**Name: ………………………………………………….Class: ……..….......................................**

**Date: ………………………………… Adm No: ……………………………………..........**

**OPENER EXAMS**

**TERM 3 2023**

**FORM ONE MATHEMATICS**

**Answer all questions**

1. Evaluate without using a calculator $540396-726450÷3$ (3 marks)
2. Evaluate $\frac{-2\left(8\right)+3\left(-3\right)÷3+5}{-3×5+(-2)×(-4)}$ (3 marks)
3. Evaluate without using mathematical tables of a calculator,

$\frac{0.0084 ×1.23×3.5}{2.87×0.056}$ expressing your answer as a single fraction. (3 marks)

1. Simplify the expression (3 marks)

5a – 4b – 2 [a- (2b + c)]

1. A dress maker had a ribbon which he intended to cut into equal lengths of either 28 cm,16 cm or 40 cm. determine:
2. The shortest length of the ribbon that he would cut into exact number of pieces (2 marks)
3. The number of 16 cm pieces that can be obtained from the ribbon (1 mark)
4. A tourist arrived in Kenya with sterling pound (£) 4680 all of which he exchanged into Kenyan money. He spent Ksh.51790 while in Kenya and converted the rest of the money into US dollars. Calculate the amount he received in US dollars. The. Exchange rates were as follows. (3marks)

 **Buying Selling**

 US dollars $ 98.20 100.00

 Sterling pounds £ 125.00 131.80

1. Solve the simultaneous equations below using substitution (3 marks)

$$2x+3y=8$$

$$5x-y=3$$

1. Use the table of squares and square roots to evaluate:

$\sqrt{0.00125}+134^{2} $correct to 2 decimal places (3 marks)

1. Simplify completely by factorization. (3marks)

$\frac{ax+bx-ya-yb}{ma+mb-na-nb}$

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1. The size of each interior angle of a regular polygon is$ 156^{0}$. Calculate:
2. The number of sides of the polygon (2 marks)
3. The sum of interior angles of the polygon (2 marks)
4. By selling a suit at sh. 10 500, a businessman makes a profit of 5%. How much would he have to sell the suit to make a loss of 2%? (3 marks)
5. A cylindrical piece of metal has a diameter of 28 cm and height 10cm. The metal has a mass of 18480g. Calculate the density of the metal in kg/m3. (4mks)

1. Evaluate without using a calculator $\frac{2\frac{1}{4}+\frac{3}{5}÷\frac{5}{6}of 2\frac{2}{5}}{1\frac{7}{10}}$ (3 marks)
2. A company saleslady sold goods worth sh. 1,600,000. From this sale she earned a commission of sh. 40,000.
3. Calculate the rate of Commission. (2 mark)
4. If she sold goods whose marked price was sh. 3 600,000 and allowed a discount of 2%, calculate the amount of commission she received. (3marks)
5. The area of a sector of a circle of diameter 126 cm is 4158 cm2. Calculate the angle subtended at the centre of the circle. (Take pie =$\frac{22}{7}$) (4 marks)