

MATHEMATICS PAPER 2 - 2019 KCSE STAREHE MOCK EXAMS (QUESTIONS AND ANSWERS)

INSTRUCTIONS TO CANDIDATES

- The paper contains TWO sections: Section I and Section II.
- Answer ALL the questions in section I and **strictly any five** questions from Section II.
- All answers and working must be written on the question paper in the spaces provided below each question.
- Show all the steps in your calculations, giving your answers at each stage in the spaces below each question.
- Marks may be given for correct working even if the answer is wrong.
- Non-programmable silent electronic calculators and KNEC mathematical tables may be used, except where stated otherwise.

SECTION I (50 Marks)

Answer all questions in this section

1. Use logarithms to evaluate; (4 marks)

$$\left(\frac{6.79 \times 0.3911}{\log 5} \right)^{\frac{3}{4}}$$

2. The equation of a line is $-\frac{3}{5}x + 3y = 6$. Find the
 a. Gradient of the line. (1 mark)
 b. Equation of a line passing through point and perpendicular to the given line. (3 marks)
3. 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)
4. Simplify (2 marks)

$$\frac{\sqrt{11}}{\sqrt{11} - \sqrt{7}}$$

5. The length and width of a rectangular signboard are $(3x + 12)$ and $(x - 4)$ respectively. If the diagonal of the signboard is 200 cm, determine its area. (4 marks)
6. Find the value of given that; $\log(x - 1) + 2 = \log(3x + 2) + \log 25$ (3 marks)
7. Use the expansion of $(x - y)^5$ to evaluate correct to $(9.8)^5$ 4 d.p. (3 marks)
8. Evaluate (3 marks)

$$\int_2^4 (x^2 + 2x - 15) dx$$

9. Make y the subject of formula: (3 marks)

MARKING SCHEME

No	WORKING	Marks
1.	$\begin{array}{r} \text{No} \quad \text{Log} \\ 6.79 \quad 0.8319 \\ 0.3911 \quad \bar{1}.5923 + \\ \text{Log } 5 \quad (0.6990) \quad 0.4242 \\ \bar{1}.8445 - \\ 0.5797 \times \frac{3}{4} \\ 2.721 \times 10^0 \quad 0.4348 \end{array}$ <p style="text-align: right;">□</p> $= 2.721$	M1 logs M1 addition and subtraction M1 A1
2.	$3y = \frac{3}{5}x + 6$ $y = \frac{1}{5}x + 2$ <p>a. Gradient = $\frac{1}{5}$</p> <p>b. Gradient of perpendicular line = -5</p> $\frac{y - 2}{x - 1} = -5$ $y - 2 = -5x + 5$ $y = -5x + 7$	B1 M1 M1 A1
3.	Marked price = Sh. 800 Sold at 12% discount $\frac{88}{100} \times 800 = sh. 704$ $\frac{120}{100}y = 704$ $\Rightarrow y = \frac{70400}{120}$ Trader paid = sh. 586.60	M1 M1 A1