SET THREE

MATHEMATICS

Time Allowed: 2 Hours 30 Minutes

	EMIS No.						Personal No.		
INDEX NUMBER									

Candidate's Name………………………………………………………………Stream…………………

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

EMIS No.………………………………………………………………………………………………………

District Name………………………………………………………………………………………………

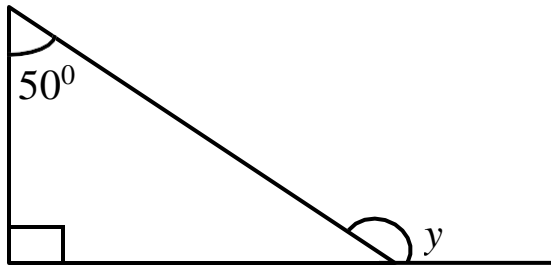### Read the following instructions carefully

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.

FOR EXAMINERS' USE ONLY		
Qn. No.	MARKS	EXR'S NO
1 - 5		
6 - 10		
11 - 15		
16 - 20		
21 - 22		
23 - 24		
25 - 26		
27 - 28		
29 - 30		
31 - 32		
TOTAL		

1

SECTION A: 40 MARKS

1. Work out: $621 \div 3$

2. Write "Four hundred nine" in Roman numerals.

3. Simplify: $3(a - 4) - 2(a + 5)$

4. Twelve litres of milk were given to some children. If each child got ¾ of a litre of milk, how many children got the milk?

5. The LCM of two numbers is 60 and their GCF is 3. If one of the numbers if 15, find the second number.

6. Find the size of angle y in the figure below.

7. Andrew deposited sh. 600,000 in the bank that offers an interest rate of 3% per year for 1½ years. Find the interest earned by Andrew.

8. Change 25 m/s into km/hr.

9. A mathematics lesson ended at 1: 25 pm. If it had lasted for 1¾ hours, at what time did the lesson start?

10.   In the space below, construct an angle of 150^0.

11.   Show 134_{six} on the abacus.

12.   Increase sh. 4000 by 12½%.

13.   If today is Thursday. What day of the week was it 33 days ago?

14.   Find the sum of the next two numbers in the sequence below;
          1, 2, 5, 10, 17,_____,_____.

15.   Find the range of ⁻9 and ⁻5.

16.   Solve: $5 - 3x = 17$

17.   Work out: $5\frac{3}{4} \div 2\frac{1}{4}$

18.   Calculate the radius of the circle whose circumference is 88 m.
        (Take π as $\frac{22}{7}$).

19.   If 5 men take 4 days to paint the house, how many more days will 2 men take to paint the same house?
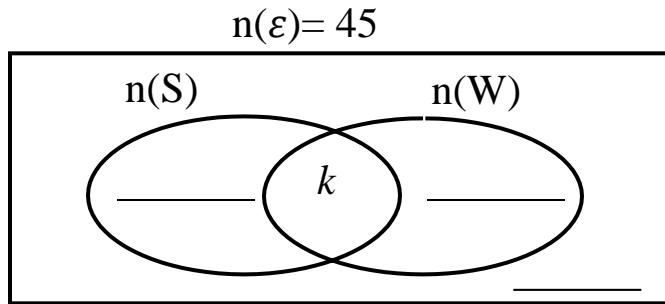
20.   If R has 63 proper subsets, find n(R).

21.   In a party of 45 guests, 30 drink soda (S) , 20 guests drink water (W), k drink both soda and water while 4 guests do not drink any of the two drinks.

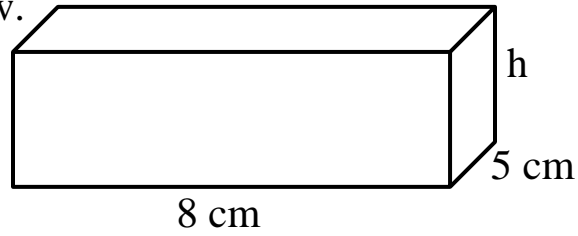a) Complete the Venn diagram below.   *(3marks)*

n(ε)= 45

n(S)   n(W)

k

b) Find the value of k.   *(2marks)*

c) How many guests drink only one drink?   *(1mark)*

22.   The volume of the figure below is 240 cm³. Use it to answer the questions that follow.

8 cm

5 cm

h

a) Find the value of h.

b) Work out the total surface area of the figure above.

23.   The sum of the values in the table are the same vertically, horizontally and diagonally. Fill in the missing values to complete the table.

1	15	14	4
12	……..	7	9
8	10	……..	5
……..	……..	2	……..

24.   a) Using a ruler and a pair of compasses only, construct a triangle PQR in which PQ = PR = 6.5cm and angle QPR = 90^0.   *(4marks)*

b). Measure the line QR.   *(1mark)*

25.   The table below shows the marks scored by pupils in a mathematics test.

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

a) How many pupils sat for the test?   *(2marks)*

b) Find the mode.   *(1mark)*

c) How many pupils scored above the mean mark? *(2marks)*

26.   Mutoni went to the market and bought the items as shown on the table below.

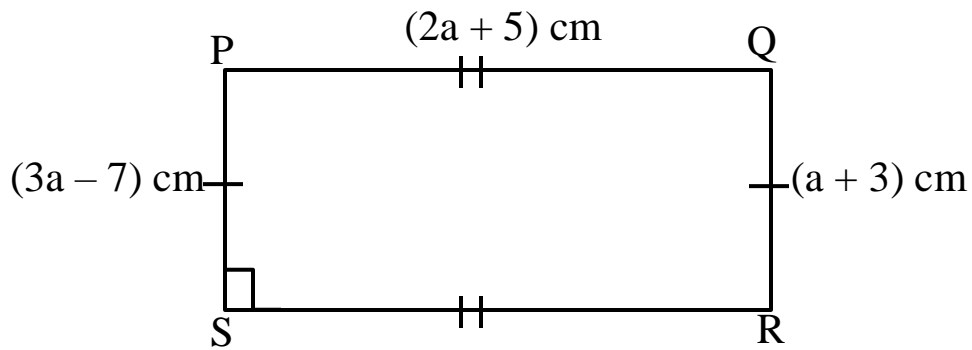| Item	Quantity	Unit price	Total cost
Sugar	2 kg	Sh. 3,500 per kg	Sh……………..
Meat	…….kg	Sh. 8,000 per kg	Sh. 24,000
Milk	2½ litres	Sh. 1,200 each litre	Sh. ………….
Bread	4 loaves	Sh. ……….. @ loaf	Sh. 8,000
	Total expenditure		Sh. ………….

a) Complete the table above. *(5 marks)*

a) If she went with sh. 50,000, find her change. *(1 mark)*

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

a) Find the value of a.

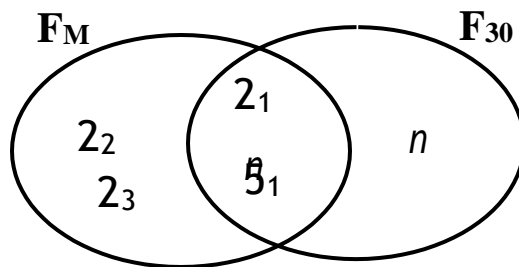b) Work out the area of the figure above.

c) Calculate the total distance round the figure above.

28.   a) Work out: $\dfrac{0.24 \text{ x } 1.5}{0.8 \text{ x } 0.5}$ *(3 marks)*

b).   Simplify: $\frac{2}{3}$ X $\frac{3}{4}$ ÷ $\frac{5}{6}$ *(2 marks)*

29.   The Venn diagram below represents the prime factors of two numbers.
   Use it to answer the questions that follow.

F$_M$ **F**$_{30}$

2_1

2_2 n

5_1

2_3

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

b) Calculate the value of M.   *(2marks)*

c) Work out the GCF of M and 30.   *(2marks)*

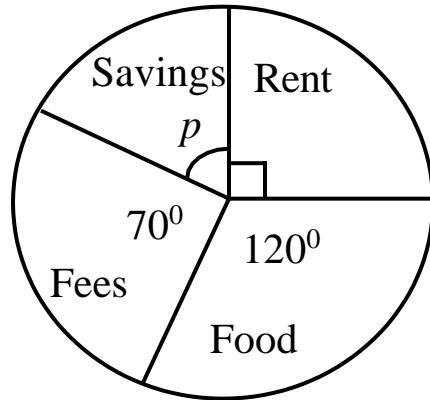*30.*   a) Solve: $\frac{2}{3}y + 4 = 10$ *(2 marks)*

b) Olupot is 5 years older than his brother Jamwa. If their total age is 35 years, how old is Jamwa?   *(2 marks)*

31.   John, Fatima and Daniel shared a certain amount of money in the ratio of 2: 4: 3 respectively. If Daniel got sh. 150,000;
    a) How much money did they share altogether?   *(4 marks)*

    b) How much more money did Fatuma get than John?   *(1 marks)*

32.   The pie-chart below shows Muzorewa's monthly expenditure. Use it to answer the questions that follow.

a) Find the value of p in degrees.   *(2 marks)*

b) If he spends sh. 180,000 on rent, find his monthly income.   *(3 marks)*

END