**FORM 0NE**

**MATHEMATICS-**

**JULY/AUGUST 2015**

**TIME: 2 ⅟2 HOURS**

***NAME………………………………………..CLASSS……………… …..ADM NO…………***

**INSTRUCTIONS TO CANDIDATES**

1. *This paper contains two sections; section one and section two.*
2. *Answer all the questions in section 1 and any five in section 2*
3. *Show clearly all the working in the spaces provided. Marks may be provided for correct working even if the answer is wrong*

**SECTION I (5OMARKS)**

1. a) Evaluate without tables:

-6×9+7 – 12÷3-5 (3mks)

42÷2-8×2+9

1. Given the number 2345, find the product of total value of 4 and 5 (2mk)
2. The G.C.D of three numbers is 30and their LCM IS 900.Two of the numbers are 60and 150.What are the other possible numbers (3mks)
3. Juma spent ¼ of his salary on school fees, 1/4 of the remainder 0n farming. He then spent 1/9 of what was left on food. Finally he was left with sh.3400.What was his net salary.

(4mks)

1. Convert into recurring decimal (2mks)

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3.256

1. Three brothers Omolo, Odhiambo and are to share sh. 12,000 in the ratio 5:6:x respectively. If Omolo received sh. 4000.Determine the value of x. (3mks)
2. The area of a square plot of land is 38.44km2.
3. calculate the length in meters ( express your answer in standard form) (2mks)
4. calculate its perimeter in meters (1mks)

7. Simplify the expression

 a) 1 + a + b2 + 1 (3mks)

a2 b c a b2c abc2

8. Simplify:

ax-ay+bx-by (3mks)

a+b

9. The length of a rectangle is increased by 25% while the width is reduced by 10%.Determine the percentage increase or decrease in the area of the rectangle (3mks)

1. If a:b=3:4 and b:c =5:7,find a:c (3mks)
2. 45men can construct a road 210m long in 60 days. What length of road would be constructed by 72men on 50 days, assuming all the work will be done at the same rate ( 3mks)
3. On a certain day,. The temperature at the top of a mountain was -11.50c. Another point on the low lands, had a temperature of 230 c. what is the difference between the two temperatures..

 (2mks)

1. Evaluate using mathematical table giving your answer correct to 3significant figures.(3marks)

0.00374 + 0.50342

1. In the figure below, find its perimeter giving your answer to 3 decimal places (4mks)

 6.3cm 4.9cm

 A B C

1. Three bells ring at intervals of 9 minutes, 15 minutes and 27 minutes. The bells will next ring together at 11.00 am, find the time the bells had last rang together. (3marks)
2. A piece of wire is in the form of an arc of a circle radius 12.5cm. The angle at the centre is 1500.
3. Calculate the length of the wire. (2mks)
4. If the wire is bent to form a complete circle, find its radius. (1mark)

**SECTION II (50 MARKS)**

***Answer only five questions in this section in the spaces provided.***

**17**. a)Evaluate1/2 3/5 +1/4(7/3 - 3/7) of 11/2÷5 (4mks)

b) Classroom floor is made of small square tiles of side 1/20m.If the floor measures 6m by 5m, how many such square tiles are needed to cover the floor (3mks)

1. Three cisterns in public lavatory are designed to flash at intervals of 8,13 and 15sec.After how many minutes will they flash together (3mks)
2. .A man bought 10 oranges at sh.9 each. He ate four of the oranges and sold the remaining making a total profit of sh 8.00.Calculate
3. his selling price per orange (3mks)
4. the percentage profit on each orange (3mks)

c) evaluate : 0 .032+ 0.608 (4mks)

 0.0016×0.25

1. The walls and ceiling of a dining room measuring 5.4m long, 4.8m wide and 3.6m high are to be covered with wall paper in rolls each covering6.5 square meters.12% is allowed for overlapping and 8.6 square meters for all the openings in the walls. Each roll is quoted at sh150 and labor costs are 20% of the cost of the paper.
2. Find the number of rolls needed to cover the walls and the ceiling(Give your answer to the nearest integer) (5mks)
3. Find the total cost of wallpapering the room (5mks)

20. Use tables to calculate:a) (4mks)

 0.4985

 42.122 +1.4612

b)(i)Simplify: (3mks)

 4xy-3x+8y2-6y

 X+2y

(b)(ii)Hence use the answer in (b) above to evaluate its value if y=\_2 and X= 1 (3mks)

21.a) Without using mathematical tables, evaluate (3mks)

 41.58 × 4.095

* 1. ×20.79

b)In form one class the ratio of boys to girls is 3:4.the mean mass of the girls is 35kg and the mean mass of the whole class is 38kg.Given that there are 42 students in the Class. Calculate the mean mass of the boys. (3mks)

1. Given the ratio a: b=3:4, find the ratio (6a-b) :( 3a+3b) (4mks)

22. A rectangular floor whichis three times as long as it is wide has the same perimeter as another square floor of area 64m2.

a) What is the length of the rectangular floor (3mks)

1. Calculate the maximum number of square tilesused on the floor if each tile measures 20cm×30cm (3mks)
2. Calculate the cost repairing the floor if each tile costs sh.50 (4mks)

23. a) The denominator of a fraction is 4 more than the numerator. If the denominator and the numerator are each increased by1, the new fraction is equal to ½ .Find the fraction. (3mks)

1. A rectangular field measures 308m×228m.Fence posts are placed along its sides at equal distances apart. If the posts are as far apart aspossible, what is the distance between them? (3mks)
2. The sum of the ages of three brothers Kamau, Juma and Okoth is 65 years.Juma is twice as old as Okoth and one and a half times as old as kamau.Determine their ages.

(4mks)

24. a) when coffee beans are dried to become mbuni,the mass decreases in the ratio 5:13.Find the mass of green coffee beans which must be dried to give 650kg of mbuni (2mks)

1. Starting from noon, the minute hand of a clock moved so that the clock is showing 21 minutes past noon.
2. Find he angle through which the minute hand has moved (2mks)
3. Given that the minute hand is 8cm long,calculate the length of the arc it describes in that time (3mks)
4. Simplify the expression (3mks)

 (3x+y) 2 –(y-3x) 2

 (X+y)-(y-x) 2