2011/1
P1 - MATHEMATICS
PAPER 1
MOCK EXAMINATIONS
MARCH, 2019
TIME: 2^1/$_4$ HOURS

INSTRUCTIONS TO CANDIDATES:

- *The paper consists of TWO sections A and B.*
- *Answer ALL the questions in Section A.*
- *Answer any FIVE questions from Section B*
- *All working and answers MUST be written on the spaces provided below each question.*

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SECTION	QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1 - 20	60	
B	21	08	
	22	08	
	23	08	
	24	08	
	25	08	
	26	08	
TOTAL SCORE			

SECTION 'A' (60 MARKS)

Answer all the question in this Section

1) Convert 0.233……. into a fraction.   **2mks**
2) The product of 2 consecutive even numbers is 48 find the numbers.   **4mks**
3) When 129, 169 and 239 are each divided by the same number. The remainder are 3, 1 and 8 respectively. Find the greatest common divisor of the numbers.   **3mks**
4) Factorise the expression $2ab - 6a + 4b - 12$ and hence solve the equation   **4mks**
   $$2ab - 6a + 4b - 12 = 0.$$
5) A map is drawn to scale 1:2500000. Find the distance on the map between two towns which are 75km apart.   **3mks**
6) Using a pair of compasses and a ruler only construct a semicircle whose diameter AB is given below. Complete triangle ABC in the semicircle such that angle BAC = 30^0 and C is at the circumference. Construct a perpendicular from C to meet AB at D.   **4mks**
7) Solve the equation below
   $$8^x + 2^{3x} + 3 = 131$$ **2mks**

8) A man can do some work in 3 days. A woman can do the same work in 6 days. How many days would they take to complete the work if they work together? **3mks**

9) Find the difference between the 23rd term and 38th term in the sequence below.

        1,   3,   5,   7,   9,   11,   ……., ……… **3mks**

10) The area of a square plot is 529m^2. Find the perimeter of the plot. **3mks**

11) The sum of three consecutive even numbers is 144. Find the number. **3mks**

12) Solve for x and y in the simultaneous equations. **3mks**

$$2y + 3x = 13 \text{ and } 2x - 3y = 13.$$

13) The ratio of the number of boys to girls in a school is 5:4 and the ratio of girls to the books is 2:3. Find the ratio of boys to books. **3mks**

14) Solve the inequality. **4mks**

$$-2 + 3x < 4x \leq \frac{5x + 12}{2} \text{ and represent the solution on a number line}$$

15) A train left Nairobi at 8:00pm and arrived at Mombasa at 0530h. If the distance between the Nairobi and Mombasa is 570 km. Find the average speed for the journey. **2mks**

16) Solve the equation.

$$6x^2 + 5x - 6 = 0.$$ **3mks**

17) Simplify:- $\dfrac{2(-15 - {}^-37) + (18 + {}^-44)}{(-17 - {}^-19)(17 + {}^-9)}$ **3mks**

18) Find the value of $8^3/_4 - {}^2/_5$ of $3^3/_4 \div 1^1/_4$ **2mks**

19) A farmer had a total of 162 animals (cows and camels). If the ratio of cows to camels is 5:4. How many camels are left if 22 were sold? **2mks**

20) Abel bought a music system on a hire purchase terms by paying a deposit of sh.4500 and 18 equal monthly instalments of sh.1200 each. Joan bought a similar item and was allowed a 20% discount on the hire purchase price paying cash. How much more than Joan did Abel pay for the system. **4mks**

SECTION 'B' 40 MARKS
Answer any __FIVE__ questions from this section

21)
a) The width of a rectangle is 3cm shorter than the length. If the area of the rectangle is 40cm^2. Find the measurements of the rectangle. **6mks**

b) Evaluate: $\dfrac{3}{5}y + 4 > {}^3/_8 + \dfrac{1}{2}y$ **2mks**

22) In a feeding centre, there were 6 tonnes of Unga to feed 200 peoples for 30 days. After 10 days 40 people left the feeding centre. How many more days did the Unga last? **8mks**

23) Using a pair of compasses and a ruler only construct a triangle ABC such that AB = 5cm, AC = 10cm and angle BAC = 37$^1/_2{}^0$. Construct a line from C perpendicular to line AB at point P. Determine the area of the triangle. **8mks**

24) The table below shows the frequency distribution of marks obtained by 60 pupils in a mathematics test. **8mks**

MARKS	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74
NO. OF PUPILS	2	4	6	10	13	9	6	3	4	3

   a) Calculate the mean mark.
   b) Calculate the median mark.

25) The figure below shows a circle centre O. PR=RQ, angle PRQ = 70^0 and QOS is a straight line.
   Giving reasons for your answer find.

   a) angle PRS
   b) angle POQ
   c) angle RPS
   d) angle PSR   **8mks**

26) A farmer keeps 360 layers which lay an average of 300 eggs per day. An egg costs sh. 5. The layers consume 32 bags of feed per month of 30 days at a cost of sh.600 per bag. He spend sh.400 on drugs per month. After paying for labour the farmer makes net profit of sh.18000 per month.

   In another month of 30 days the average collection of eggs went down by 10% but the cost of an egg increased by sh.1. What was his net profit that month?   **8mks**