UGANDA NATIONAL EXAMINATIONS BOARD
2024
MATHEMATICS
Time allowed: 2 hours 30 minutes

Index No.

Random No.					Personal No.		

Candidates Name: ....

Candidates' Signature: ....

School Random No: ....

District ID: ....

Read the following instructions carefully:

1. Do not write your **school** or **district name** anywhere on this paper.

2. This paper has two sections **A** and B. Section **A** has **20 questions** and **section B** has **12 questions**. This paper has **12 pages** printed altogether.

3. Answer **all** questions. All the working for both sections **A** and **B** must be shown in the spaces provided.

4. **All** working must be done using a **blue** or **black** ball point pen or ink. Any work done in pencil other than graphs and diagrams will **NOT** be marked.

5. **No calculators** are allowed in the examination room.

6. Unnecessary **changes** in your work and handwriting that cannot be easily ready may lead to loss of marks.

7. Do not fill anything in the box indicated: **"For examiners' use only**" and the boxes inside the question paper.

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Turn Over

SECTION A: 30 MARKS

1. Use repeated addition to work out: 3 x 6

2. Write 36500 in scientific notation.

3. Work out: $2 - 3 =$ _____ (mod 5)

4. Find the next two numbers in the sequence below; 1, 3, 6, 11, 18, _____ , _____

5. The complementary angle of $(2x - 20)^0$ is 40^0. Find the value of x.

6. If $m = 4$, $n = {}^{-}3$ and $k = 6$. Find the value of $m^2 + n^2$.

7. Work out: ${}^{-}4 - {}^{+}5$

8. Using a ruler and a pair of compasses only, construct an angle of 30^0.

9. Work out: $123_{five} + 134_{five.}$

10. Describe the unshaded part in the Venn diagram below.
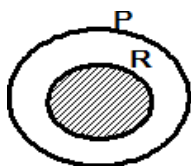
11. Find the square root of 144.

12. Increase sh. 3000 by 20%

13. Find the median of 24, 16, 25, 33, 20 and 15.

14. Work out the circumference of a circle whose diameter is 14 cm.(Use π as $\frac{22}{7}$)

15. There are 16 subsets in set Q. How many elements are in set Q?

16. Calculate the GCF of 6 and 9.

17. Work out: $\frac{3}{4} \div 1 \frac{1}{4}$

18. Write XLIV in Hindu Arabic numerals.

19. Solve: $3k - 6 = 3$

20. Express 5400 m² as hectares

SECTION B: 60 MARKS

21. In a class of 50 pupils, 20 like Mathematics (M) only, 15 like English (E) only, k like both subjects while 5 pupils do not like any of the two subjects.

a) Draw a Venn diagram and represent the above information.

b) Find the number of pupils who like Mathematics.

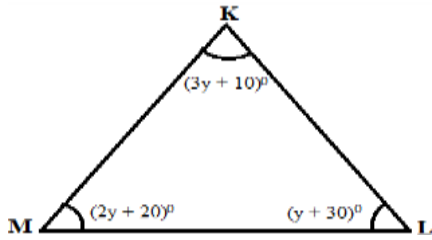22. Use the number line below to answer the questions that follow.
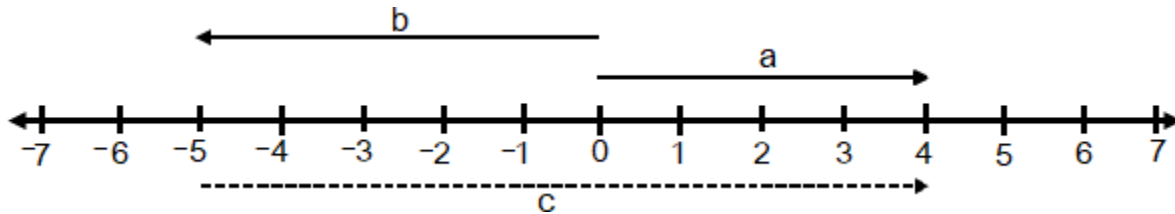
a) Write the integer represented by the arrow on the number line above.

a =_____   ii) b =_____iii) c = _____

b) Write down the mathematical statement shown on the number line above.

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

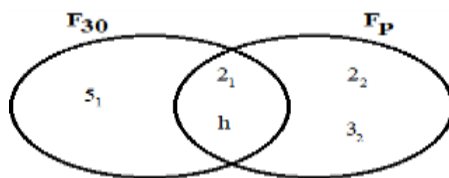a) Find the value of y.

b) Work out the size of angle KLM.

24. The table below shows the marks scored by some pupils in the Mathematics test. Use it to answer the questions that follow.

Marks	80	70	60	90
Number of pupils	3	1	4	2

a) How many pupils did the test?

b) Work out the range.

c) Calculate the mean mark.

25. The sum of 3 consecutive odd numbers is 99. If the largest number is **p**, find the product of the largest and the smallest numbers.

26. In a village of 3000 people, 40% of them are males and the rest are females.

    a) Find the percentage of females in the village.

    b) If $\frac{1}{6}$ of the males are boys, how many boys are there in the village?

    c) How many more females the males are in the village?

27. Study the Venn diagram below and use it to answer the questions that follow.

F_{30} ... F_P

5_1 2_1 2_2

h 3_2

a) Find the   value of h.

b) Work out the value of P.

c) Calculate the LCM of P and 18.

28. a) Using a ruler and a pair of compasses only, construct a triangle KPC where angle KPC = 90^0, line PC = 8 cm and line PK = 6 cm.

b) Measure line KC

29. Two men were reporting to the police station at the intervals of 12 days and 18 days respectively.

a) After how long will they take to report to the police station together on the same day?

b) If they reported together on Friday, when will they report together again for the second time?

30. Use the figure below to answer the questions that follow.
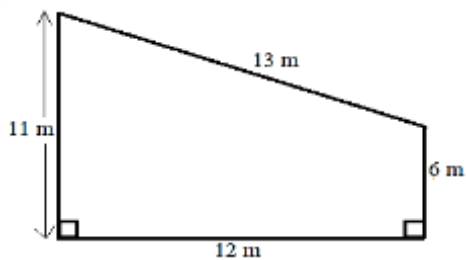
a) Work out the total distance round the figure above.

b) Calculate its area.

31. A motorist left town A at an average speed of 80 km/hr for $1\frac{1}{2}$ hours to town B.

   a) Find the distance he covered from town A to town B.

   b) If he returned to town A from town B at a speed of 60 km/hr, how long did he take on his journey?

32. The pie-chart below shows the type of food liked by pupils in Owokowoko primary school. Study it carefully and answer the questions that follow.
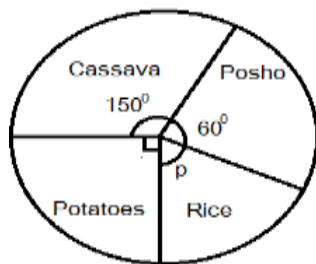
a) Work out the value of p in degrees.

b) If there are 840 pupils in the school, how many more pupils like cassava than potatoes

MATHEMATICS
Time Allowed: 2 Hours 30 Minutes

SECTION A: 40 MARKS

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

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

SECTION A :(*40 marks*)

1. Multiply: 2 x 2 x 2

2. Write, "Twenty thousand, twenty five" in figures.

3. Change 25kg to grammes.

4. Round off 842.97 to the nearest tenths.

5. Simplify: $^-8 - {}^+2$

6. Subtract: —   -

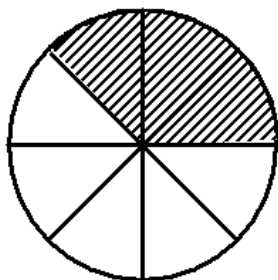7.   In the diagram below, shade A∩B.

8.   What is the next number in the sequence?

1, 3, 6, 11, 18, _____

9.   Simplify: $6x + 3x - 4x$

10.   What fraction of the circle is unshaded?

11.   Given that set P = {2,3,4,9} and Q= {1,2,3,7,9}. Find n (P ∩ Q)

12.   The cost of three plates is sh. 2,400. Find the cost of half a dozen of similar plates.

13. Using a ruler and pair of compass only, construct an angle of 60˚

14. Increase 600 in the ratio 4:3

15. Express 45 in Roman numerals.

16. If $2p^o$ and $3p^o$ are complementary angles, find the value of p

17. Work out: 111_{two}
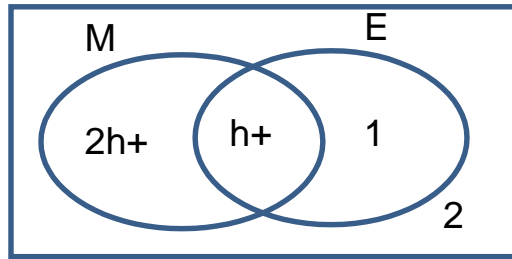 $+ 11two$
                      _____

18. Calculate the area of a square of side 6cm

19. Solve for y: $2y + 4 = 16$

20. Sempa banked sh. 50,000 in centenary Bank at a simple interest rate of 12% per annum. What interest did he earn after 3 years?

SECTION B (60 MARKS)

21. The Venn diagram below shows the number of the pupils who like Maths (M) and English (E) .

a) If 52 pupils like Maths, find the value of h.   (3marks)

b) How many pupils are in the class?   (2marks)

22. Mukasa went to the market and bought the following items:
    2 Kg of sugar at sh.5000 each
    3 Kg of salt at sh.1000 per Kg.
    500 gm of tea leaves at sh. 3000 per kg
    1 bar of soap at sh.2300
(a)   How much did Mukasa spend altogether?   (4marks)

(b) Mukasa had a balance of sh.2000 after paying the bill, how much money did he have at the beginning?

(1marks)

23. The table below shows marks scored by P. 7 in a Mathematics test. Study it and answer the questions about it.

Marks scored	40	60	20	10
Number of children	2	3	4	1

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

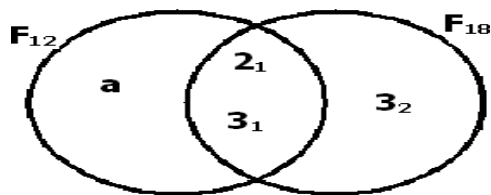b) What was the modal mark?   (1mark)

c)   Calculate the mean mark.   (3 marks)

24. Using a pair of compasses, a pencil and a ruler only, construct triangle PQR where PQ = 8cm, angle PQR = 45° and angle QPR = 60° drop a perpendicular from R to meet PQ at point K.   (4marks)

(b)   Measure RK..   (1 mark)

25.   Study the Venn diagram below and answer the questions that follow.
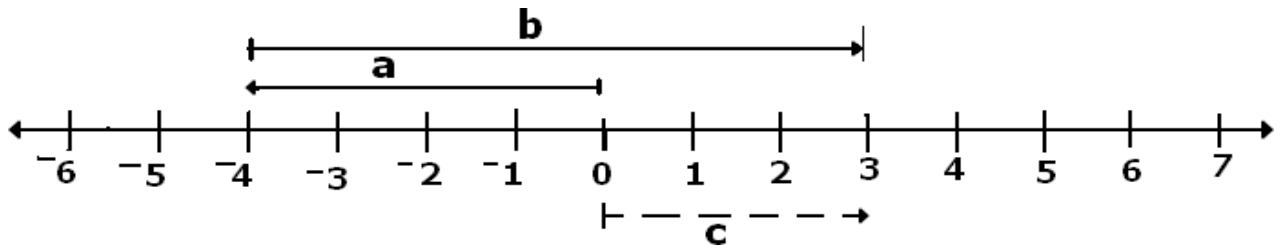

(a)   Find the value of a.   (2marks)

(b)   Work out the GCF of 12 and 18.   (2marks)

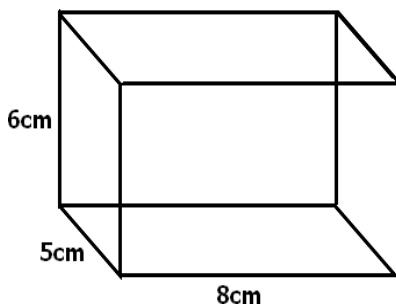(c)   What is the LCM of 12 and 18?   (2marks)

26.   Study the number line below and answer the questions about it.

(a) Name the integers: (i) a=_____ (ii)   b=_____ (iii)c =_____(1mark each)

(b)   Write the mathematical sentence for the above.   (1mark)
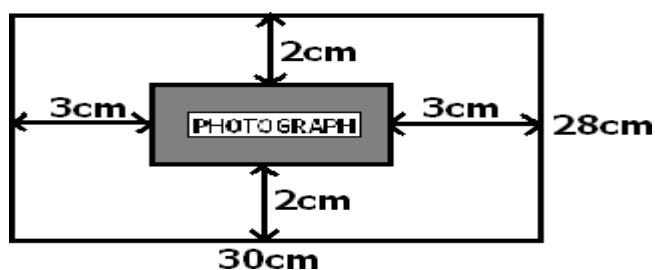
27.   The figure below shows a rectangular box.

   (a)   Work out its volume   (3marks)

        b) Calculate its total surface area (2marks)

28.   The figure below shows a photograph placed on a frame.

(a)   Find the length and width of the photo. (2marks)

(b)   Find the area of the frame not covered by the photograph.(3marks)

Three pupils are aged (2x – 5) years, (3x + 10) years and (x – 7).
Their total age is 40 years.
   a) Find the value of x.   (3marks)

b). A father is 18 years older than his son. In 10 years' time, the father's age will be twice the age of the son. What is the son's present age?   (2marks)
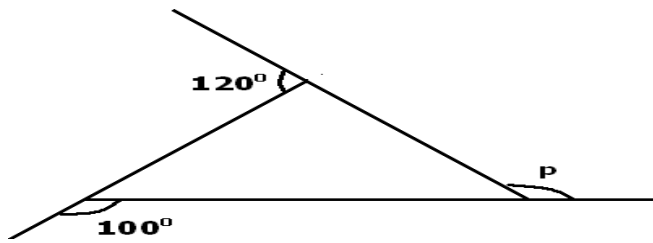
30. Use the number 89.634 to answer the following questions:-
    a) Write the value of 3.   (3 marks)

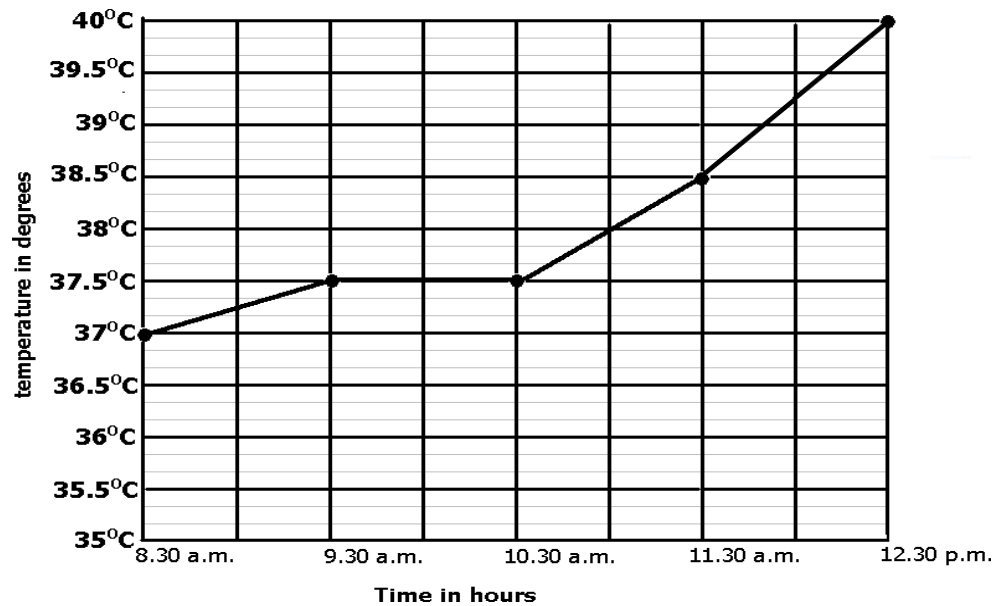   b) Expand the above numeral using exponents.   (2 marks)

31. Find the size of angle p in the figure below. (3marks)

b). What angle is a half of its complement?   (2 marks)

32. The graph below shows weather temperature readings on a certain day at different intervals.

(a) How many times was the temperature found the same? (1mark)

(b) Every after what period of time was the temperature recorded? (1mark)

(c) What temperature was recorded at 11.30 a.m.?(1mark)

(d) What was the range of the temperature recorded?(2marks)

Moderated item 3
MATHEMATICS
Time Allowed: 2 Hours 30 Minutes

	EMIS No.						Personal No.		
INDEX NUMBER									

Candidate's Name..Stream...................................

Candidate's Signature...……………………………….…………………………..

EMIS No..

District Name...

Read the following instructions carefully

1. This paper has **two** sections: **A** and **B**. Section **A** has **20** questions and Section B has 12 questions.

2. Answer **all** questions. **All** the working for both sections **A** and **B** must be shown in the spaces provided.

3. **All** working must be done using a **blue** or **black** ball- point pen or fountain pen. Any work done in pencil other than graphs and diagrams will not be marked.

4. No calculators are allowed in the examination room.

5. Unnecessary changes in your work may lead to loss of marks.

6. Any handwriting that cannot easily be read may lead to loss of marks.

7. Do not fill anything in the table indicated:
"For Examiners' Use Only" and boxes inside the question paper.

1. Subtract: 1 2 9 – 1 9

2. Simplify: 8m – (2 + m).

3. Express CXCIV in Hindu Arabic numerals.

4. Given that set A = {2 , 4 , 5 , 6 , 9} and B = {8 , 7 , 6 , 4 , 3}. Find n (A ∪ B).

5. Work out: $2^3 + 3^0$

6. Using a ruler, pencil and a pair of compasses only, construct an angle of 30^0.

7. The probability that Wandera will pass this examination is $\frac{4}{7}$. What is the probability that he will fail this examination?

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

9. A science lesson started at 10: 30 a.m and lasted for 40 minutes. At what time did it end?

10. Work out: $^-7 - {}^-6$

11. Use distributive property to work out: $(20 \div 4) + (16 \div 4)$

12. Work out: $1\ 1\ 0\ 1_{two}$
$+\ 1\ 1\ 1_{two}$

13. Work out the circumference of the circle whose radius is 35 cm. (Take $\pi = {}^{22}/_7$)

14. In a class of 60 pupils, 12 are girls. Express the number of girls as a percentage of the whole class.

15. The LCM, of two numbers is 50 and their G.C.F is 5. If one of the numbers is 25. Find the second number?

16. Convert 0.1212… into common fraction in its simplest form.

17. If set P has 31 proper subsets. Find n (P).

18. Ninsiima had five thousand shilling notes numbered PR940804 to PR940903 and twelve five hundred shilling coins. How much money did she have altogether?

19. The area of a **t**riangular garden is 60m². If the base of the garden is 12 metres, find the height.

20. A trader borrowed sh. 800,000 from a bank for 6 months at a rate of 4% per month. Find the interest she paid after the sixth month.
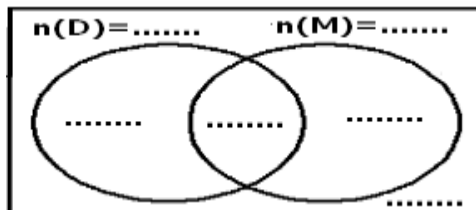
SECTION B: (60 MARKS)

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

21. In a class of 85 pupils, 40 like music (M), 50 like drama (D), and 10 like both while k like neither music nor drama.

   (a)   Complete the Venn diagram below using the above information.

$$(\mathcal{E}) = 85$$

n(D)=.......   n(M)=.......

   (b)   Find the value of k.

   (c)   What is the probability of electing a pupil who likes one activity only?

6

22. Agnes went to a grocery store and bought the following items:

$2\frac{1}{2}$kg of sugar for sh. 4,600 per kilogram
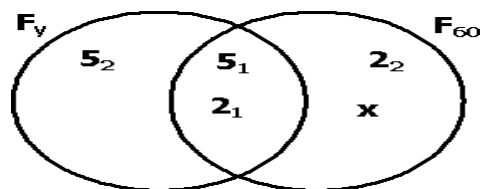
500g salt for sh. 1,200 per kilogram

2 loaves of bread for sh. 4,300 per loaf

1½ litres of edible oil for sh. 9,000

(a)   Find the money she spent altogether.

(b)   If she went back home with sh. 55,000, how much money did she have at the beginning?

23.   Use the Venn diagram below to answer the questions that follow.

(a)   Find the value of y

(b)   Find the value of x

(c)   Find the L.C.M of y and 60.

24. (a) Solve $2(x - 1) = x + 5$

(b) Mrs. Mandela bought two geometry books each at $(x + 500)$ and one counter book at $3(x - 100)$. If she spend Sh. 5,700 altogether, what was the cost of each item?

25. The table below shows marks scored by pupils in a Mathematics test. Use it to answer the questions that follow:

| Number of pupils	3	4	2	1
Marks scored	70	40	30	50

(a) How many pupils did the test?

(b) Find the median mark.

(c) Find the mean mark.

26. A taxi driver drove at a speed of 90 km/hrs for 3 hours to cover part of the journey and the remaining journey was covered in 2 hours at a speed of 80 km/hr. Calculate the average speed of the taxi over the whole journey.

27. In the figure below, workout the area shaded.

2m

2m

16m 2m

25m

2m
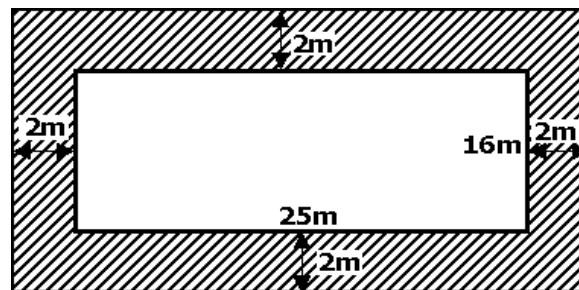
28. Use the grid to plot the following ordered coordinates: P(2,2) , Q(¯2,2), R(¯2,¯3) , S(2,¯3)
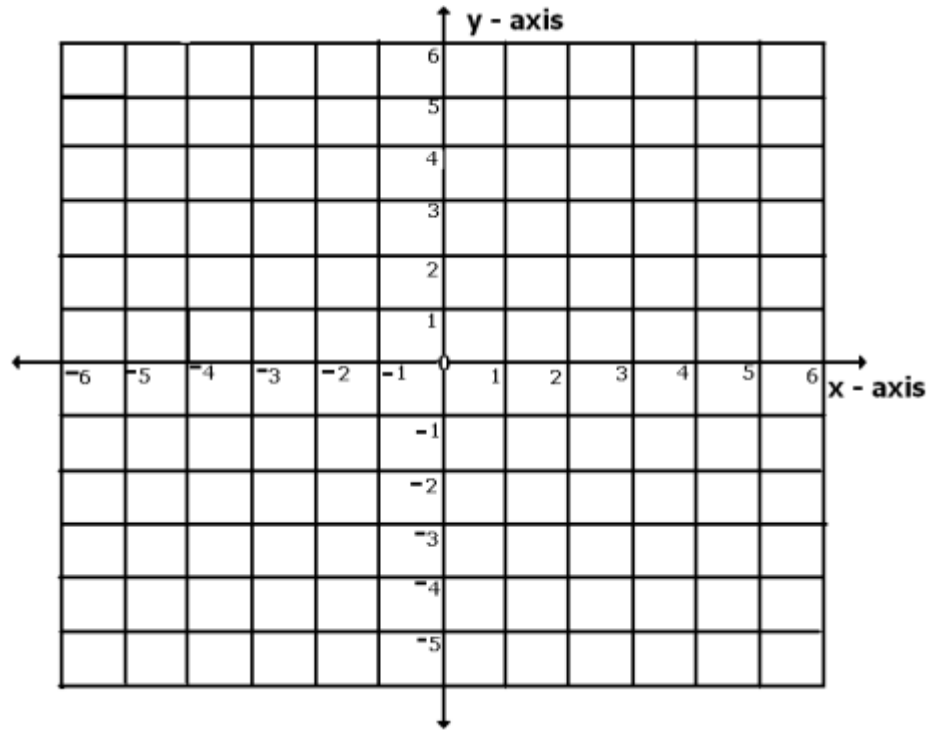
b. Join P to Q, Q to R, R to S and S to P. Name the figure formed.

29.   A car uses 60 litres of diesel to cover a distance of 320km.

(a)   How many litres of diesel will be required to cover a distance of 240km?

(b)   If the cost of 1 litre of diesel us sh. 3, 100, how much money will be used to enable a cover a distance 240km?

30. The bells ring at intervals of 20minutes, 30 minutes and 40 minutes for infant section, Middle section and Upper section respectively.

   a. After how long will they ring together?

   b. If they last rung at 8:00 a.m., at what time will they ring together again?

31. A parent distributed a certain amount of money to his three children, Jane, Jennet and Jackeline in the ratio of 3:5:4 respectively. If Jennet got sh. 50, 000. Work out their total share.

32. Using a pair of compasses, a ruler and a pencil, construct a triangle ABC in which AB = 8cm, BC = AC =7cm

(a) Measure angle A.

(b) Measure angle C.

END

Time allowed: 2 Hours 30 minutes

Candidate's Name: ....

Index No. [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

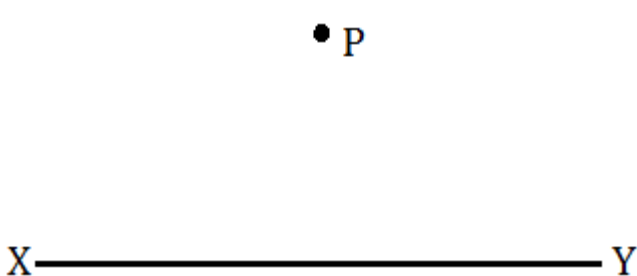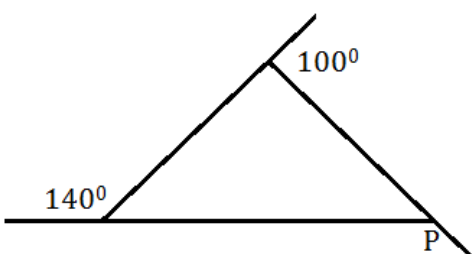|	
SECTION A (40 Marks) *Answer all questions in this Section* *Question 1 to 20 carry two marks each.*	
1. Multiply: 3 x 3 x 3	2. Simplify: $^-6$ - $^+6$
3. Write 94 in Roman numerals.	4. Find the next number in the sequence below: 27, 9, 3, 1, ……..
5. If today is a Tuesday, the support staffs are paid their salary, what day of the week will their next pay be, 30 days from today?	6. St. Peter Primary School has a total of 300 pupils. If there are 180 boys in the school, what is the ratio of girls to boys?

7. Mercury banked sh.100, 000 in Bank of Africa at a simple interest rate of 12% per annum. What interest did she earn after 8 months?	8. Solve: $3p^2 = 48$
9. Two bells ring at intervals o 30 minutes and 40 minutes respectively. If they start ringing together at 8:00am, after how many minutes will they ring next together?	10. Drop a perpendicular line from point P to line XY below. • P X————————————Y

11. Find the size of angle P in the diagram below.

100^0

140^0

P

|	
12. If x = 2, y = 1 and z = 0.5, calcul $\frac{xy}{z}$	13. If set A = {0, 2, 4, 6, 8} and set B = {1, 2, 3, 4, 9}. Find A – B
14. Given the numeral 38.47, find the product of the place value of 3 and 4.	15. A girl read $\frac{1}{3}$ of a book on Monday and $\frac{2}{5}$ of it on Tuesday, she remained with 20 pages to read. How many pages have the book?
16. Divide: $\frac{2}{5}$ by $\frac{1}{2}$	17. Express 12.30a.m in a 24 hour clock.
18. At an average of 60km/hr, a car covered a distance of 270km. Calculate the time it took to cover that distance.	19. A pair of shoes priced at sh.50, 000 was sold to a customer at a discount of 20%. How much money did the customer pay for the shoes?

20. Calculate the volume of the figure below.
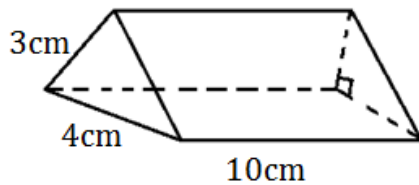
SECTION B: (60 Marks)
Answer all questions in this Section
Marks for each question are indicated in brackets

21. In a class of 60 pupils, 25 like likes English (E) X like Mathematics (M) only, 20 like both English and Mathematics. 5 pupils do not like any of those two subjects.
(a) Complete the Venn diagram below using the information given above. (2mks)
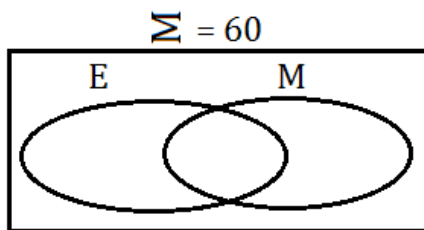
b) Find the value of x.
(3mks)

c) What is the probability of picking at random one of the pupils who like only one subject?
(1mk)

22(a) Solve: $5t - 2(t + 1) = 1$ (3mks)	b) Solve the inequality: $^-2p + 4 > 6$ (3mks)

23. Wambwa scored the following marks in a number of Mathematics tests:
   75, 80, 60, 70, 45, 50
Find the:
a) Range in the marks.
(1mk)

b) Modal frequency. (1mk)	c) Mean mark (3mks)

24. Using a pair of compasses, a ruler and a pencil only,
a) Construct a triangle ABC in which BC = 8cm, angle ABC = 90^0 and angle BCA = 30^0

(4mks)

b) What is the area of triangle ABC?
(3mks)

25. Rubongi drove from Kampala to his village at an average speed of 90km/hr for $3\frac{1}{3}$ hrs. He then drove back from the village to Kampala for 5 hours.

a) How far is Rubongi's village from Kampala? (2mks)	b) Calculate his average speed for both journeys. (3mks)

26. A regular polygon has an exterior angle of 45^0

a) Find the number of sides of the polygon. (2mks)	b) Calculate the sum of interior angles. (2mks)
27(a) Express 0.3636….as a common fraction. (2mks)	b) Express 500m as a percentage of 4km. (2mks)

29. The width of the rectangle ABCD below is 3cm. Its perimeter is 14cm. Use it to answer the questions that follow.
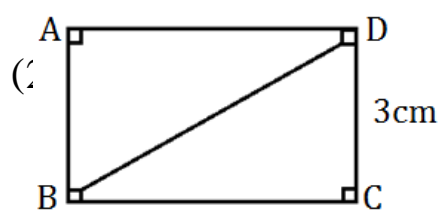
A ┌──────────┐ D   (a) What is its length?

(2

3cm

B └──────────┘ C

b) Express 500m as a percentage of 4km.
(2mks)

29. Given two numbers 24 and 30, find their;

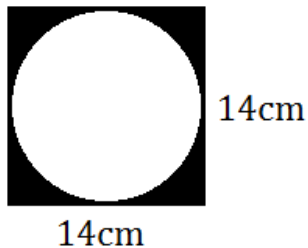| a) Lowest Common Multiple (L.C.M)	b) Greatest Common Factor (G.C.F) (2mks)
(2mks)	

30. A businessman has 200 bags of maize flour each weighing 50kg.

a) Find the total weight of the bags in tones. (2mks)	b) If a pick up carries 2 tonnes per trip, work out the number of bags the pick up will carry in one trip. (2mks)

31. Work out the area of the shaded part of the given figure. (4mks)

14cm

14cm

32. A piece of land it used as follows:
- 5 hectares for growing
- 10 hectares for keeping animals
- 20 hectares for growing matooke
- 25 hectares for sugar cane.
Represent the above information a pie chart (use radius of 4cm)
(7mks)

Moderated item 5
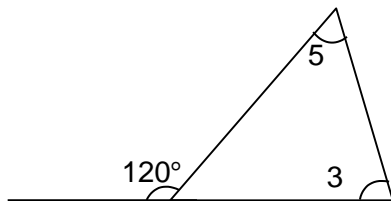
Time allowed: 2 Hours 30 minutes

SECTION A

1. Workout: $52 - 42$

2. Round off 29.99 to the nearest tenths.

3. Using a ruler, pencil and a pair of compasses only construct an angle of 30°.

4. Workout: $2 - \frac{2}{3}$

5. Find the square of 0.09.

6. What is the next number in the sequence: 1, 4, 9, 16, _____

7. Simplify: $8 + 8 \div 8$.

8. In the figure, find the value of .

9. Write 3985 in scientific notation.

10. Express 25 as a percentage of 5 .

11. Write 109 in Roman numerals.

12. Express $12:25$ in a 24-hour clock system.
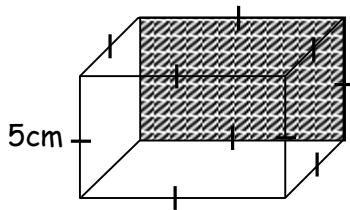
13. Simplify: $2 - 3(\quad - 2)$

14. Seeta Junior will have a netball match with Mbuya Parents next week, what is the probability that Seeta Junior will win the match?

15. Solve: $1 - 3 = \quad (i\ i\quad)$

16. Calculate the number of elements in a set with 16 subsets.

17. What mathematical property will make the statement $2 + 7 + 8 = 2 + 8 + 7$ correct?

18. Workout the volume of the cube below.

5cm

19. Workout the mean of 3 , $7, 3, 2$ 0.

20. Write a single number that has been expanded to give $(8 \times 12^2) + (3 \times 10^0) + (5 \times 10^{-2})$

SECTION B (60 marks)
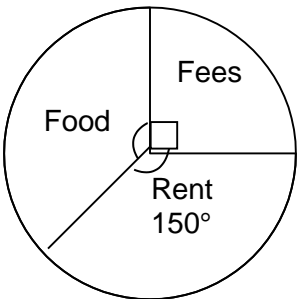
21. (a) Change $\frac{1}{4}$ into a decimal fraction.

(b) Simplify: $\dfrac{0.18 + 1.82}{0.25}$

22. The figure below is representing the magic square of 3 by 3. Study it and find the value of the unknown letters.

8	3	x
p	5	9
t	n	2

x = _____

p = _____

t = _____

n = _____

23. The pie chart represents Sarah's expenditure per month.

27

(a) Find y. (*ma k*)

(b) Given that Sarah spends sh. 36,000 more on rent than on food. How much does she (*mark*)
save per month.

24. (a) Using a ruler, pencil and a pair of compasses only construct a triangle PQR where PQ=7cm, angle P=120°and angle PQR=30°. (*ma k*)

(b) Measure angle PRQ. (*ma k*)

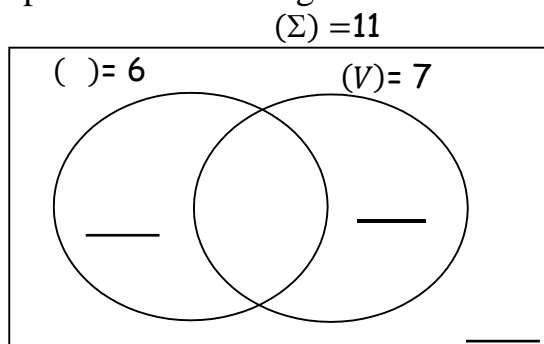25. (a) Prime factorise 48 using set notation. (*ma k*)

(b) Workout the sum of prime numbers between 80 and 90. (*ma k*)

26. In a family of 11 members, 7 play volleyball, 6 play netball, some members play both games while one person plays none of the two games.
(a) Complete the Venn diagram. (*ma k*)

(Σ) =11

( )= 6   (V)= 7

___   ___

___

(b) Find the value of y. (*ma k*)

(c) Workout the probability of picking a member of the family who plays only one game. (*ma k*)

27. A bus travelling at 80km/hr. took 2hrs 30minutes to cover part of the journey, the rest of the journey was covered in $1\frac{1}{2}$hrs. at a speed of 120km per hour.
(a) What distance did the bus cover altogether? (*ma k*)

29

(b) Workout the average speed for the whole journey. (*ma k*)

28. A girl is 20years younger than her sister. In 15 years' time, the sister will be twice as old as the girl. Workout the age of each person now.
(*ma k*)

29. (a) Find the principle that can yield sh. 7,200 in a bank that gives an interest rate of 20% per year in a period of 6 months. (*ma k*)
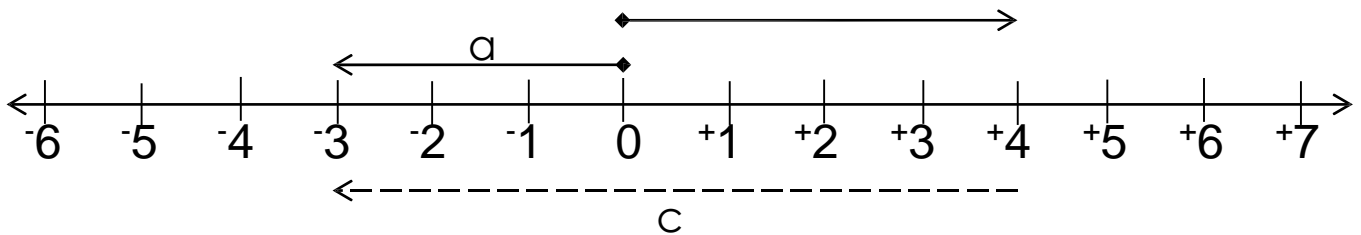
(b) Calculate the amount of money that will be in that account by the end of the period of 6 months. (*ma k*)

30. (a) Use the number line below to find the value of the letters. (*ma k@*)

b

a = _____

b = _____

c = _____

(b) Write the mathematical sentence represented above.   (*ma k*)

31. (a) Study and complete the table below: (*ma k@*)

Item	Unit cost	Amount
$1\frac{1}{2}$ kg of tea	Sh. _____	Sh. 900
2kg of posho	Sh. 3400	Sh. _____
_____ bars of soap	Sh. 1800	Sh. 5,850
750gms of salt	Sh. 2000 per kg.	Sh. _____
	Total	Sh. _____

(b) If Amina was given sh. 1,450 as balance after paying for all the items, what did she have at first?
(*ma k*)

32. Jumbo, Tendo and Mambo contributed sh. 24,000, sh. 36,000 and sh. 60,000 respectively for a joint business which made a profit of sh. 51,000 by the end of the business. They then agreed to separate and each of them starts his own and they shared the total money according to their initial contributions. How much did each person get?   (*ma k*)

END

MATHEMATICS
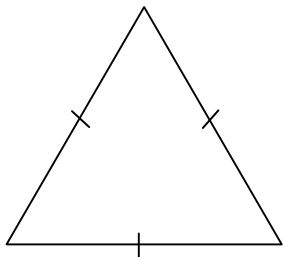*Time Allowed: 2 Hours 30 Minutes*

SECTION A (40marks)

1. Divide: $36 \div 4$

2. Expand 43.5 using powers of ten.

3. Find the supplement of 39°.

**4.** How many lines of symmetry has the figure.

5. Round off 67.49 to the nearest whole number.

6. Find the next number in the sequence: 5, 7, 10, 15, 22, _____

7. Solve: + 3 = 2 − 5

8. Write 0.00705 in scientific notation.

9. The distance between two towns is 45km; this distance is 5cm on a map of Uganda. What is the scale of the two towns?

10. Using a protractor, draw an angle of 115° in the space below.

11. Express 0.75 as a ratio in its lowest term.

12. Simplify + 2 − 3 − 2

13. Use the Venn diagram below:

(Σ) = 17

( )=   ( )=
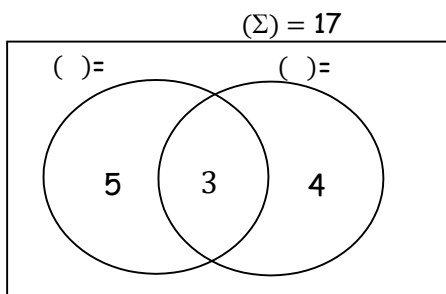
Find n(m∩f)′

14. Solve: $+\dfrac{1}{3}$ ≥ 12

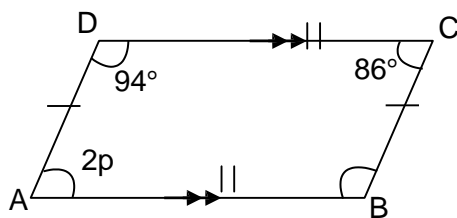**15.** The probability of passing this math paper is $\dfrac{5}{7}$, find the probability of failing it.

16. Divide: $2 \div 3 = $ _____ (finite 5)

17. Find the volume of a cube of side 5dm.

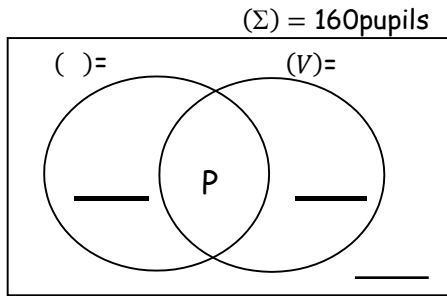**18.** Jamwa ran 100m in only 10seconds, express his speed in km/hr.

19. Use the figure below.

Find P.

20. Use distributive property to work out: $(57.4 \times 6) + (4.2.6 \times 6)$

SECTION B (60marks)

21. In a class of 160 pupils, 65 like volley only, 55 like football only, 25 like neither of the two games while p like both games.
(a) Use the above information to complete the Venn diagram below.   (*ma k*)

$(\Sigma) = 160$pupils

( )=   (V)=

P

(b) Find p.   (*ma k*)

(c) Find the probability of those who like only one game to be the captain.   (*ma k*)

22. Matilda bought a tray of eggs at sh. 500 per egg on her way 6 eggs broke and she sold the remaining eggs at sh. 600 per egg. Calculate the percentage loss.   (*ma k*)

23. A bus left town K at $7{:}15$ after $2\frac{1}{2}h$ it reached town T, a distance of $200k$ it continued to town M at a speed of $80k$ $/h$ and reached the town at $11{:}45$.
(a) When did it reach town T?   (*ma k*)

(b) How long did it travel from town T to town M.

(c) Calculate the average speed for the whole journey.

24. (a) Using a ruler, pencil and a pair of compasses only construct a triangle where
$\overline{} = 7$, angle $= 45°$ and $\overline{} = 6.2$.

(b) Measure:
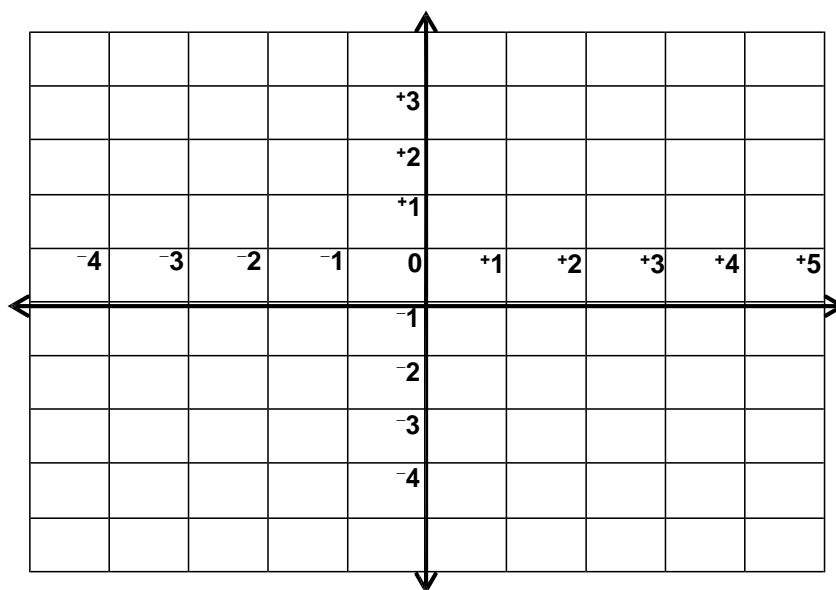   i. _____

    ii. Length $\overline{}$ _____

25. Lala turned anti – clock wise an angle of $135°$ from south west direction.
(a) What direction is she facing now?

(b) The bearing of town K from town M is 130°. find the bearing of town M from town K.

<div align="right">(<i>ma k</i>)</div>

26. (a) Plot the given points on the grid below: A($^-$2, $^-$2) B($^+$4, $^-$2) C($^+$4, $^+$2) D(0, $^+$2)
(<i>ma k</i>)

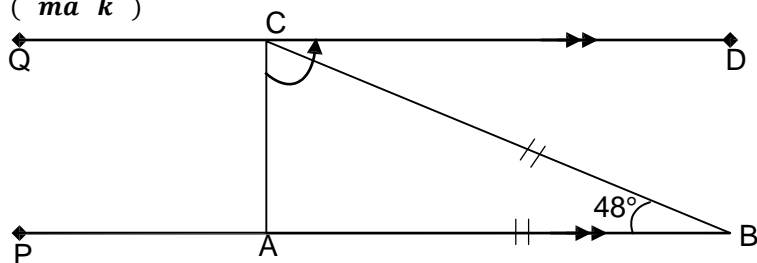
(b) Join the points A to B to C to D to A.
(<i>ma k</i>)

(c) What special name is given to figure formed.   (<i>ma k</i>)

27. In the figure below,   is a triangle, $\overline{}$ = $\overline{}$,   is parallel to   and angle
    = 48°.
Find the size of angle ACD.
(<i>ma k</i>)

28. Jadwong bought a receipt book numbered 634201 to 634300 to be sold to anybody who would attend the school music concert. Each receipt was sold at Ush. 5000 for whoever enters the concert. If all the receipts were sold:

(a) How many people attended the concert?   (ma k)

(b) How much money was collected for the concert?   (ma k)

29. (a) Write ninety-four thousand nineteen in numerals.   (ma k)

(b) Write a single numeral for $(3\times 10^3)+ (7\times 10^1)+ (9\times 10^0)+ (8 \times 10^{-1})$ (ma k)

30. (a) Subtract: 3   − 4   2   +   .   (ma k)

(b) Solve: $4 + \dfrac{1}{2} \leq 3$ (_ma k_)

31. Amina deposited **sh. 600,000** in a bank for 8 months. The bank gives an interest rate of $12\dfrac{1}{2}$ %per year.

How much money will she have in her account by the end of the period?   (_ma k_)

32. Jacinta drove her car from point A to point B at a speed of 50km/hr. for 3hours. She made a return journey at a speed of 70km/hr.

(a) How far is from Point A to B.   (_ma k_)

(b) How long did she take on her return journey?   (_ma k_)

END

MATHEMATICS
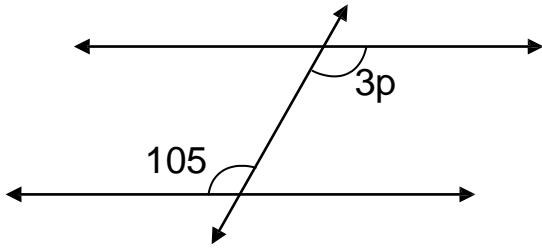*Time Allowed: 2 Hours 30 Minutes*

SECTION A (40marks)

1. Add: 32 to 14.

2. Write the numeral 5045 in words.

3. Given that set K = {prime numbers between 10 and 20}.
   Find n(K)

33. Workout: $2\frac{1}{2} \div \frac{1}{4}$

34. Calculate the value of P in the diagram below:
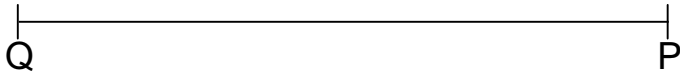

35. Simplify: 3(p−q) − (p+q)

36. A taxi reached Entebbe at 4:10pm from Kampala, the journey took 80 minutes. When did it leave Kampala?

37. Find the next number in the sequence 256, 64, 16, 4, _____

38. Using a ruler, pencil and a pair of compasses only construct an angle of 120°at point P below.

Q ———————————————— P

39. Solve: $3\quad + 7 \le 13$

40. Workout the lowest common factor (L.C.F) of 12 and 15.

41. Study the table below and find the median mark.

No. of pupils	1	3	2	1
Marks scored	30	15	25	10

42. Given that a = ⁻3, b = 2. Find the value of 2a+2b.

43. Simplify: ⁺11+⁻15

45

44. Cooking oil is sold in 250ml packets. How much money would Joshua pay for one litre of cooking oil, if the market price of $\frac{1}{2}$ litre is 1700 shillings.
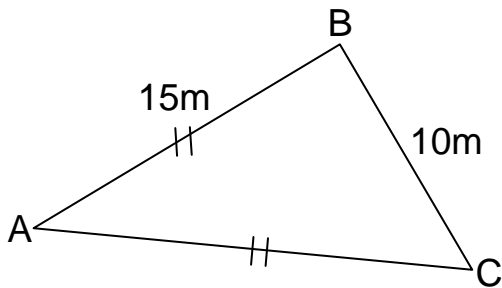
45. Simplify: $2^4 \div 2^2$

46. Workout: $5.4 \div 0.9$

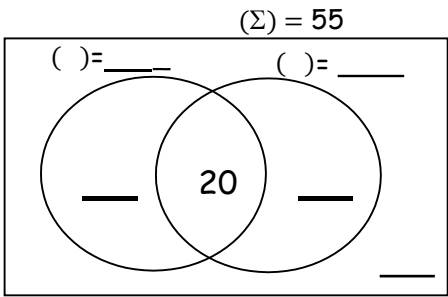**47.** Express 12:40pm in a twenty-four-hour clock system.

48. Round off 380.59 to the nearest whole number.

49. Workout the perimeter of the figure ABC below.

SECTION B (60marks)

50. In a class of 55 pupils, 40 pupils like English (E), Y pupils like mathematics (M), 20 pupils like both subjects, and 10 like none of the two subjects.
(a) Complete the Venn diagram using the above data.   (*ma k*)

(b) Find the value of Y.   (*ma k*)

(c) How many pupils like mathematics only?   (*ma k*)

51. The perimeter of a rectangular field is 48m, if the length is twice the width. Find the area of the field. *(ma k)*

52. (a) In a parents' meeting at a certain school the ratio of male to female parents was 3:5 respectively, if 30 female parents attended the meeting. How many male parents were in the meeting? *(ma k)*

(b) If $\frac{1}{3}$ of the male parents were below the age of 40. How many male parents were above the age of 40. *(ma k)*

53. At a Forex Bureau, one US dollar costs Ug.sh.2800.

(a) How much Ugandan shillings will a tourist who has US dollars 600 get?   (*ma k*)

(b) If a businessman had Ug.sh. 630,000. How many US dollars will he get at the same exchange rate? *(ma k)*

54. A teacher bought 8 books at sh. (p – 1500) each book and 2 pens at sh. (p + 1000) each pen. If the teacher spent 53,000 shillings altogether, how much money did he spend on the books? *(ma k)*

55. Find the Area of the shaded part in the diagram below. *(ma k)*
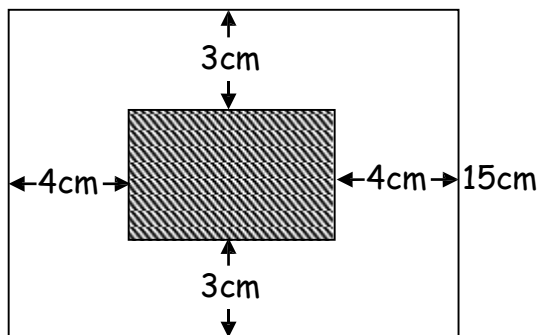
56. (a) Solve: – 1 = 2   + 5
(ma k)

(b) Find the value of P in 3(2+p) < 15 (*ma k*)

57. A driver of a bus covered a distance of 120km in $1\frac{1}{3}h$.
   (a) At what speed was he travelling? (*ma k*)

   (b) What distance would he cover if he travelled for $2\frac{1}{2}h$. (*ma k*)

58. Using a pair of compasses, a ruler and a pencil only construct a rhombus ABCD, where $\overline{AB}$=5cm, angle ABC=60° from your accurate construction, measure the length of the diagonal $\overline{AC}$. (*ma k*)
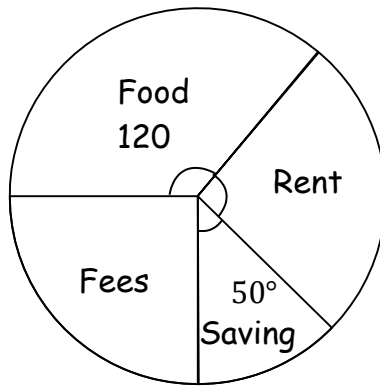
59. Given that the circumference of a circle is 88m. calculate its area (***Take pie*** $= \frac{}{7}$)(*ma k*)

60. (a) The price of a hoe was increased by 10% to become 3520shillings. Calculate the original

price of the hoe. (*ma k*)

(b) In how many years will shillings 60,000 amount to 72,000 at the simple interest rate of 10% per annum. (*ma k*)

61. Study the pie-chart below carefully and answer the questions.

(a) If a parent spends 240,000 on food. How much does he earn per month?   (*ma k*)

(b) What fraction of his salary does he spend in its lowest terms.   (*ma k*)

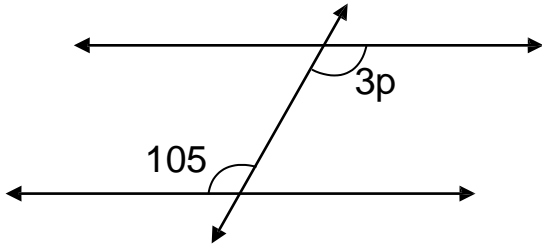***END***

<u>SECTION A (40marks)</u>

62. Add: 32 to 14.

63. Write the numeral 5045 in words.

64. Given that set K = {prime numbers between 10 and 20}.
Find n(K)

65. Workout: $2\frac{1}{2} \div \frac{1}{4}$

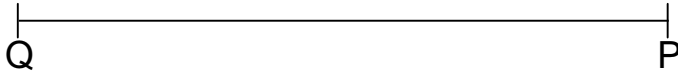**66.** Calculate the value of P in the diagram below:

67. Simplify: $3(p-q) - (p+q)$

68. A taxi reached Entebbe at 4:10pm from Kampala, the journey took 80 minutes. When did it leave Kampala?

69. Find the next number in the sequence 256, 64, 16, 4, _____

70. Using a ruler, pencil and a pair of compasses only construct an angle of 120°at point P below.

Q ———————————————— P

71. Solve: $3\quad + 7 \leq 13$

72. Workout the lowest common factor (L.C.F) of 12 and 15.

73. Study the table below and find the median mark.

No. of pupils	1	3	2	1
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76. Cooking oil is sold in 250ml packets. How much money would Joshua pay for one litre of cooking oil, if the market price of $\frac{1}{2}$ litre is 1700 shillings.
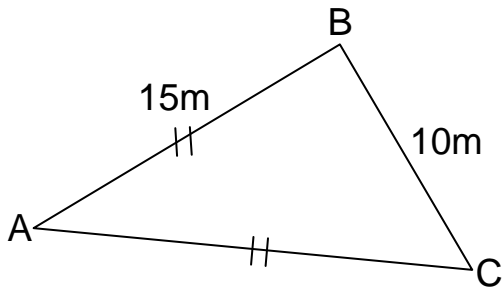
77. Simplify: $2^4 \div 2^2$

78. Workout: $5.4 \div 0.9$

79. Express 12:40pm in a twenty-four-hour clock system.

80. Round off 380.59 to the nearest whole number.

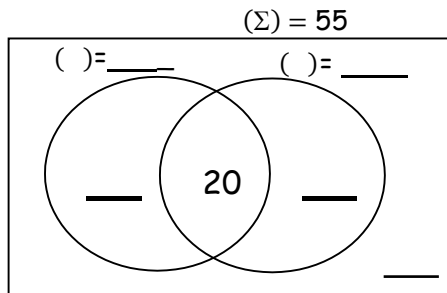**81.** Workout the perimeter of the figure ABC below.

SECTION B (60marks)

82. In a class of 55 pupils, 40 pupils like English (E), Y pupils like mathematics (M), 20 pupils like both subjects, and 10 like none of the two subjects.

(d) Complete the Venn diagram using the above data.   (*ma k*)

(e) Find the value of Y.   (*ma k*)

(f) How many pupils like mathematics only?   (*ma k*)

83. The perimeter of a rectangular field is 48m, if the length is twice the width. Find the area of the field. (*ma k*)

84. (a) In a parents' meeting at a certain school the ratio of male to female parents was 3:5 respectively, if 30 female parents attended the meeting. How many male parents were in the meeting? (*ma k*)

   (b) If $\frac{1}{3}$ of the male parents were below the age of 40. How many male parents were above the age of 40. (*ma k*)

85. At a Forex Bureau, one US dollar costs Ug.sh.2800.
   (c) How much Ugandan shillings will a tourist who has US dollars 600 get? (*ma k*)

(d) If a businessman had Ug.sh. 630,000. How many US dollars will he get at the same exchange rate? *(ma k)*

86. A teacher bought 8 books at sh. (p – 1500) each book and 2 pens at sh. (p + 1000) each pen. If the teacher spent 53,000 shillings altogether, how much money did he spend on the books? *(ma k)*

87. Find the Area of the shaded part in the diagram below. *(ma k)*
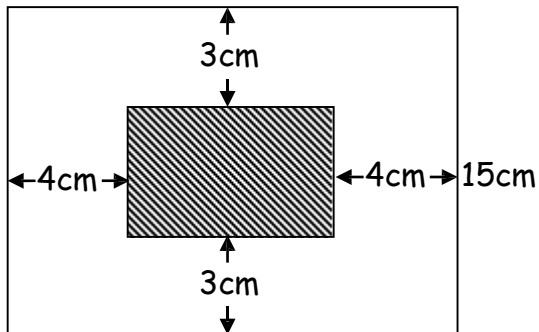
88. (a) Solve: – 1 = 2 + 5
(ma k)

(b) Find the value of P in $3(2+p) < 15$ (*ma k*)

89. A driver of a bus covered a distance of 120km in $1\frac{1}{3}h$.

(c) At what speed was he travelling? (*ma k*)

(d) What distance would he cover if he travelled for $2\frac{1}{2}h$. (*ma k*)

90. Using a pair of compasses, a ruler and a pencil only construct a rhombus ABCD, where $\overline{AB}$=5cm, angle ABC=60° from your accurate construction, measure the length of the diagonal $\overline{AC}$. (*ma k*)
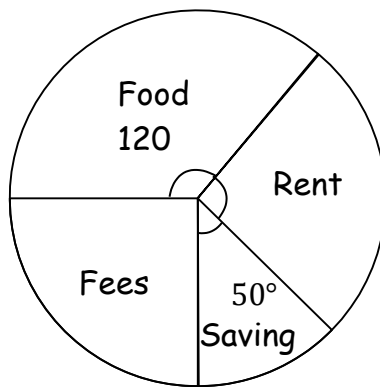
91. Given that the circumference of a circle is 88m. calculate its area $\left(\textbf{\textit{Take pie}} = \frac{\quad}{7}\right)$ (*ma k*)

92. (a) The price of a hoe was increased by 10% to become 3520shillings. Calculate the original
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    (b) In how many years will shillings 60,000 amount to 72,000 at the simple interest rate of
        10% per annum.   (*ma k*)

93. Study the pie-chart below carefully and answer the questions.

(c) If a parent spends 240,000 on food. How much does he earn per month?   (*ma k*)

(d) What fraction of his salary does he spend in its lowest terms.   (*ma k*)

END