LUGARI DISTRICT JOINT END OF YEAR EXAMINATIONS
FORM 1 MATHEMATICS
TIME: 2 ½ HOURS

INSTRUCTIONS
❖ Write your name, school class and admission number in the spaces provided
❖ This paper contains TWO section Section I and II
❖ Answer all the questions in section I and and in SectionII
❖ All answers and working must be written on the question paper in the spaces provided below each question
❖ Show all steps in your calculations going your answers at each stage in the spaces below each question
❖ Marks may be given for correct working
❖ KNEC mathematical tables may be used except where stated otherwise

For Examiner’s Use Only

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<th>Question</th>
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SECTION 1 (50 MARKS)

Answer All the question

1. Evaluate $(-5 + -3) \times (-2 + 8) \div 4$ (2mks)

2. Write the following expression as a single fraction (3mks)

\[
\frac{x + 2y}{4} - \frac{2x - y}{5}
\]

3. Four business partners Munyao, Kinura Mulisis and Mango made a profit of shs, 5,600 in one month. They set aside 25% profit for running the business. They then shared the rest in the ratio 2:3:4:6 respectively. How much did Mango get? (3mks)

4. The size of an interior angle of a rectangular polygon is 1560. Find the number of sides of the polygon (3mks)

5. A farmer has three containers of capacity 12L, 15L and 21L. Calculate the capacity
   
a) the smallest container which can be filled by each one of them on an exact number of times (2mks)
b) The largest container which can fill each one of the on an exact number of times. (2mks)

6. A rectangular slab of glass measure 5cm by 3cm by 14cm and has a mass of 450g. Calculate the density of the glass in kg/m$^3$

7. The inside circumference of a circular sports track is 440m long. It the sport track is 10m wide. Find the cost of leveling the sports track at sh. 3.50 per square metre. (4mks)

8. The figure below is a trapezioum where CD is parallel to BE. Given that CD =4cm BD =5cm and AC = 12cm

Calculate the area of trapezium ABCDE (4mks)
9. Identify the numbers which are divisible by both 2 and 3 from the following list. 390, 441, 5210, 6732 and 7544 by giving reasons. (3mks)

10. Express 0.7 as a fraction. (2mks)

11. On a certain day, a student spends 1/4 of the time reading and 1/12 of the time eating. He spends 1/2 of the remaining time sleeping. What fraction of the day did he spend sleeping? (3mks)

12. Wanjala drives from town A to B starting at 2330 hours and he drives non-stop at 66 km/hr to reach town B at 0050 hours. Find how far B is from A. (3mks)

13. Nasimiyu and Atieno bought the same type of pens and exercise books from the same shop. Nasimiyu bought 2 pens and 3 exercise books for Kshs 78 and Atieno bought 3 pens and 4 exercise books for Kshs 108. Calculate the cost of each item. (3mks)

14. The table below shows exchange rates between the shillinga and the Japanese Yen. A Japanese tourist Mr. Chung exchanged 1,000,000 Yen into Kenyan shillings. At the end of his holiday he had
a quarter of the Kenyan back to the Japanese Yen. How many Japanese yen did he get. (4mks)

<table>
<thead>
<tr>
<th></th>
<th>Buying</th>
<th>Skilling</th>
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<tbody>
<tr>
<td>Japanese Yen</td>
<td>0.63</td>
<td>0.65</td>
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15. The figure below shows a sector of a circle of radius 3.5cm. Find the perimeter of the sector

16. a) Express 7056 as a product of its prime factors. (2mks)

b) Hence evaluate \( \sqrt{7056} \)

**SECTION B (50 MARKS)**

Answer all the question

17. a) Without using a protractor construct a triangle ABC in which AB = 4cm BC = 6.5cm and angle ABC = 105° Measure AC (5mks)
b) Draw the perpendicular bisector of lines AC and BC to meet at O. With O as centre Draw through A,B and C. Measure the radius of the circle. (5mks)

18. A coffee field has its measurements entered in a field book as shown below. Sketch the field Hence find the area in hectares of line of the field. Take V &= 400m as the base line

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<td>360</td>
<td>80 + 0Q</td>
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<tr>
<td>To R 80</td>
<td>280</td>
</tr>
<tr>
<td>To S 60</td>
<td>200</td>
</tr>
<tr>
<td>80</td>
<td>200 to P</td>
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<tr>
<td>V</td>
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19. a) Fill in the table below for the given equations (2mks)

\[
\begin{align*}
5x - 2y &= 4 \\
X &\quad -2 \quad 0 \quad 2 \\
Y &
\end{align*}
\]

\[
\begin{align*}
X + y &= 5 \\
X &\quad -2 \quad 0 \quad 2 \\
Y &
\end{align*}
\]

b) Using a scale of 1cm = 1 on the y axis and 2cm = 1 on the x axis. Plot the graph of \(5x - 2y = 4\) and \(x + y = 5\) on the same axis (5mks)
c) State the coordinates of their point of intersection

(1 mk)

d) Solve the simultaneous equation

\[
\begin{align*}
5x - 2y &= 4 \\
X + y &= -5
\end{align*}
\]

(2 mks)

19. In the figure below

\[
C = \frac{3d}{2}
\]

Find c and d

(3 mks)
b) In the figure below CF is parallel to CG. Given that angle DCG = 140°. Find angle x, y and Z giving reasons. 

\[ \text{Diagram of CF parallel to CG, angle DCG = 140°.} \]

(3 mks)

c) Take a number n, double it add five to the result. It results doubles agained the new number is 22. Find n. 

(4 mks)

21. Find the surface area of the figure below. 

(6 mks)
b) Find the volume of the figure (4mks)