



MACHAKOS UNIVERSITY

University Examinations 2021/2022

SCHOOL OF PURE AND APPLIED SCIENCES

FIRST YEAR FIRST SEMESTER EXAMINATION FOR

CRAFT CERTIFICATE IN

1802/101/M FOOD AND BEVERAGE

1801/101/M FASHION AND DESIGN

MATHEMATICS

DATE:

TIME:

INSTRUCTIONS: ANSWER ALL QUESTIONS

Answer ALL the questions

1 a) simplify

I)
$$\frac{2\frac{1}{2} \div 4\frac{1}{3} - 2\frac{1}{4}}{4\frac{1}{6}}$$
 (5 marks)

II)
$$\frac{x^{23} \times (2x)^2}{(8x^3)^2}$$
 (3 marks)

b) A father is three times as old as the son, if the sum of their ages in 5 years time will be 58 years. find their current ages. (4 marks)

2. a) A man bought a shirt at 20 % discount. if he paid kshs 200, find the original price of the shirt. (2 marks)

b) Onyango, Kamau and Mutiso are to share sh 90, 000 in the ratio 3:4 :5 respectively. calculate the amount each will receive. (4 marks)

3. a) The ratio of the sides of a rectangle is 3: 2. if its perimeter is 40cm. find its area. (4 marks)

b) Solve the equation $\frac{2}{x-2} - \frac{3}{x} = 0$ (2 marks)

4. a) Complete the table given for which the relationship between x and y is of the form $y = 2x - 3$

x	-2			2		8
y	-7		-3		7	

- b) If $r = \frac{R(E-V)}{V}$, make v the subject of the formula (2 marks)
5. a) The line $2y = 8 - 3x$ cuts the y -axis at $P(0, J)$. Find the gradient of the line and the value of J . (3 marks)
- b) If y is directly proportional to x and $y = 24$, When $x = 2$. determine the value when value of $y = 5$ (4 marks)
- c) In a workshop, the probabilities that cooker A and B will work in a months time are $\frac{2}{5}$ and $\frac{3}{12}$ respectively. Determine the probability that atmost one of the cookers fail in a months time (5 marks)