

MVARA SECONDARY SCHOOL
Uganda Lower Secondary Certificate of Education
END OF YEAR ASSESSMENT 2024
SENIOR ONE
MATHEMATICS
2 HOURS

Instruction

Respond to all the items

Item 1

John is supposed to pay UGX 4,500,000 per year at the University. This amount is divided in the ratio 4:3:3 for his fees, accommodation and meals respectively. He is supposed to pay 60% of the fees in the first instalment. Pay a third of the remainder of the fees in the second instalment and the rest of the fees in the third instalment.

John is supposed to get money for fee from the mobile money agent using four-digit code. For safety reasons, his father gave him the code written as 234 in base ten and John has to convert this code to base six to get the actual code.

TASK.

- (a) How much will John pay for fees in the last instalment?
- (b) How much money will John pay for Accommodation?
- (c) Help John to determine the code for withdrawing money from the Mobile Agent.

Item 2

Your family wants to design a children's playground and a garden. The playground will have a triangular garden and a circular fence around the garden. The two sides of the triangular garden will measure 50m and 70m and the angle between them will be 45° . Your brother also wants to construct a circular fence around the garden such that the circular fence perfectly touches the three vertices of the triangular garden.

Your sister had a triangular board measuring 60m and 48m and the angle between these sides is 60° . She is not sure whether the largest circular tray (inscribed circle) she can cut out of the triangular board.

Task:

- a) Construct an accurate design of the children's playground.
- b) Help your sister to come up with the circular tray and determine the area of the inscribed circle.

Item 3

You decided to have a Joint party with your family members which will cost a total of Uganda shillings four million. You are nearing a D-Day and you want to find out whether you have enough required amount of money or not. And below are the contributions;

- i. Your parents promised to contribute 30% of the money.
- ii. Your friends promised 10% more than that your parents promised.
- iii. And since you are the owner of the party, you contributed 20% of the required amount.

When you went for shopping, you saw a river with banks running due north. a woman stands on one bank and observes that the bearing of a tree on the other bank is 325° . After walking for 130m due north along the bank, she finds the bearing of the same tree to be 220° . And you borrowed UGX 1500000 to cater for the bills of the next party from the bank that charges 10% interest per annum expecting to pay back UGX 2000000.

Task As a s1 learner,

- (a) Help the woman to find the breadth of the river.
- (b) At what time will you pay back the money.
- (c) Do you have the required amount for the party? Justify.
- (d) What advice can you give to the party organizing committee?

THE END

