MATHEMATICS MOCK EXAMINATION PAPER 1

MARCH/APRIL 2019:   TIME 2 ¼ HOURs

INSTRUCTIONS TO THE CANDIDATES:

1. Answer all questions in section A.
2. Answer any FIVE questions in section B.
3. All answers and working must be written in the spaces provided.
4. Do not remove any page from the booklet.

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SECTION	QUESTION	MAX SCORE	CANDIDATES SCORE
A	1-20	60	
B	21 22 23 24 25 26	8 8 8 8 8 8	
TOTAL SCORE	100		

SECTION A. (60 MARKS)

1. What is the value of   (3 marks)

$$1\frac{4}{7} + 4\frac{1}{8} of \frac{2}{3} - 5\frac{1}{4} \div 2\frac{2}{3}$$

2. Evaluate $CDXLIV + CMLXLX$ (3 marks)
3. Solve the inequality: $2x + 3 > 5x - 4 < 4 - 3x.$ (3 marks)
4. What is the value of. $\underline{0.14 + 2.39 \ x \ 0.5 \ \div 0.01}$
$0.025 + 8.6$ (3 marks)
5. Use the factor method to work out the square root of 2116. (3 marks)
6. Given that ABCD is a trapezium

Calculate the area of the trapezium. (3 marks)

7. Given that T=6 what is the product of three consecutive odd numbers if the smallest is T-1. (2 marks)

8. Korir borrowed sh. 200,000 from a bank that charged compound interest at the rate of 20% p.a. At the end of 18 months, he paid the bank all the money borrowed plus interest. How much did he pay all together? (3 marks)

9. A shopkeeper increased the price of a pair of trousers that costs sh. 800 by 25%. She then sold it at 12% discount. Calculate the selling price of ;the trouser. (3 marks)

10. 6 people working 8 hours a day complete some work in 5 days. If the work has to be completed in 4 days and the number of people increased by 9, how many hours per day would they work? (3 marks)

11. A rectangular milk yoghurt tank has a square base of length 3m. The tank holds 22500 litres of yoghurt when full. What is the depth of the remaining yoghurt in metres if 4500 litres of yoghurt are drawn off? (3 marks)

12. Pupils in a class collected data on the number of shoes sold in one week and then made records as shown below:

Shoes size	3	5	7	9
Number Sold	8	15	12	10

Draw a pie chart to representing the information.   (3 marks)

13. Evaluate $\dfrac{-1 + -3 \times 5}{-3 + -2(-4+6) +-1}$ (3 marks)

14. A map is drawn to a scale of 1:25000000. What is the distance on the map between two towns A and B which are 75 km apart on the ground? (3 marks)

15. Covert 3.1616…into fraction. (4 marks)

16. Jane wants to buy a sewing machine on a hire purchase. It has a cash price of sh. 8000. She can pay or make down payment of sh. 2250 and 15 monthly installment of sh. 550 each. How much interest does she pay under the installment plan?. (3 marks)

17. Solve the equation $81^n=3$ (3 marks)

18. A father shared his piece of land among his three children. Muli, Saunya and Ndege Muli received ½ of the part while Saunya received ¼ of the remainder. The rest of the part shared was given to Ndege. Find the fraction of the piece of land that Ndege got. (3 marks)

19. The mass of 4 bags of cement is 240 kg. What would be the mass of 15 bags of cement? (3 marks)

20. Find the value of X that satisfy the equation.
   $14x^2 -16x+2=0$ (3 marks)Type equation here.

SECTION B. (40 MARKS)

Answer any FIVE questions in the spaces provided:

21. On 1st January 2008, Ouma had a cash balance of sh. 1448. On 5th January he was paid sh. 360 for repairs but spent sh. 500 on a piece of cloth and sh. 100 on thread and buttons. On 13th January he paid sh. 30 for needles and sh. 50 for zips. The money paid to him for fitting clothes sh. 500 on 16th Jan, sh. 700 on 20th Jan and sh. 900 on 30th Jan on 31st Jan, he paid sh. 600 for rent and sh. 250 for electricity. Prepare Oumas cash book for the month of Jan. (8 marks)

22. A sheet of metal is used to make a cylinder of radius 5cm and a height of 14m. Using pie as 3:14 find the total area of the sheet that is needed to make:
   a) A closed cylinder. (4 marks)

   b) A cylinder that is open on one end. (4 marks)

23a. Construct triangle ABC in which AB=4 cm, BC=6.5cm and AC=8 cm. (4 marks)

   b) Construct a circle that touches the three sides of the triangle. (4 marks)

24) Mati is X years old, while his son is Y years old. Four years ago Matis age was twice that of his son, while in 10 years time his age will be 20 years more than the sons age.

    a. Form two equations in X and Y. (4 marks)
    b. Solve the equation to determine the values of X and Y. (4 marks)

25. A cylindrical tank of internal diameter of 2.8m and a height of 1.8m is filled with water.

a. Calculate the capacity in litres of the water in the tank. (3 marks)

    c. Water is drawn from the tank through a tape of radius 0.7 cm. The speed of the water through the pipe is 54 cm/sec. calculate the time in hours taken to empty the tank. (5 marks)

26.   Jebet left town A for town B a distance of 20 km at 7am travelling at an average speed of 80km/hr.for the first 56 km. After stopping for 30 min. she then travelled the remaining distance at 82 km/hr. Amos left town B for A at 7.30 am travelling at an average speed of 60km/h for the first 120 km and stopped for 30 mins. He then travelled the remaining distance and reached town A at 12.30 pm.

On the graph provided represent the journeys of Jebet and Amos on the same set of axis. (5 marks)

Using the graph answer the following questions:

    a) How far from town A was Jebet when Amos started his journey? (1 mark)

    b) How fare from town A was Amos when Jebet reached town B? (1 mark)
    c) At what time did the two people meat? (1 mark)