AMREF INTERNATIONAL TRAINING CENTER

Qualification Code   :

Qualification   :   **LEVEL 6**

Unit Code   :

Unit of Competency   : **Demonstrate Numeracy skills**

WRITTEN ASSESSMENT

TIME: 3 HOURS

INSTRUCTIONS TO CANDIDATE

1. Marks for each question are indicated in the brackets.

2. The paper consists of **TWO** sections: A and B.

3. Candidates are provided with a separate answer booklet

4. **DO NOT** write on this question paper.

This paper consists of FOUR (4) printed pages

Candidates should check the question paper to ascertain that all

pages are printed as indicated and that no questions are missing.

SECTION A (40 MARKS)

Answer ALL the questions in this section.

1. A straight line passes through point (1,5) and is perpendicular to the line 8y+4x-3=0. Find the equation of the line.

    (4mks)

2. Evaluate $\frac{-12\div(-3)\times4-(-20)}{-6\times6\div+(-6)}$ (4mks)

3. The area of a rectangular garden is 1384.74 m^2. If its length is 44.1m, find its width   (4mks)

4. Solve the unknown equation $\frac{3y}{2} - \frac{14y-3}{5} = \frac{y-1}{4}$ (4mks)

5. A ship P is due south of the lighthouse L. A ship Q is 4.8km due East of L. The bearing of Q from P is 030^0. P sails directly towards Q. Find the distance of P from L when its bearing from L is 110^0 (4mks)

6. The mass in kilograms of 9 sheep in a pen were 13, 8, 16, 17, 19, 20, 15, 14 and 11. Determine the quartile deviation of the data   (4mks)

7. Three people Brian, Ian and Ryan contributed to a fund. Brian provided two-fifths of the total, Ian gave one-thirds of the remainder and Ryan provided Ksh. 8000. Determine the total amount contributed to the fund.

    (4mks)

8. A washing basin is in shape of a hemisphere and has a capacity of 19.404 liters. Calculate its radius in centimeters. (take π=22/7)   (4mks)

9. Simplify the expression: $\frac{9t^2-25a^2}{6t^2+19at+15a^2}$ (4mks)

10. A picnic site is in form of a triangle ABC such that A and B are 120m apart, angle CAB=40^0. Determine its total area in hectares correct to 2 decimal places.   (4mks)

SECTION B (60 MARKS)

Answer Any THREE Questions in This Section

11.   a) A solid is made up by joining a cone of radius 14cm to a cylinder of the same radius. The slant height of the cone is 25 cm and the height of the cylindrical part is 28 cm. Determine the volume of the solid in litres correct to 4 decimal places.   (10mks)

       b) A segment is bounded by a chord of length 14 cm and an arc of radius 25 cm. Find:

          i)   It`s area   (5mks)

          ii)   Perimeter of the segment   (5mks)

12. Using a ruler and a pair of compasses only, draw a parallelogram ABCD, such that angle DAB = 75^0. Length AB = 6.0cm and BC = 4.0cm.From point D, drop a perpendicular to meet line AB at N.   (12mks)

       a) Measure length DN

       b) Find the area of the parallelogram   (4mks)

                                                           (4mks)

13. A cyclist travels his first part of the journey at 25km/hr, and the remaining 70km of the journey at 20km/hr. if the whole journey took 5 hours , find the:

          i)   Distance travelled at first part

          ii)   Average speed of the journey   (10mks)

Three rangers Kamau, Peter and John were in patrol to lay an ambush for poachers. Peter was positioned 50km on a bearing of 043^0 from Kamau , while John was placed on a bearing of 160^0 from Peter and 133^0 from Kamau. Sketch their position and determine the area of patrol to the nearest km^2 (10mks)

14. The table shows marks obtained by 220 students at a Technical College in Mathematics examination.

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Frequency	9	25	32	40	x	30	28	12

                                                                       (2mks)

       a) Determine the value of x

b) Calculate the mode   (4mks)

c) Calculate the median mark   (4mks)

d) Calculate the mean mark   (4mks)

e) Calculate the standard deviation   (6mks)