (20 QUESTIONS – 40 MARKS)

1. Work out: $\begin{array}{r} 3 \ 4 \\ \times \ 2 \\ \hline \end{array}$	2. Draw a Venn diagram to show that all Boys (B) are Male (M)
3. Collect like terms and simplify; $4m - 3n - 3m + 5n$	4. What is the place value of 3 in 32_{five}
5. Convert 220 metres to cm.	6. In the figure below, the size of angle m is twice the size of angle p . Find the value of p if $m = \frac{P}{2}$ 

<p>7. The average weight of 9 women is 60kg. What is their total weight?</p>	<p>8. Simplify: $+2 + -6$ using a number line.</p>
<p>9. Find the sum of the next two numbers in the sequence below. 60, 59, 55, 46, 30, ____ ____</p>	<p>10. The Director of KOLOLO J\S increased the salary of the best teacher of term two in the ratio of 2:3. Find his new salary if the initial was sh.600, 000.</p>
<p>11. Using a ruler and a pair of compasses only, bisect angle AOB shown below.</p> 	<p>12. A tourist arrived in Uganda with \$800. How much money did he have in Uganda shillings if the exchange rate was \$1 = Ug.sh.3, 000?</p>

13. Calculate the value of K in the Venn diagram below.
 $n(\Sigma) = 18$



14. Write the morning time shown on the clock face below in 24 hour clock.



15. A motorist covered a distance at a speed of 80km/hr in $1 \frac{1}{4}$ hours. What distance did he cover?

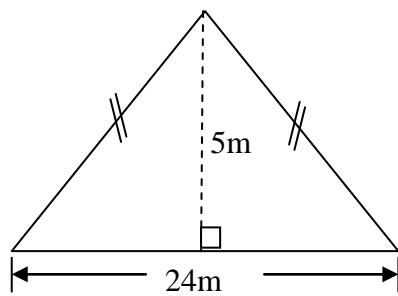
16. Maria's birthday cake weighed 40kg. If she ate 10% of it, how many grams did her family members share?

17. Convert 134_{five} to standard base.

18. The cost of a gross of books is sh.12, 0000. Find the cost of 49 similar books.

19. In Juma's wardrobe, there are 5 white shirts, K blue shirts and 2 red shirts. If the chance of selecting at random a red shirt to be worn for a dinner is $\frac{1}{5}$. Find the number of blue shirts in the wardrobe.

20. Calculate the perimeter of this figure.



SECTION B
(12 QUESTIONS – 60 MARKS)

21. Three great friends Sherry, Shakira and Shawn shared 60 mangoes in the ratio of 3: 2: 7 respectively. How many mangoes did each get?

(4 marks)

22. Fatuma went to the market and bought the following items shown in the table below.

(5 marks)

a) Complete the table

Item	Quantity	Price	Amount
Eggs	15	Sh. 300 per egg	Sh. _____
Meat	_____ kg	Sh. 6,000 per kg	Sh. 18,000
Cooking oil	$\frac{1}{2}$ litre	Sh. _____ per litre	Sh. 2,000
Sugar	$1 \frac{1}{2}$ kg	Sh. 3,000 per kg	Sh. _____
TOTAL EXPENDITURE			Sh. _____

b) If Fatumah was given a discount of sh. 3,000 after shopping, how much did she pay?

(1 mark)

23. Math Contestants sat for a test on a weekend and scored as follows.

Marks	75	90	60	80
No. of pupils	2	5	1	2

(a) How many pupils turned up for the test?

(1 marks)

(b) What was the modal mark?

(2 marks)

(c) Calculate their arithmetic mean.

(2 marks)

24. Kato on Sunday left his home at 11:45am driving his PRADO to the supermarket. He arrived at 2:45pm and took 1hour and 30 minutes shopping. Unfortunately he got a call from home that his son had fainted; he drove back home 30km/hr faster covering 180km to meet the son.

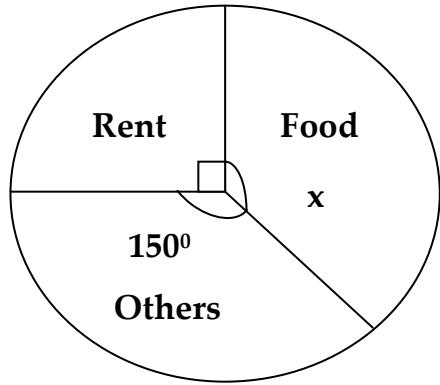
a) How long did he drive from the supermarket back home?

(3 marks)

b) Find Kato's average speed for the whole journey while driving.

(2 marks)

25. The pie chart below shows how Mr. Busingye spends his monthly salary of sh. 360,000.



(a) Find the value of x .

(2 marks)

(b) How much money does he spend on other items?

(2 marks)

(c) Express his expenditure on rent as a percentage.

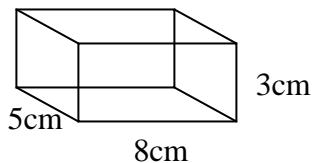
(1 mark)

26. Mukabya sold milk during COVID-19 holiday to get money for survival. In a certain week, he sold milk for only three days, Monday, Tuesday and Wednesday. If he sold one litre more than the other day and in total he sold 132 cups at the end of the three days, how many litres were sold on the Tuesday?	(4 marks)
27. (a) A trader bought a radio at sh. 60,000 and sold it at sh. 75,000 (i) How much profit did he make?	(2 marks)
(ii) Calculate his percentage profit.	(2 marks)

(1 mark)

(b) What would be his selling price if he had sold it at a loss of sh. 8000?

28. The figure below is a rectangular prism. Study it carefully and answer questions that follow.



(a) The above figure has

(i) _____ faces

(ii) _____ vertices

(1 mark@)

(b) Calculate its volume

(2 marks)

(c) Work out its Total Surface Area.

(2 mark)

29. Two years ago, a crate of soda cost sh. 2000 less than last year. This year the same crate of soda costs sh.5000 more than last year. The cost of 6 crates of soda two years ago was the same as the cost of 4 crates this year.

a) Find the cost of a crate of soda last year.

(3 marks)

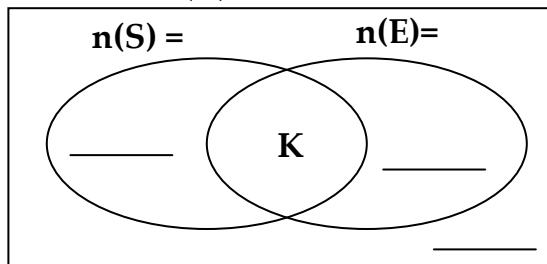
b) Find the cost of a crate of soda this year.

(2 marks)

30. At Kololo J/S, all pupils in P.7 like Mathematics (M). 11 pupils like English (E) but not Science (S), 12 pupils like Science but not English. K pupils like all the three subjects while 3 pupils like only Mathematics.

(a) Represent the above data on the Venn diagram below.

$$n(\Sigma) = \underline{\hspace{2cm}}$$



(4 marks)

(b) If 53 pupils like at least two subjects, find the number of pupils who like all the three subjects.

(2 marks)

31.a) Use the distributive property to work out;

$$(20 \times 4) + (6 \times 20)$$

(1 marks)

(1 mark)

(b) A garment factory produced 4,247,367 shirts and 4,143,785 trousers.
What is the sum of the clothes produced?

(c) A family which consists of twelve members received a Christmas gift of 2580 dollars from their uncle in London. How much money did each get if they shared it equally? **(2 marks)**

32.(a) Using a ruler, sharp pencil and a pair of compasses only, construct a rectangle PQRS in which $PQ = 5\text{cm}$ and $QR = 3\text{cm}$. **(4 marks)**

(b) Measure its diagonal PR = _____

(1 mark)

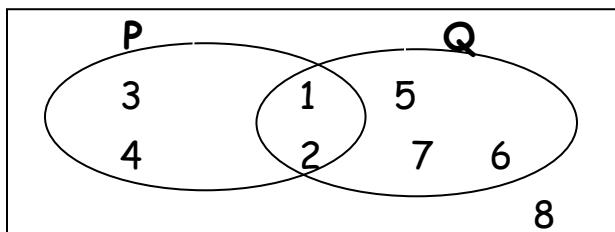
Questions 1 to 20 carry two marks each

1. Multiply 2 0 3

$$\begin{array}{r} \underline{\times} \quad 2 \\ \hline \end{array}$$

2. Write in figures: forty six thousand nine.

3. In the Venn diagram below, find the number of elements in set P.



4. Find the sum of the next numbers in the sequence

$$1, \ 4, \ 9, \ 16, \ \underline{\hspace{1cm}}, \ \underline{\hspace{1cm}}$$

5. Work out $-2 + ^9$

6. With a help of a ruler, a pencil, and a pair of compasses only, construct an angle of 60° in the space below.

7. Find Lowest Common Multiple (L.C.M) of 12 and 8.

8. Find the median of 2, 3, 3, 6, 4

9. Add: $31_{\text{five}} + 44_{\text{five}}$

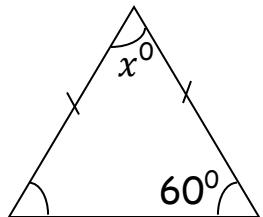
10. Increase shs. 1,200 in a ratio 4:3

11. A forty minute lesson started at 11:00a.m. When did it end?

12. A kite has an area of 120cm^2 . If one of its diagonals is 8cm, find the length of the second diagonal.
13. Musa deposited shs. 80,000 in a bank at a simple interest rate of 2% per month for 2yrs. Find the interest earned after 2 years.
14. Solve the inequality:
 $4n - 7 \leq 6n + 11$
15. Four mangoes cost sh. 800. What is the cost of 12 similar mangoes?

16. The bearing of Ssembabule town from Kyotera is 070° . What is the bearing of Kyotera from Ssembabule town?

17. Find the value of x .



18. Given that represents 20 balls and represents 24 cups. Find the total number represented by , , .
19. After covering a distance of 40km, Mary still had $\frac{3}{4}$ to cover. How long was the whole journey?

20. The market price on 1kg of sugar is sh. p. John bought 3kg of sugar at the marked price, but Joanah bought 7kgs at a 50% discount on the market price. Find p if they paid sh. 32500/=

SECTION B

21. The table below shows MARKS SCORED BY PUPILS in P.6. Use it to answer questions that follow.

Marks obtained	30	50	X	22	61
Number of pupils	2	3	2	1	2

a) How many pupils did the test? (1mark)

b) Find modal mark. (1mark)

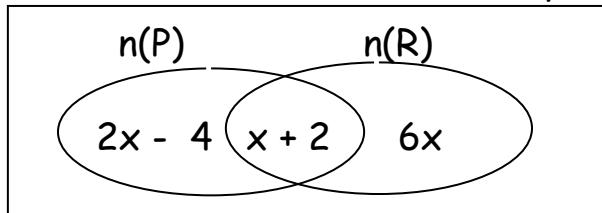
c) Calculate the value of x if the mean mark is 51. (3marks)

22. a) Find the sum of the value of 7 and value of 3 in 7432. (3marks)

b) Change 101_{two} to decimal base. (2marks)

23. Tap A takes 3 hours to fill the tank and tap B takes 4 hours to draw water from the tank. How many hours will it take to fill the tank if both taps are left open? (5marks)

24. The Venn diagram below shows number of pupils who like Posho (P) and rice (R). Use it to answer the questions that follow. If $n(P) = 16$



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

- b) Find the number of pupils who like one type Of food. (2marks)
- c) Find the probability of picking a pupil who like both posho and rice. (1mark)
25. A bag of sugar weighing 50kgs, costs sh. 250,000/-.
- a) What is the cost of each kilo? (1mark)
- b) If a shopkeeper sold each kg of sugar at shs. 6,000, how much money did he collect from a 50kg bag of sugar? (2marks)
- c) Calculate the profit gained after selling a 50kg bag of sugar at sh. 3,000 per half kg. (3marks)

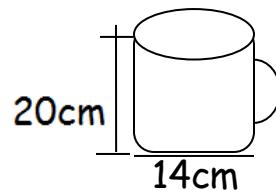
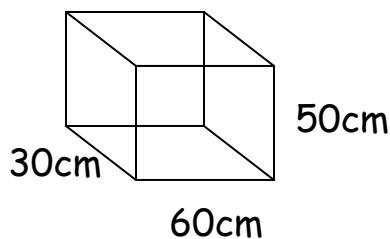
26. Using a ruler, a sharp pencil and a pair of compasses only, construct a triangle KLM in which $KL = 7\text{cm}$, angle $KLM = 75^{\circ}$ and $LKM = 45^{\circ}$. (4marks)
- b) Drop a perpendicular from M to meet KL at D. (1mark)
27. Peter, Rose, Sarah and Musa shared money in a ratio 2:3:4:5. If Rose got shs. 1500;
- How much money was shared altogether? (2marks)
 - How much money did Musa get more than Rose? (3marks)

28. The interior angle of a regular polygon is 120° more than its exterior angle.

a) Find the exterior angle. (3marks)

b) Name the polygon. (2marks)

29. A potter poured water in container A using a cup of size B. Use the diagram below to answer the questions that follow.



a) Find the volume of the cup B. (2marks)

b) How many cupfuls of size B did he pour into container A to fill it? (3marks)

30. a) Workout: 0.72×0.08 (2marks)

$$0.9 \times 0.4$$

b) Change 0.2727..... as a common fraction. (2marks)

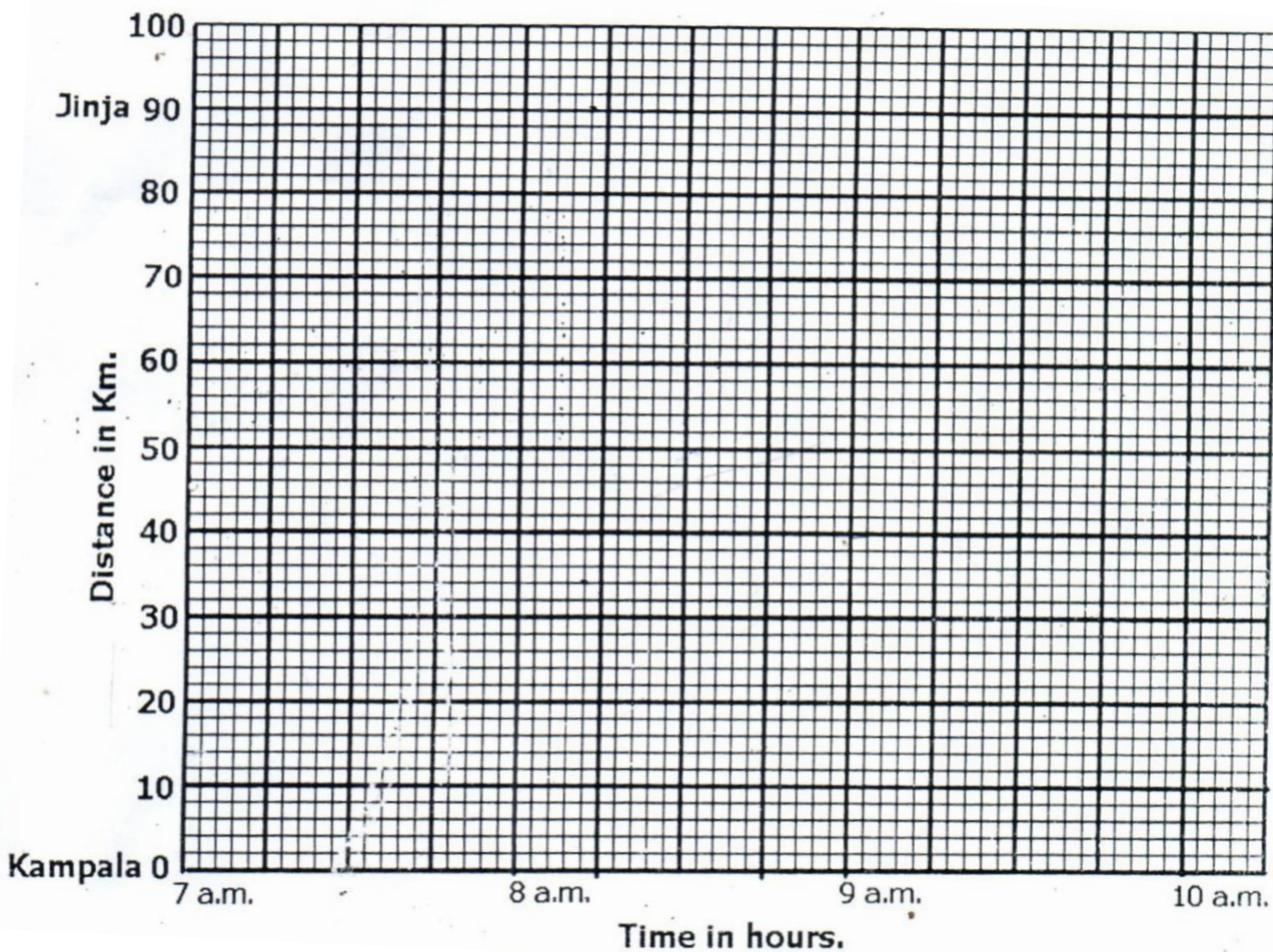
31. The sum of 4 consecutive even numbers is 52.

a) Find the numbers. (3marks)

b) Calculate their range. (1mark)

32. A motorist left Kampala at 7:00a.m and covered 50km to Lugazi in $1\frac{1}{2}$ hours. He rested for 30 minutes and then continued to Jinja where he arrived at 10.00a.m.

a) How the motorist's journey on the graph bellow. (3marks)



b) Lugazi is 50km from Kampala. Indicate Lugazi on the graph. (1mark)

c) What is the average speed of the motorist for the whole journey?

(2marks)

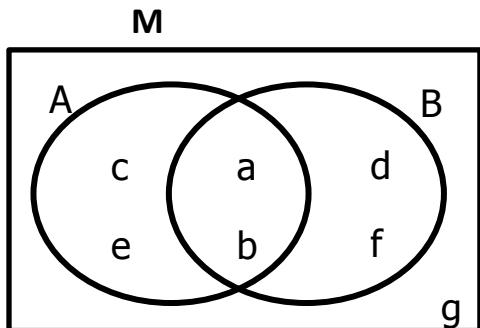
SECTION A
Answer all questions in this section
Questions 1 to 20 carry two marks each

1. Work out: $42 + 63$

2. Simplify: $3m + 4m - 5m$

3. Work out: $\frac{8}{13} \div \frac{4}{39}$

4. The Venn diagram below shows the subsets of set M. Use the Venn diagram to find $n(A - B)'$

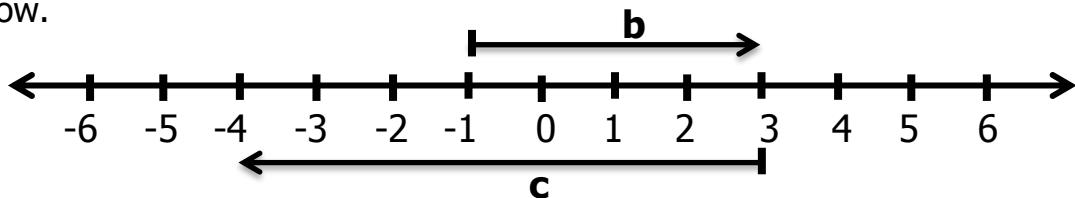


5. Without dividing, show which of the numbers 569 and 7893 is divisible by 9.

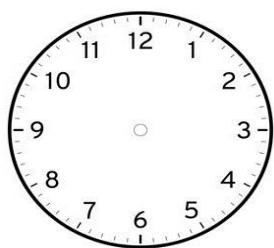
6. Work out: $1011_{two} \times 11_{two}$

7. A die is tossed once. What is the probability that a number greater than 4 will appear on top?

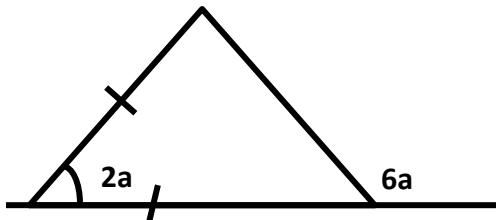
8. Write the additive inverse of the integers represented by letters b and c on the number line below.



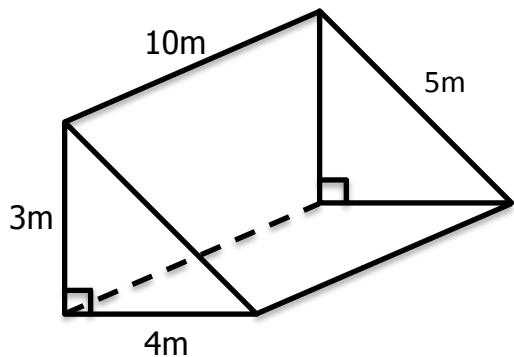
9. Show the time. "Twenty seven minutes to 12 o'clock" on the clock face below.



10. In the figure below, find the size of angle marked **a**.



11. The figure below shows a triangular prism. If a wire is tied along all the edges, find the total length of all the edges.



12. Convert $99\frac{1}{4}\%$ to fraction in its lowest term.

13. The prime factors of P and Q are given below.

$$P = 2^3 \times 5^1$$

$$Q = 2 \times 5^2$$

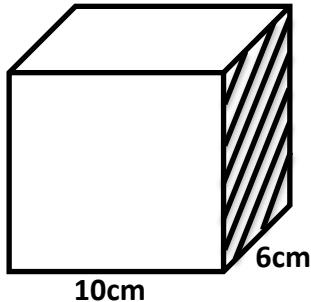
Use the given prime factors above to find the greatest common factor (GCF) of P and Q.

14. A trader sold four shirts at sh 96, 000 making a profit of sh 12, 000. At what price did the trader buy each shirt?

15. There are 12 electric poles in a straight line. If the distance from the first pole to the 12th pole is 220 metres, find the interval between the poles?

16. The cost of $1\frac{1}{2}kg$ of beans is sh 3600. Find the cost of 250 grams of beans.

17. The perimeter of the shaded part of the cuboid below is 20cm. Calculate the volume of the cuboid.



18. Nicholas drove from Town A to Town B at a speed of 25 metres per second. Calculate his average speed in kilometers per hour.

19. Using a ruler, a pencil and a pair of compasses only, construct an angle of 165° in the space below.

20. In a school, there are 20% more girls than boys. If there are 480 boys, find the number of girls in the school.

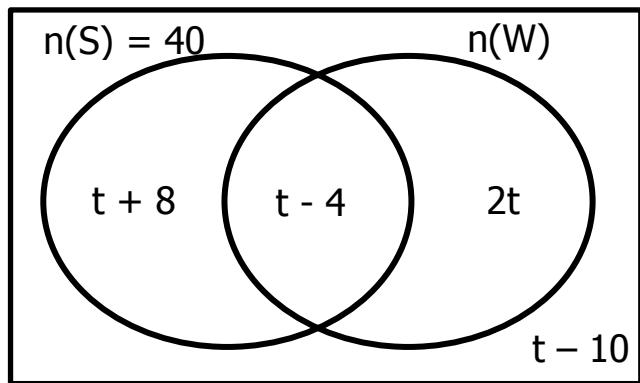
Turn Over

SECTION B: 60 MARKS

Answer all questions in this section.

Marks for each question are indicated in the brackets.

21. The Venn diagram below shows people at a birthday party who took Soda (S), water (W) and other drinks. Study the Venn diagram and use it to answer the question that follows:



Calculate the total number of people who attended the birthday party. (04 marks)

22. (a) What number has been expanded below? (03 marks)

$$(6 \times 10^3) + (4 \times 10^1) + (8 \times 10^0) + (5 \times 10^{-2})$$

- (b) Work out: $(6 \times 97) + (97 \times 4)$ (02 marks)



23. (a) Work out: $\frac{0.28 \times 0.08}{1.4 \times 0.4}$ (03 marks)

(b) Express the recurring decimal 0.4545..... as a common fraction in its simplest form. (02 marks)

24. The exchange rate for Kenya shillings (KSh) to Uganda shillings and United States Dollars (US \$) to Uganda are shown below:

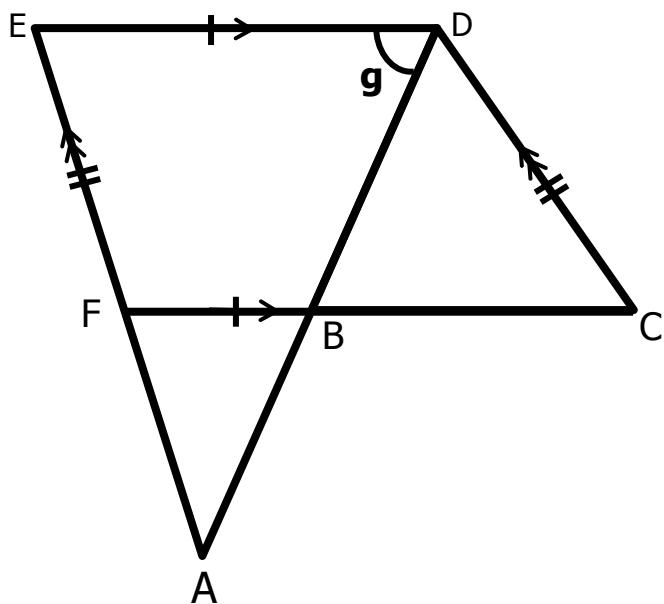
1 Kenya shillings (KSh) costs UgSh.35.

1 United States Dollar (US \$) costs UgSh.3634.

(a) The travel fare from Uganda to United States of America is worth (US \$) 4,200. Calculate the fare in Uganda shillings. (02 marks)

- (b) If a car costs KSh 254,380, find the equivalent cost of the car in United States Dollars. (03 marks)

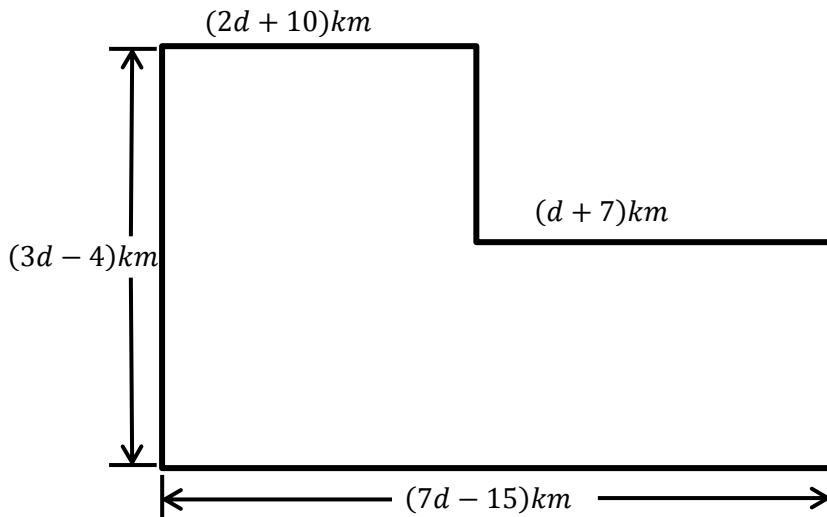
25. The diagram below is made up of a quadrilateral CDEF and triangle ABF. ED is parallel to FC. Angle and angle .Study and use it to answer the questions that follow.



(a) Find the value of g (02 marks)

(b) Calculate the size angle ABC (02 marks)

26. The figure below represents a grazing plot of land which is fenced by poles of interval 40metres apart. Use it to answer the questions that follow:



(a) Calculate the perimeter of the grazing plot of land. (04 marks)

(b) If each pole costs sh.2, 000, how much does the farmer spend on all the poles? (02 marks)

27. Mutono drove from town A to town B for 2 hours and 30 minutes at a steady speed of 90 kilometers per hour. He left town B at 10: 10a.m and drove back to town A. Using the same route at a steady speed of 100 kilometers per hour.

(a) At what time did Mutoni arrive at town A? (03 marks)

(b) Calculate his average speed for the whole journey. (02 marks)

28. Hajati bought a television set at sh.400, 000. She had sh.300, 000 cash and borrowed the rest at a rate of 7% per year for 8 months.

(a) Find the interest rate after 8 months. (03 marks)

(b) Calculate the total amount of money Hajati spent on the television set. (02 marks)

29. Mulimi bought the following items from a shop for sell in his shop.

(i) 50kg of maize flour at sh.125, 000.

(ii) 100kg of beans at sh.250, 000

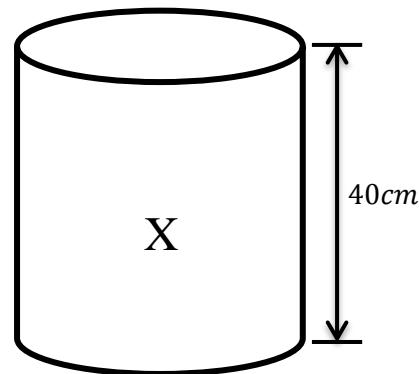
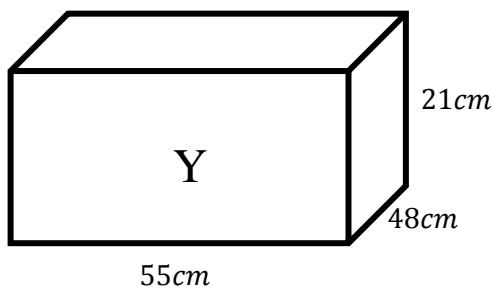
(iii) 150kg of groundnuts at sh.525, 000

(a) If he wants to make a profit of 20%, at what price must he sell each kilogram of maize flour? (02 marks)

(b) If he sold each kilogram of groundnuts at sh.4, 000. Calculate his total profit on groundnuts. (02 marks)

(c) Mulimi sold all the beans and made a loss of 20%. What was his selling price for a kilogram of beans? (02 marks)

30. The tanks shown below have the same volume when completely filled with cooking oil.



Calculate the diameter of tank X. (Use $\pi = \frac{22}{7}$)

(04 marks)

31. (a) Solve the inequality:-

2.

(03 marks)

(b) State the first 3 values of the solution set for the above inequality. (01 mark)

32. A school canteen is 46 meters away from the kitchen on a bearing of and the library is 74 metres west of the kitchen.

(a) Using a scale of 1cm to represent 10 metres, show the three places on an accurate diagram. (04 marks)

(b) Find the shortest distance between the library and the canteen (02 marks)