**NAME: ……………………………………………ADM.NO.…………….STREAM…………**

**MATHEMATICS FORM TWO**

**END TERM EXAM – TERM TWO 2015.**

* **Answer all questions in the spaces provided.**

**SECTION A - (30 MARKS)**

1. Evaluate:

$\frac{-12 ÷\left(-3\right) x 4-(-20)}{-6 x 6 ÷3+(-6)}$ (3 marks)

1. Using mathematical tables, solve:- (4 marks)

$\sqrt[4]{\frac{4.562 x 0.038}{0.82}}$

1. Three bells ring at intervals of 9 minutes, 15 minutes and 21 minutes. The bells will next ring together at 11.00 p.m. Find the time the bells had last rang together.

(3 marks)

1. Solve the equation. (2 marks)

$$9^{x+1}+ 3^{2x+1}= 36$$

1. Solve the quadratic equation:- (2 marks)
2. $ 14x^{2}- 16x+2=0$
3. Solve the equation:-

 $\frac{16 m^{2}- 9 n^{2}}{4m^{2}- mn-3 n^{2} }$ (3 marks)

1. A fruiterer bought 144 pineapples at Sh.100 for every 6 pineapples. She sold some of them at Sh.72 for every three and the rest at Sh.60 for every two. If she made a 65% profit, calculate the number of pineapple sold at Sh.72 for every three.

 (3 marks)

1. A shirt whose marked price is Sh. 800 is sold to a customer after allowing him a discount of 13%. If the trader makes a profit of 20%. Find how much the trader paid for the shirt. (3 marks)
2. The area of the shaded region in figure below shows the area swept out on a flat windscreen by a wiper. Calculate the area of this region. (4 marks)
3. A soft drink company makes a giant model bottle 2 m long as the factory symbol. If the real bottle from the factory is 20 cm long and has a volume of 300 cm3, find the volume of the model in cm3. (3 marks)

**SECTION B: (40 MARKS)**

1. The figure below shows circles of radii 8 cm and 6 cm with centres 01 and 02 respectively. The circles intersect at point A and B. The lines 01, 02 and AB are perpendicular to each other. If the common cord AB is 9 cm, calculate the area of the shaded region. (10 marks)
2. The figure represents a frustrum of base radius 2 cm and height 3.6 cm. if the height of the cone from which it was cut was 6 cm, calculate:-
3. The radius of the top surface. (2 marks)
4. Area of frustrum. (4 marks)
5. Volume of frustrum. (4 marks)
6. Two business partners Amina and Halima contributed Sh.112,000 and Sh.128,000 respectively to start an business. They agree 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 the running of the business.

If their total profit for the year 1989 was Sh.86,400; calculate:-

1. The amount received by each partner. (6 marks)
2. The amount retained for running the business. (2 marks)

(b) Five people can build 3 huts in 21 days. Find the number of people working at

 the same rate that will build 6 similar huts in 15 days. (2 marks)

1. A sales woman is paid a commission of 2% on goods worth over Ksh.100,000. She is also paid a monthly salary of Ksh.12,000 in a certain month; she sold 360 hand bags at Ksh.500 each.
2. Calculate the sales woman’s earning that month. (3 marks)
3. The following month, the sales woman’s monthly salary was increased by 10%. Her total earnings that month were Ksh.17,600.

Calculate:-

1. The total amount of money received from the sales of handbags that month.

 (5 marks)

1. The number of hand bags sold that month. (2 marks)