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MATHEMATICS
Paper 1
2024
2 hours:15 Mins

Uganda Certificate of Education

MATHEMATICS
Paper 1

2 HOURS: 15 MINUTES

INSTRUCTIONS TO CANDIDATES:

➢ This paper consists of two sections; A and B. It has **six** examination items.

➢ Section A has two compulsory items.

➢ Section B has two parts; I and II. Answer one item from each part. Answer four examination items in all.

➢ Any additional item(s) answered will not be scored.

➢ All answers **must** be written in the Answer booklet(s) provided.

SECTION A
Answer **all** items in this section.

Item 1
Five girls whose homes when marked on a grid make a trapezium, wanted to buy clothes. They realized that if they buy them in a bunch, it will be cheaper. So they mobilized themselves and each person contributed as follows:

Girl 1: Contributed one hundred thirty-three thousand two hundred fifty shillings.
Girl 2: Contributed 20% more than that of girl 1
Girl 3: Contributed 11 2 of the amount girl 1 contributed.
 Girl 4: Contributed a fraction that is 1 5 less than the fraction of girl 3 of the amount of girl 1
Girl 5: She contributed the balance required to make the Shs.800, 000 required.

TASK:
a) Locate the homes of the girls on a grid while labeling their coordinates.

 b) What amount did each girl contribute?

c) In which other way could they contribute the amount required fairly and according to that way, how much would each contribute?

Item 2
You have a piece of wood that is 12cm in length and 12cm in width. You to use it to make a simple money bank that is in shape of a cube and you use it to save your coins. You want to make it in such a way that to remove your money, you don't break it but rather you unfold it and then fold it back. You plan to start making it on 27th November 2023 and you want it to be done in one week!

TASK
a) Accurately illustrate how many pieces of wood you would cut out of the piece of wood you have for your money bank clearly showing their width and length.

b) Show how you will arrange them on the floor such that when you start folding them, they form the shape you want.

c) What space will your money bank occupy?

d) On which date will your money bank be ready for use?

SECTION B
Part I
Answer **one** item from this part.

Item 3

You are a store's manager in your school bakery project. You missed two days of school due to an emergence. On returning, you found out that the total wheat used in the two the two days was 24 packets. You want to find out the exact amount of wheat used on those two respective days but the student who was getting the wheat from the store didn't attend school! So, you went to those in the production department and they told you that all they know is that the packets of wheat used they on day two multiplied that of day one by the same number.

TASK

a) Use the information you have gathered at the moment, to find out the amount of wheat used on day one and day two respectively.

b) The number of new students who enroll in the school each term is about 40. If currently you're in term three and the number of students, are 500. How many students will the school have by term three of the following year?

Item 4

You are going to host some friends for a movie night. You have four options you can choose from: **C= comedy, A= animation, M= musical, R= romance**. You decided to ask them which one they would love to watch so that you choose one that is preferred by most of them. Below where their preferences:

C A A R R M M C M
R C R R M A A R M
A A R A R R R.

TASK:
a) Summarize your data.
b) Represent your data.
c) Which movie will you choose to show your friends?

Part II
Answer **one** item from this part.

ITEM 5
At school you are requested to use a piece of wood to create a rectangular photo frame with a circular space in it where the photo will be put. Your parents have no money to buy you a new piece of wood but you have a piece of wood that is in shape of a parallelogram. Two of its angles are made up of an obtuse angle and two of them are made up of an acute angle. One of the sides is 6cm and the other 4cm.

TASK:
Illustrate accurately how you will cut the piece of wood you have to create what the teacher assigned you to do clearly showing and labelling the:

a) Obtuse and acute angles of the piece of wood you have.

b) The length and width of the rectangular piece of wood you will be able to cut out of the wood.

c) The circular space.

Item 6
Your facilitator gathered information on the ages of some few learners in the school from different classes. Below are his records:

14	15	16	17	18	21	18	17	15	16	21
21	17	14	18	15	17	17	15	16	21	18
18	21	17	15	14	21	16	17	16	21	16
15	16	21	17	18	16	17	21	18	15	17

TASK:
a) In which other way can the facilitator record the information above such that even another person looking at it can easily tell the number of learners in each age group?
b) Illustrate your suggestion in (a) above.
c) State which age are the majority of the learners in the school.
d) Your facilitator wants to sell either cartoon stickers or stickers for different singers in the school. According to the above records, which stickers do you think will be suitable?

END