Name: _____**Index No:** _____

2011/1
P1 MATHEMATICS **Candidate's Signature:** _____

PAPER 1 **Date:** _____**Class:**_____

CYCLE 1-MARCH MATHEMATICS CONTEST

SATURDAY 28TH MARCH 2020

TIME: $2\frac{1}{4}$ Hours

ASUMBI TEACHERS COLLEGE
MATHEMATICS DEPARTMENT

PRIMARY TEACHERS EXAMINATION

MAY MATHEMATICS CONTEST

TIME: $2\frac{1}{4}$ Hours

INSTRUCTIONS TO CANDIDATES

1. Write your name, index number in the spaces provided.
2. Sign and write the date of the examination in the spaces provided above.
3. This paper consists of **TWO** sections: - **A** and **B.**
4. Answer all questions in section **A**.
5. Answer any **FIVE** questions from section **B.**
6. Answers and working in both sections **MUST** be written on the question paper in the spaces provided below each question.
7. Do NOT remove any pages from this booklet.

For Official Use Only

Section	Question	Maximum Score	Candidate's Score
A	1-20	60	
B	21	8	
	22	8	
	23	8	
	24	8	
	25	8	
	26	8	
		Total Score	

ALL OPTION 'A' CLASSES

This paper consists of 14 printed pages. Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

 Turn Over→

SECTION A (60 MARKS)

Answer ALL questions in this section.

1. What is the value of: $\dfrac{1\frac{1}{2}\times 3\frac{1}{7}-2\frac{1}{7}}{1\frac{3}{7}}$ [3 Marks]

2. Simplify: $\dfrac{3(2ab+4ac)-a(8c+4b)}{b+2c}$ [3 Marks]

3. Solve the equation: $\dfrac{5x-3}{2}-\dfrac{2x-1}{3}=\dfrac{4x+5}{4}$ [3 Marks]

4. The two shorter sides of a right angled triangle are X cm and (x+5) cm. The area of the triangle is 18cm^2. Find x [3 Marks]

5. Mary cut her birthday cake in the ratio 8:7. She divided the smaller piece in the ratio of 5:9. If the smaller of these pieces had a mass of 240g, what was the mass of the whole cake? [3 Marks]

6. Make x the subject of the formula: $B = \frac{P + 2x}{w - 4x}$ [3 Marks]

7. Three bells ring at intervals of 20 minutes, 25 minutes and 30 minutes. If they all ring together at 9.35a.m, determine the time they will ring together again. [3 Marks]

8. Evaluate: $\sqrt{\frac{0.49 \times 1.69}{(1.2)^2 + (0.5)^2}}$ [2 Marks]

9. Simplify, leaving the answer in index form: $\frac{9^{(x-1)} \times 4^{(x-2)}}{6^{(x-4)}}$ [4 Marks]

10. A salesman earns a basic salary of Sh.144, 000 per month. In addition, he earns a commission of 5% on the value of items sold above Sh.10, 000 in a month. In a certain month, he earned a total of Sh.150, 000. Calculate the total value of the items sold that month. [3 Marks]

11. In the year 2007, the population in a certain town was 11,115. This was a 5% decrease from that of the year 2006. In the year 2008, the population increased by 15% from that of the year 2006. How many more people were there in the year 2008 than in the year 2006? (3 marks)

12. A man was earning Sh.1, 800 a month, had his salary increased first in the ratio 5:4 and by 20%. What was the overall percentage increase? [4 Marks]

13. Solve for x in the equation [2 Marks]

$32^{(x-3)} \times 8^{(x+4)} = 64 \div 2^{x}$

14. A map is drawn to a scale of 1:125000. What is the distance on the map in centimeters between two towns which are 150km apart? [2 Marks]

15. The mean mark of six subjects for a candidate in an examination was 57 marks. The marks for five subjects were, 50, 61, 45, 81 and 70. What was te median mark for the six subjects? [3 Marks]

16. Using a ruler and a pair of compasses only, construct an angle of $22\frac{1}{2}^0$ on line AB at Point A. [4 Marks]

17. A swimming pool has an area measuring 40m by 22m wide include 3m wide strip of grass. What is the area of the grass stripe? [3 Marks]

18. Two men starting from two points P and Q 60km apart, rides towards one another. For every 3km A rides, B rides 2km. How far has A travelled when they meet? [3 Marks]

19. Masai can weed a plot of cabbages in 3 days while his sister Jane can weed the plot in 6 days. How long shall it take for both of them to weed the plot? [3 Marks]

20. Mary and Caro each made 126kg of a mixture of maize and beans. Mary mixed maize and beans in the ratio 4:3 while Caro mixed maize and beans in the ratio 5:4. How many more kilograms of maize did Mary use than Caro? [3 Marks]

SECTION B [40 MARKS]

Answer FIVE questions ONLY in this section.

21. Juma bought a bicycle whose cash price was Ksh.12, 000 under hire purchase terms. He paid a 15% cash deposit followed by 12 months installments.
    Determine:
    a) The value of each monthly installment if simple interest was charged at a rate of 10% p.a on the cash price. [4 Marks]

    b) How much altogether would Juma have paid if simple interest was to be charged at a rate of 10% p.a and he was to pay in 18 monthly installments? [4 Marks]

22. Twenty students scored the following marks in a Mathematics test; 85, 58, 46, 71, 62, 55, 57, 66, 60, 74, 55, 83, 73, 65, 54, 60, 63, 55, 48, 55.

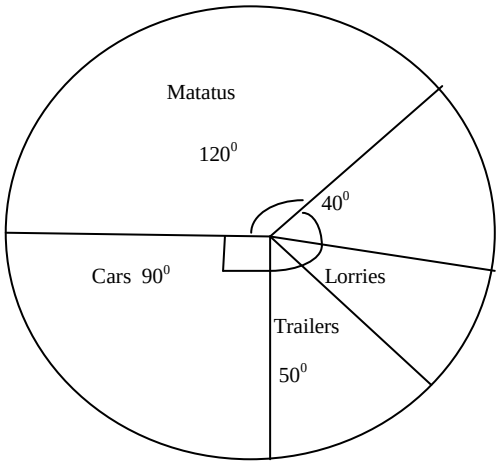
a) Work out the mean score. [4 Marks]

b) Determine;

(i) the median [3 Marks]

(ii) the mode [1 Mark]

23. In one day pupils counted the number of vehicles that passed on the road near the school. The information was represented in a pie chart shown below;



a) If the number of matatus was 80, what was the total number of vehicles? (2 marks)

b) The following day the number of cars increased by 20% while that of the Lorries decreased by 5%. What was the difference in the number of the two types of vehicles? [6 Marks]

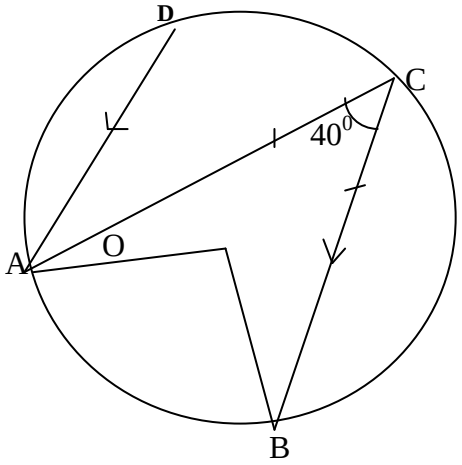
24. A cylindrical tank of internal diameter 2.8m and height 1.8m is filled with water.

a) Calculate the capacity in litres of water in the tank. [3 Marks]

c) Water is drawn from the tank through a pipe of radius 0.7cm. The speed of the water through the pipe is 54cm/sec. Calculate the time, in hours, taken to empty the tank.
[5 Marks]

25. Members of a certain company required to elect a chairman. Out of 1728 registered members 128 of them did not cast their votes. There were no spoilt ballots. Three members Halima, Binga and Chege vied for the seat. Halima got 45% of the votes cast while Chege got 60% of the number of votes that Halima got. Binga got the remaining number of votes cast. Determine the ratio of the number of votes Chege got to the number of votes Binga got.
[8 Marks]

26. In the figure below A, B, C, D are points on a circle, Centre O. AC=BC; DA is parallel to CB and angle ACB=40^0



Calculate the angles:

a) AOB [1 Mark]

b) CAB [1 Mark]

c) CAO [2 Marks]

d) DAO [1 Mark]

e) ACD [2 Marks]

f) ADC [1 Mark]

Total (8 marks)