MATHEMATICS

Time Allowed: 2 Hours 30 Minutes

	EMIS NO						PERSONAL NO		
Index No.									

Candidate's Name: _____

Candidate's Signature: _____

School Name: _____

District Name: _____

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

Read the instructions carefully:

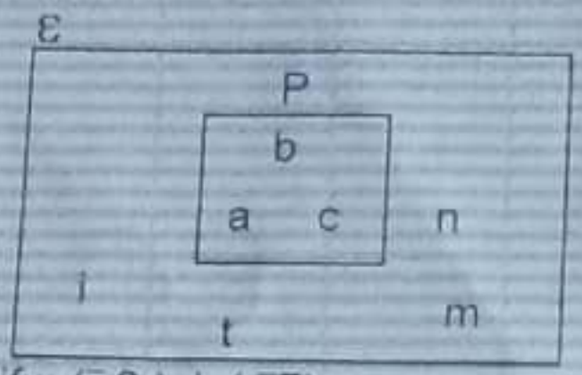
1. This paper is made up of Sections **A** and **B**.
2. Section **A** has 20 short-answer questions (**40** marks)
3. Section **B** has 12 questions. (**60** marks)
4. Answer **All** questions. **All** answers to both Sections **A** and **B** must be written in the spaces provided.
5. All answers must be written using blue or black ball point pen or ink. Diagrams should be drawn in pencil
6. Unnecessary alteration of work may lead to loss of marks.
7. Any handwriting that cannot be read may lead to loss of marks.
8. Do not fill anything in the box indicated **For Examiners' Use Only.**

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

Turn Over

2. Expand 4356 using exponents.

3. Find n(P) in the Venn diagram below

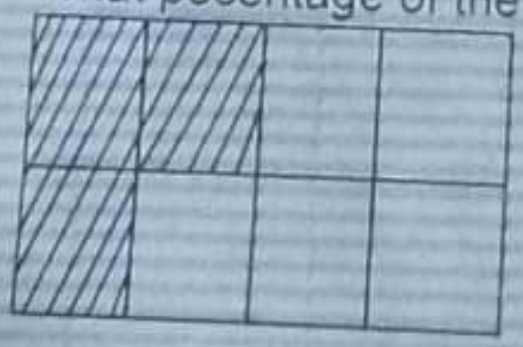


4. Simplify: $(^{-}6)+(^{-}7)$

5. Workout: $3y-(4+y)$

6. Covert 21 to binary base.

7. What pecentage of the diagram below is unshaded?



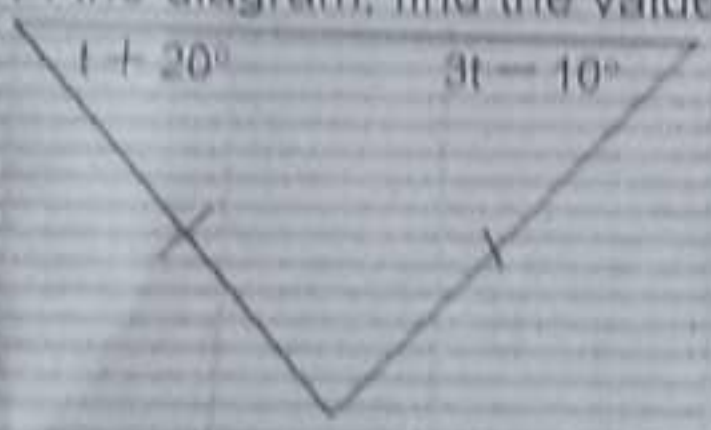
8. Given that a kg of sugar costs sh. 4,400. What is the cost of 750g of sugar?.

9. Find the highest number of boys that can share either 18 pens or 24 pens with a remainder.

10. The area of a square compound is 196m^2. Calculate the total distance around

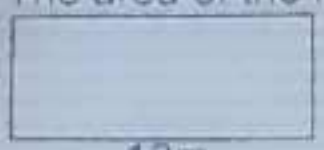
11. Use a dial to work out: 4 + 3 = _____ (finite 6)

12. In the diagram, find the value of t in degrees.



13. A lesson ended at 10:30a.m having taken 90 minutes. At what time did it st

14 The area of the rectangle below is 60m². Find the length of its diagonal



15 How many pieces of strings of 50cm can you cut from a roll of string 12 5m?

16. Given that a = ½ , b = 72, evaluate $\sqrt{a\ b}$

17. List all the possible value of y if $7 < y < 15$ and y is a prime number.

18. The number of pupils in the school increased by 20%. The number is 960 What was the old number?

19. Lukia is facing South west, in which direction will she be facing if she turns anti-clockwise through an angle of 210° (Use a diagram to help).

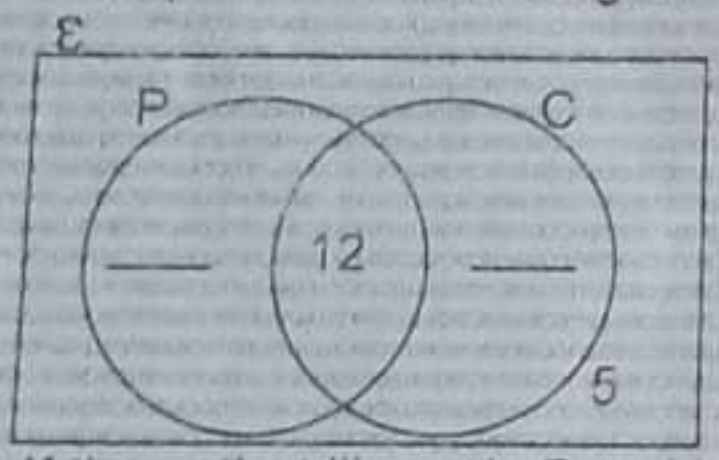
20. Trees were planted along a straight line 200m long. If the trees were planted 5 metres apart, how many trees were planted along the road?

SECTION B

21. a) In a school of 1,200 pupils, 40% of them are boys and the rest are girls. 20% of the boys and 60% of the girls are boarders. How many pupils are day scholars? (5 marks)

2. At a party, $(y + 4)$ guests like only Pepsi (P) 12 guests like both, $(y - 10)$ like Coco-cola but not Pepsi while 5 like neither of the drinks.

a) Complete the Venn diagram below (2 marks)



b) If those that like only Pepsi is twice, those who like coco-cola, find the value of y. (2 marks)

c) How many pupils like Pepsi cola? (1 mark)

23. **The table below shows the rates at which different currencies are bought and sold.**

Currency	US $ (dollars)	K.sh (Kenya shillings)	£ (Pounds)
Selling (U.sh)	3,750	30	4,650
Buying (U.sh)	3,700	28	4,500

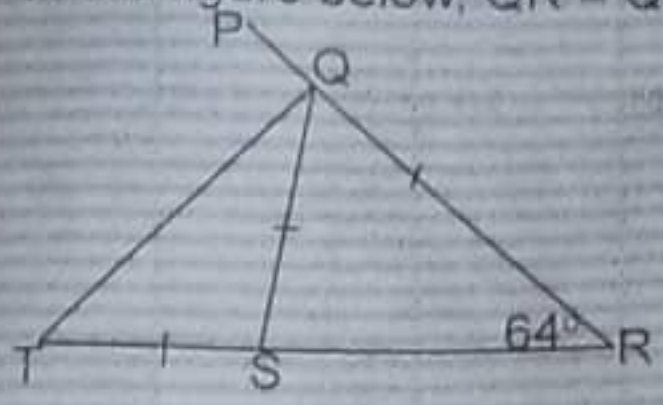
a) How much in Uganda shillings will Amoti get if he has 1,250 US dollars? (2 marks)

b) Ainomugisha came to Uganda from the Great Britain with 7,800 pounds which she exchanged for Kenya shillings (K.sh). How much in Kenya shillings did she receive? (3 marks)

24. a) Solve the inequality $2(y + 4) < 5y - 4$ (3 marks)

b) Solve: $\frac{2y - 2}{3} = y - 1$ (3 marks)

30 In the figure below, QR = QS = ST and QRS = 64°



a) Find the sizes of the angles below.

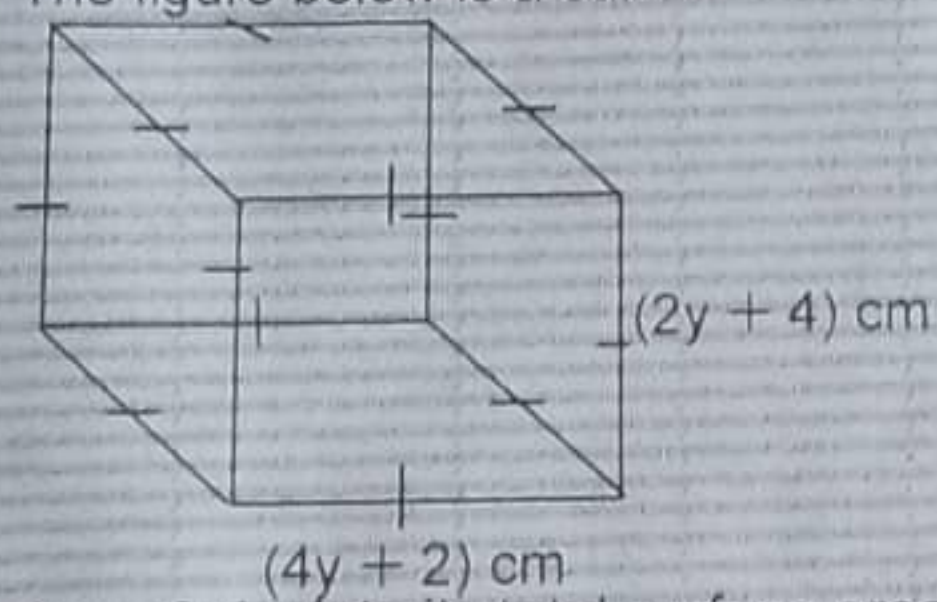
(2 m

i) QST

(3

ii) TQR

31. The figure below is a cube.



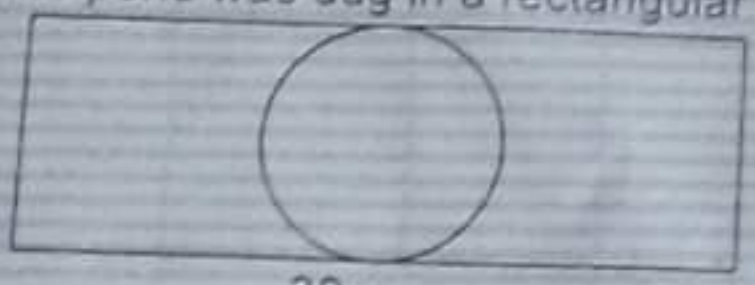
a) Calculate its total surface area.

28. a) The diagonals of parallelogram bisect each other. Using a ruler, pencil and a pair of compasses only, construct a parallelogram ABCD, given that

AB = 7cm, AC = 10cm and BD = 8cm (5 marks)

b) Measure BC. (1 mark)

29. A circular pond was dug in a rectangular pond of land as shown below



Given the area of the pond is 616m^2. Calculate the distance around the rectangular piece of land ($\pi = \frac{22}{7}$) (5 marks)

25. A motorist left town **M** and took 1½ hours to reach town **N**. He rested for 30 minutes at town **N** and took ½ an hour to reach town **L** at a speed of 80km/hr.

a) How far is town L from town N? (2 marks)

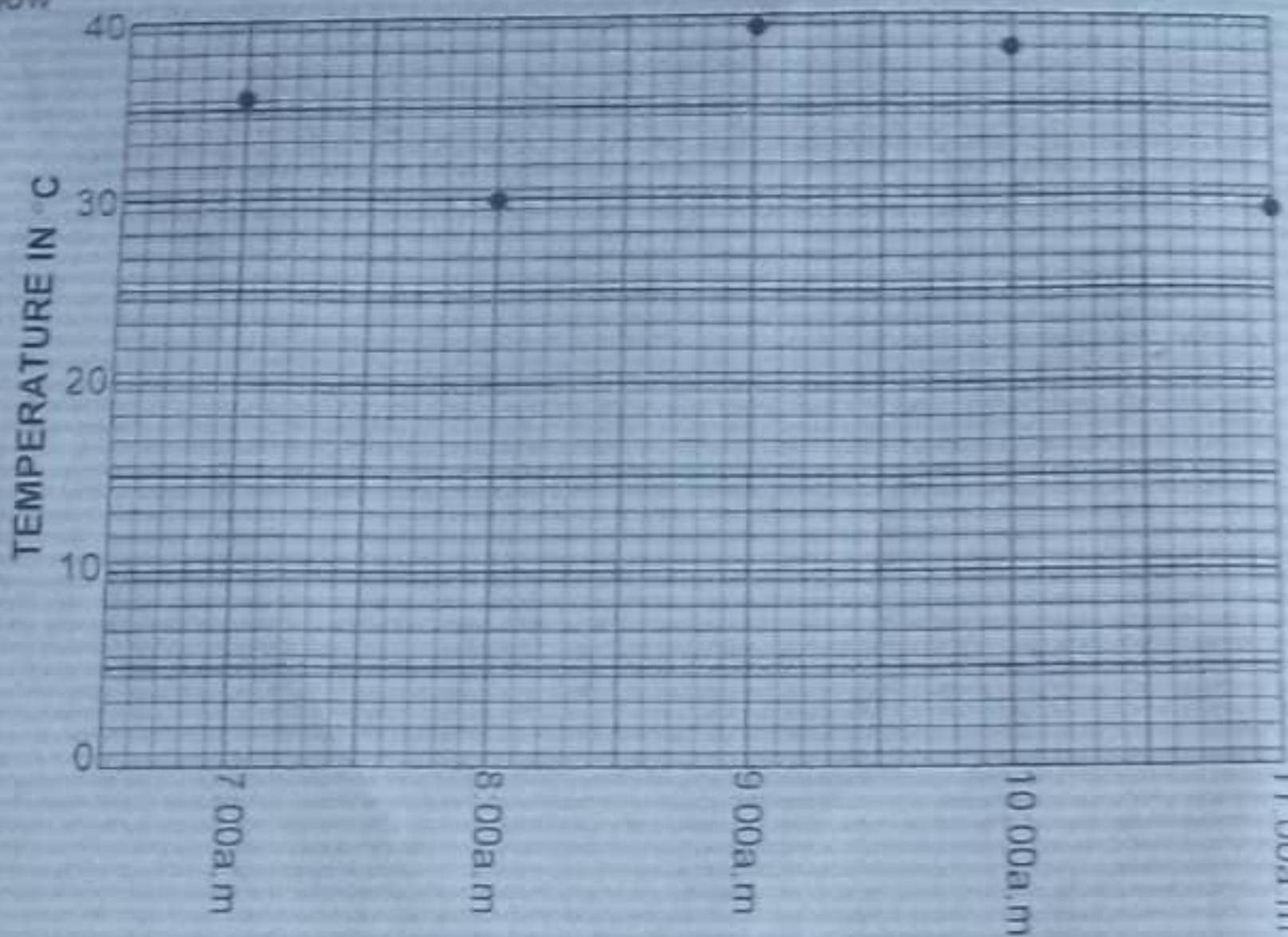
b) If the distance between town N and town L is 1 of the whole journey, find the distance between town M and town N. (3 marks)

26 a) A pupil was given a number in base two and expanded it as below $(1 \times 2^3) + (1 \times 2^2) + (0 \times 2^1) + (1 \times 2^0)$, write the expanded number in base three. (3 marks)

b) Find the least number of pens such that when given to 5 pupils, 2 remain and given to 8 pupils, 3 remain. (2 marks)

27. 0.8 tonnes of rice were packed into 500g Packets. How many packages were obtained? (4 marks)

32. The line graph below shows the temperature of a patient in a clinic recorded every after one hour a day. Study it carefully and use it to answer the questions that follow



a) What was the lowest temperature recorded? (1 mark)

b) What time of the day was the highest temperature recorded? (1 mark)

c) Calculate the average temperature of the patient. (2 marks)