KUHS: FORM TWO END OF TERM ONE EXAM 2010

MATHEMATICS

TIME

ANSWER ALL QUESTIONS 100 MARKS)

1. Evaluate (3 marks)
2. Remove the brackets and simplify (2 marks)
3. A cylindrical water tank is three-quarter full of water. If the diameter of the tank is 2.8m and a height of 4.8m, calculate their surface area in contact with water.(3 marks)
4. In the figure below AB is parallel to CD

Find the values of angle P and q (2 marks)

1. Use logarithms to evaluate (5 marks)
2. Simplify (3 marks)

7 In the figure below triangle ABE is similar to triangle ACD

Calculate the length of BE (3 marks)

1. The points (-3,2) , 0,2) and (4,K0 lie on the same line. Find the value of K. (3 marks)

9.Solve the simultaneous equations below using ELIMINA TION method (4 marks)

10 Solve the equation (# marks)

11. In the figure below A’B’C’D’ is the image of ABCD after a rotation. By construction determine the angle of rotation. (4 marks)

12. Use reciprocal tables to find the value of and hence evaluate (3 marks)

13 A trader bought some computers form Dubai at a price of US dollar 4500. At what price must he sell them in Kenya if he paid import duty of Ksh 9600 and want to make 20% profit. (I US dollar = 8290) (3 m arks)

14. (a) (-2,4) in the image of A (4,4). What is the equation of the mirror line. (2 marks)

(b) P (2,5) is reflected in y = x to P’ which is further reflected in x = 0 to P2. What are coordinates of P2? (3 marks)

15.

The figure above shows outline PQR. Find

1. Gradient of the line (1 mark)
2. The coordinates of Q (1 mark)
3. Reflect ABCD in the line y=O. write down the image coordinates of OABCD. (4 marks)

16. If log 547 = d2.738. write down the values of:

(a) log 0.0547 (2 marks)

(b) log 0.547 (2 marks)

(c) Log 5.47 (2 marks)

17. Plots points A(0,5), B(3,9), C (3,4) and D (0,0) on the graph paper provided. (2 marks)

(i) What type of figure is ABCD? (1 mark)

(ii) Write down the equations of two lines of symmetry. (4 marks)  
(III) reflect ABCD in the line y = 0. Write down the image coordinates of OABCD. (4 marks)

18. (a) Two similar cones have their heights in the ratio 3:2. Find

(i) the ratio of their surface areas (2 marks)

(ii) the ratio of their volumes (2 marks)

1. If the smaller has a volume of 1,300cm what is the volume of the larger cone. (2 marks)

(b) A room is in the shape of a cuboid shown below.

Find the distance from a corner of the floor Q to the opposite corner of the ceiling W> (4 marks)

19. In the year 2001, the price of a sofa set in a shop sh 1200.

(a) Calculate the amount of money received from the sales of 240 sofa sets that year. (2 marks)

(b) (i) in the year 2002 the price of each sofa set increased by 10%. Calculate the percentage increase in the amount received from the sales. (3 marks)

(ii) If at the end of year 2002, the price of each sofa set changed in the ratio 16:15 calculate the price of each sofa set in the year 2003. (2 marks)

(iii) If in the year 2003 only 200 sofa sets were sold how much money was realized? (1 mark)

20. Line BC below is a side of a parallelogram ABCD. Angle ABC = 120 and AB = 6cm. using a ruler and a pair of compasses only. Construct the parallelogram. (3 marks)