MATHEMATICS PAPER 1 - 2019 KCSE CEKENA MOCK EXAMINATION (QUESTIONS AND ANSWERS)

SECTION 1 (50 Marks)

Answer all Questions from this Section

1. Evaluate [3 Marks]

$$\frac{\sqrt{\frac{1}{4}}\ of\ 3\frac{1}{2}+\frac{3}{2}(\frac{5}{2}-\frac{2}{3})}{\frac{3}{4}of\ 2\frac{1}{2}\div\frac{1}{4}}$$

2. Owino spends $^1/_4$ his salary on school fees. He spends $^2/_3$ of the remainder on food and a fifth of what is left on transport. He saves the balance. In certain month he saved Sh. 3400. What was his salary? (3 marks)

3. Simplify: 3mks

$$\frac{2y^2-3xy-2x^2}{4y^2-x^2}$$

4. Find the integral values of x that satisfy the inequalities below [3 Marks]
   $3x+1\leq 4+7x\leq 3x+11$

5. A salesman gets a commission of 2.4% on sales up to Sh. 100,000. He gets additional commission of 1.5% on sales above this. Calculate the commission he gets for sales worth Sh. 280,000. (3 Marks)

6. A minor arc of a circle subtends an angle of 105^0 at the centre of the circle. If the radius of the circle is 8.4cm, find the length of the major arc (take $\pi=^{22}/_7$) (3mks)

7. Given that the matrix is singular find the value of (35x+2x) [3Marks]

8. State the amplitude, period and the phase angle of the curve y=2 sin sin ($^3/_2$x-30^0) [3 marks]

9. Without using logarithm table or calculator evaluate [4marks]

$$\frac{64^{-1/2}\times 27000^{2/3}}{2^{-4}\times 3^0\times\ 5^2}$$

10. A tourist arrived in the country with Us $ 2000 which he changed in Kenya shillings. He spent Kshs. 75,000 on hotel accommodation and Kshs. 40,000 on travel and other expenses. He changed the remaining money into sterling pounds. If he did all his transactions based on the bank rate shown below. How many £ did he remain with? Give your answer correct to 2 d.p. [3 Marks]

	US$	£
Buying (Kshs)	78.45	112.27

MARKING SCHEME

1.	Numerator *12×72+32×1162* *74+114=184* M1 Denominator *34×52÷14* *158×41=152* M2 *184÷152* *184×215=35* A1
2.	Food = *12* Trans = *120* Rem = *14* Fraction of saving = 1 – (*12* + *120* + *14*) = 1 - *1620* = *420* Salary = 3400 x *204* = KSh. 17000
3.	*y-2x(2y+x)2y-x(2y+x)* *y-2x2y-x*
4.	*3x+1≤4+7x* *1-4≤7x-3x* *-3≤4x* *-0.75≤x* M1 *4+7x≤3x+11* M2 *4x≤7* *x≤74=x≤1.75* *-0.75≤x≤1.75* *0,1* A1
5.	Trade B.P = 84 x 100 102 = 70 b) Cost of manufacturers = 70 x 100 = 50 140
6.	