KAMSSA LOWER SECONDARY LEVEL EXAMINATIONS
SENIOR TWO
END OF YEAR ASSESSMENT 2024
MATHEMATICS
PAPER 1
SCORING GUIDE

ITEM 1

Your friend wrote His ATM card pin as 149 from number system ten (base ten), he very known well knows that whenever He wants to withdraw the money He turns this digit to base three to access the correct pin. He did this in fear of theft. Now that he is sick in the hospital, He can neither talk nor write but the money on his account is need to finance hospital bills. The hospital doctor who takes care of him checks on him after every 3 hours and a nurse checks on him after every 4 hours. Both the doctor and nurse last checked on him together at 10:30am. He was treated well and discharged and advised as follows. He was advised to spend three-eights of the day resting, one six of the day eating, two thirds of the remainder having a healthy diet and the rest of time of the day visiting the hospital for further checkup.

Task

(a) What do you think was the correct ATM pin?

B	N	R	
3	149	2	I = 1
3	49	1	
3	16	1	I = 1
3	5	2	I = 1
	1		

12112_{THREE} M = 1

The ATM Pin was 12112 Ap = 1

(b) At what time did both the nurse and doctor check on the patient again together.

2	3	4
2	3	2
3	3	1
	1	1

L.C.M=2× 2 × 3 M=1

=12 hours

10 : 30 A.M

12 : 00 hours M=1

= 2230 hours M=1

= 10 : 30pm

They check on him a pain at 10:30 pm Ap = 1

(c) How many hours of the day in a week does he have spent on visiting hospital.

Resting hours $= \frac{3}{8} \times 24$ M = 1

= 9 Hours

Eating hours $= \frac{1}{6} \times 24$ M = 1

$= 4$ Hours

Remaining Hours = 24 – (9+4) M = 1

= 11 hours

Health diet $= \frac{2}{3} \times 11$ M = 1

= 7.33 Hours. M = 1

Visiting hospital = 11-7.33 M = 1

= 3.67hours M = 1

Total hours of visiting hospital in a week

= 3.67×7days M=1

= 25.69 hours in a week

He spent 25.69 hours in a week. Ap = 1

ITEM 2

The authorities on your area have realized that the time taken by house hold in for treatment at the village. Health centre is becoming unbearable due to long queues. This has resulted into numerous quarrels among locals in a bid to get treatment. They were informed by the district authorities that the budget an only cater for addition of a health hospital in a community whose average waiting time for treatment is above 3hours 30min

On a given day, the chairperson LC III led a team that collected data for the time taken by 40 people in waiting for treatment at the hospital and is presented ss shown below.

3	4	6	4	3	1	3	4	6	5
2	4	6	4	3	3	4	6	4	3
2	3	5	6	5	2	3	6	5	5
2	3	7	5	4	2	4	7	5	3

Task

(a) Draw a frequency distribution table and help the chairperson and the team to find out whether their community deserves on additional hospital, give a reason for your answer.

TIME(X)	Tally	Frequency(f)	F(x)
1	I	1	1
2	𝍸	5	10
3	𝍸 |||	9	27 A=1
4	𝍸 𝍸	10	40
5	𝍸 ||	7	35
6	A=1 𝍸 |	6 A=1	36
7	||	2	14
		$\varepsilon f = 40$ M=1	$\varepsilon fx = 163$ M=1

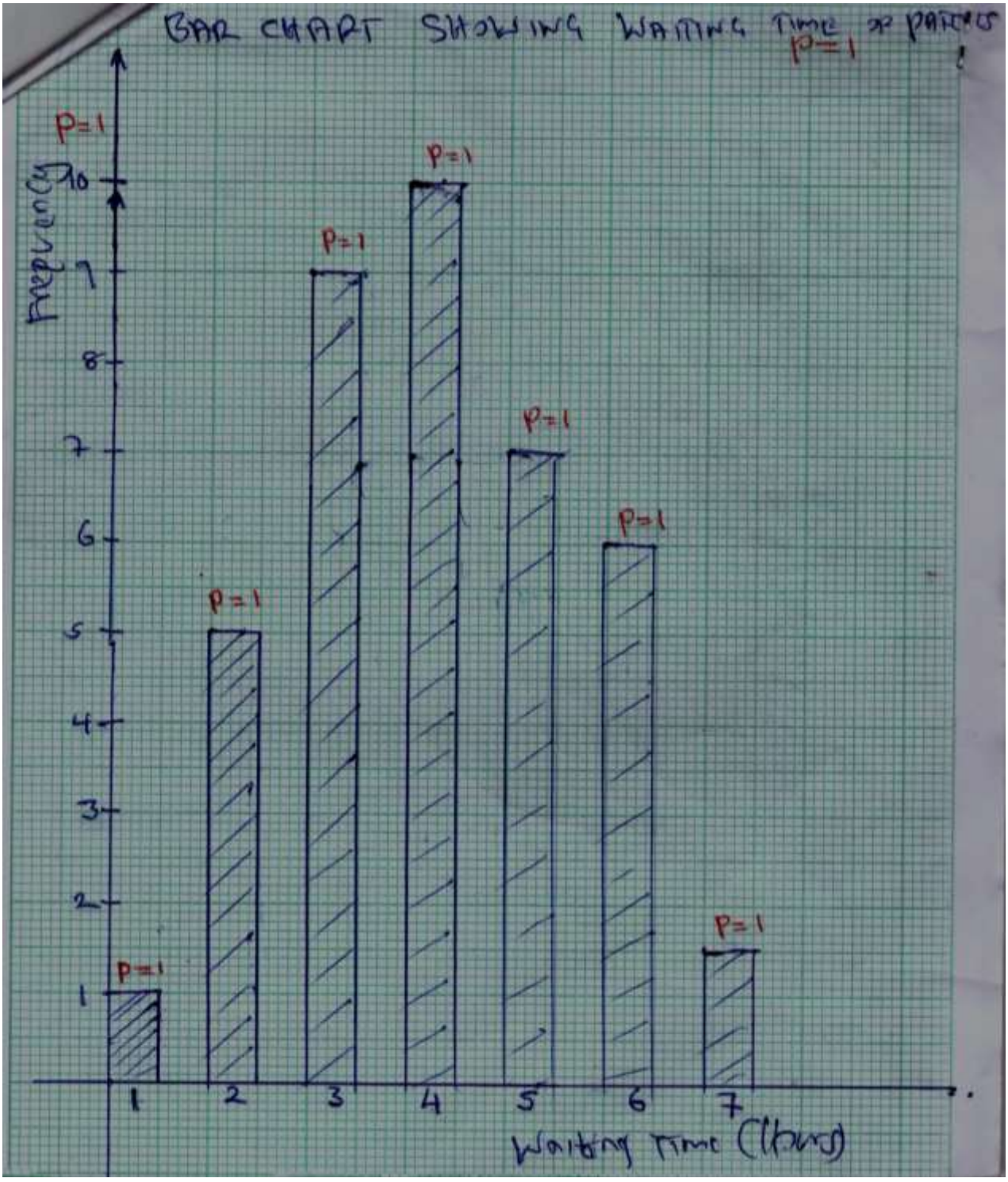
Mean $=\frac{\varepsilon fx}{\varepsilon f}$

$=\frac{163}{40}$ A=1

=4075 hours M=1

Therefore, the community deserves a bore hall AP=1

(b) Help the team to present the information on a bar chart that would make the district authorities better understand the situation.



(c) Describe with reason the situation using a bar chart you have down.

The chart illustrates that majority of the people had waiting time of 4 hours. This could be due high population of people who require treatment AP=1

The delay might result into death of some people. AP=1

(d) Analyze the information and advise the local authorities on whether the community deserves a bore hall.

The community deserves another hospital because many people are over waiting for treatment. **AP=1** $\frac{X}{20}$

ITEM 3

Atim and Opio stays in port bell. They used different ships to islands on Lake Victoria. Atim used MV Uhuru while Opio used MV Kaawa. Both left port bell on the same time. MV Uhuru sailed 100km on a bearing of 030^0 to Ukara island. MV Kaawa sailed 150km on a bearing at 120^0 to Rubundo island.

On reaching Ukara, Atim sold his basket of fish at 120000shillings and made a profit at 20% while Opio also on reaching Rubundo sold his basket of fish at a discount of 10% to Mrs. Awori who paid cash.

Task

(a) Using appropriate scale show the movement of the two boats on the same accurate diagram on a graph.

Using your diagram in (a) above, find the;

(i) Bearing of Rubundo island from Ukara island

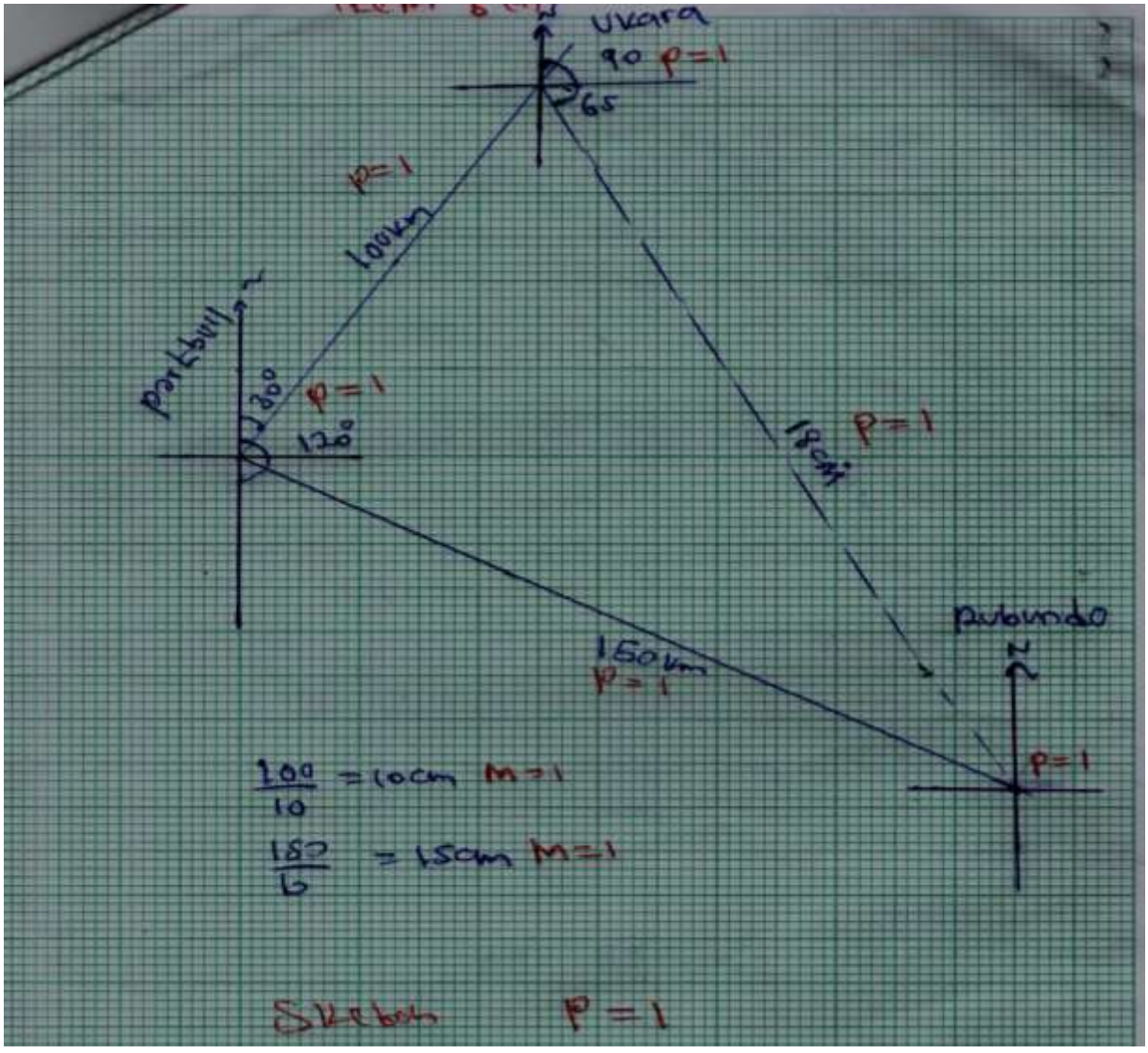
$= 90^0 + 65^0$

$= 155^0$ **M=1**

(ii) Distance between Rubundo island and Ukara island.

18cm $= 18 \times 10(km)$ **A=1**

$= 180km$ **M=1**



(c) How much money (in words) did Atim bought a basket of fish from port bell.

Selling price =120,000

% profit = 20%

Cost = 11%

S.P $= C.P\left(1+\frac{22}{100}\right)$

$120000 = C.P\left(1+\frac{20}{100}\right)$ M=1

$\frac{120000}{1.2} = \frac{1.2}{1.2}C.P$ M=1

Cost price = 100,000 M=1

He bought it at one hundred thousand shillings only. AP=1

(d) If Opio also sold the basket of fish at the same price as Atim. How much did He remain with (in words) after offering a discount to Mrs Awori?

Selling price = 120,000

Discount = 10%

100-10 =90% A=1

Net sales of Opio $=\frac{90}{100}\times 120000$ M=1

= 108000 M=1

Opio remained with one hundred thousand and eight thousand shillings only. AP=1

$\frac{X}{20}$

END