

END OF TERM TWO EXAMINATIONS 2026

Uganda Certificate of Education

S.3 MATHEMATICS

Paper 1

2 hours

INSTRUCTIONS

This paper consists of two sections; A and B with five examination items

Attempt only three (3) examination items.

Any additional item(s) will not be marked.

ALL responses must be written in the answer booklet provided.

Graph paper is provided.

Silent, non-programmable scientific calculators and mathematical tables with a list of formulae may be used.

SECTION A

Item 1

An organisation of a particular community owns 4 cm^2 of land on a 1: 250,000 scale map. They do not know the exact size of the plot of land on ground in km^2 . The organisation gave some plots to a certain group in that community.

The group wants to hire two tractors to plough the land; however, it is revealed that tractor A takes 45 minutes to plough an acre of land and tractor B takes 20 minutes to plough an acre of land while they both work at the same speed. The group is challenged on how long it takes to plough 10 acres of land after starting at 7:00 a.m.

The ploughing budget will be supported by clergy, area members of Parliament (MPs) and group members. Each of the 48 members was required to contribute UGX 50,000.

Task;

Help the youth group to determine;

- a) the actual area of the piece of land in km^2
- b) the time the tractors shall take to plough 10 acres
- c) find the total budget for ploughing.

Item 2

Your friend is a welder and he has been contracted to make a rectangular window of area 2880 m². The client wants the length of the window to be 12 m more than the width but your friend has failed to decide on the dimensions of the window.

To increase production, the company hired experienced welders and trainee welders to produce windows. On the first day, 3 experienced welders and 2 trainee welders produced 12 windows. On the second day, 2 experienced welders and 5 trainee welders produced 19 windows.

Task;

- a) Help your friend to determine dimensions of the window for the client.
- b) Help the production manager to determine the average number of windows produced per day by the experienced welder and the trainee welder.

SECTION B

Item 3

The science department of REPAC was asked to give the academics committee an analysis of the performance of students in two subjects of mathematics and physics. The decided to give eight students a test in the two subjects and the results were recorded as shown in the table below.

Students	A	B	C	D	E	F	G	I	J
Mathematics	60	40	70	90	65	37	82	44	75
Physics	57	80	50	20	72	92	35	80	43

The academic's committee is interested in knowing the performance of students in mathematics has an impact on their performance in Physics.

Task;

- a) Using a scatter diagram, advice the academics committee on the relationship between the candidate's performance in mathematics and physics.
- b) By drawing a line of best on a scatter diagram, use it to estimate for the committee the;
 - i) Scores of a student in physics who scored 52 in mathematics.
 - ii) Score of a student in mathematics who is likely to score 62 in physics.

Item 4

Four traders, Akello, Baine, Cherop and Damba, bought commodities from a wholesale store as shown below;

Akello bought **1** bag of Posho, **2** bags of millet flour, **5** bags of potatoes and **2** bags of rice.

Baine bought **3** bags of potatoes, **5** bags of Posho and **4** bags of rice.

Cherop bought **4** bags of Posho and **8** bags of rice.

Damba bought **2** bags of posho, **4** bags of millet flour, **3** bags of rice and **3** bags of rice.

The cost per bag of the commodities was; Posho at Shs. **100,000**, millet flour at Shs. **60,000**, Potatoes at Shs. **75,000** and rice at Shs. **150,000**. The wholesale manager wants to organise the

information in rows and columns to find how much each trader spent on the commodities but she needs your help.

The traders sold all the items and got the following amounts; Akello got Shs. **1,145,000**, Baine got Shs. **1,725,000**, Cherop got Shs **2,200,000** and Damba got Shs. **1,455,000**.

Task

- a) Organise the information in rows and columns stating clearly their orders.
- b) Using the organised information, determine the;
 - i) amount received in total by the wholesale store from the traders.
 - ii) profits made by each trader.

Item 5

Your school has qualified for the Fresh Dairy games to take place in Soroti this year. However, as a requirement, all participating schools are required to submit the average weight of all the participants. Below are the weights in kgs of the students in the team.

83	83	85	88	89	91	94	60	47	37
72	74	74	74	75	77	81	94	62	48
64	65	65	67	68	69	81	70	67	63
52	54	54	56	57	59	60	69	81	71
38	39	40	40	43	45	46	47	94	83
24	30	31	31	32	33	34	34	35	97

Only students with a weight above 87 kg will qualify to participate in Javelin.

Task;

Determine;

- a) the weight your school will submit as a participating school
- b) the number of students who will represent your school in Javelin.

END.