S.4 MATHEMATICS

TIME: 2 HOURS 30 MINS

INSTRUCTIONS; ATTEMPT ANY 4 QUESTIONS

1. a) Juma owns a doughnut making business. In his business, an employee is paid UGX 3000 per day and rent is UGX 6000 per day. If he requires UGX 200 to make a doughnut. How many doughnuts does he have to produce to make a profit. If each doughnut is sold at UGX 500? Justify your answer. (5 Marks)

   b) Three business partner Bella, Joan and Trinity contributed UGX 112,000, UGX 128,000 and UGX 210,000 respectively to start business. They agreed to share their profits as follows.

   30% to be shared equally

   30% to be shared in the ratio of their contributions.

   40% to be retained for running the business.

   If at the end of the year the business realized a profit of UGX 1.35 million. How much money was retained for the running of the business at the end of the year.

   What do you think is the difference between the amounts received by trinity and Bella express Joan's share as a percentage of total amount shared between the three partners. (15 marks)

2. Mr. Waguwenda would wish to design his bedroom ceiling inform of an equilateral triangle enclosed in a circular shaped polygon. If each side of a triangle is 6m. As a senior three student, help him design a plan for the ceiling.

   If he would wish to paint the triangle with a cream colour and each tin of paint costs shs 15,000. How much do you think would be spent on paint if each tin of paint Paints 1m² area. (20 marks)

3. In senior three class, mathematics performance is changing rapidly in different continuous assessment examinations and majority of mathematics teachers and academic administrators in the school do agree that these changes partly are caused by students. The recent marks from beginning of term are grouped as below

60 – 64	=	3
65 – 69	=	3
70 – 74	=	7
75 – 79	=	10
80 – 84	=	5
85 – 89	=	2

The school administration has organized a talk show with students of senior three about mathematics performance but they don't have clear statistical evidence about the general performance of the class. I.e. they need information about <u>average mark</u>, <u>the middle mark</u> and the <u>most appearing mark</u>.

You have been chosen as one of the speakers on this talk show about mathematics using the above data, prepare a written speech showing clearly the statistical information needed by school administration. (20 marks)

A Gagga bus left Kampala at 8:00 am and travelled towards Kasese at an average speed of 80km/hr. at 8:30 am. A link bus left Kasese towards Kampala at an average speed of 20km per hour. Given that the distance between Kampala and Kasese is 400km.

a) What do you think was the arrival time of link bus to Kampala, justify?
b) As a senior three student what do you think is the meeting time and distance from Kampala.
c) How far the Gagga bus is from Kasese when the link bus arrives in Kampala. Using (2cm: 50 km and 2cm: 1 hour) (20 marks)

END