

**Candidate's Examination Number** \_\_\_\_\_

**SMZ**

**ZANZIBAR EXAMINATIONS COUNCIL**

**FORM ONE ENTRANCE EXAMINATION**

**130**

**MATHEMATICS**

**TIME: 2.30 HOURS**

**THURSDAY 28<sup>TH</sup> OCTOBER, 2021 A.M**

**INSTRUCTIONS TO CANDIDATES**

- 1. This paper consists of two (2) sections A and B.**
- 2. Answer ALL questions in section A and any FOUR (4) questions in section B.**
- 3. Write your examination number on each page.**
- 4. Write your answers in the spaces provided.**
- 5. Use blue or black pen in writing.**
- 6. Cellular phones, calculators and unauthorized materials are not allowed in the examination room.**

<b>FOR EXAMINER'S USE ONLY</b>		
<b>QUESTION NUMBER</b>	<b>MARKS</b>	<b>SIGNATURE</b>
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
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11.		
12.		
13.		
14.		
15.		
16.		
<b>TOTAL</b>		

**This paper consists of 15 printed pages**

**SECTION A: (60 Marks)**

**Answer ALL questions in this section.**

1. a) What is the meaning of the word "place value"?

b) Write the place value of digit 4 in the number 8,945.

2. a) There are two numbers whose sum is 72. One number is twice the other. What are the numbers?

b) If  $m = 3$  and  $n = 4$  and  $z = 5$ , calculate the value of  $\frac{m}{n} + \frac{z}{n}$

For  
examiners  
only

3. Read the prices list and answer the following question.

One Bread	One Butter	One packet Rice	One bottle of cooking oil
Sh. 500	Sh. 2,500	Sh. 17,000	Sh. 32,000

Juma bought 6 breads, 3 packets of butter, 4 bottles of cooking oil and 6 packets of rice and remained sh. 4,600 after buying. How much money did he have in the beginning?

4. a) Calculate the value of  $y$ , if  $y:15 = 300:1$

b) Express  $5703_{10}$  to base 3.

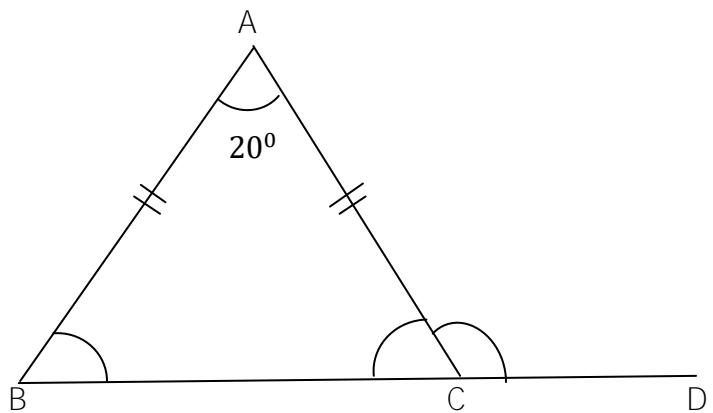
5. a) Calculate the prime factors of 132.

b) Calculate the value of  $x$  in the following equation.

$$\frac{x}{2} + 8 = 12$$

6. Simplify  $\frac{6}{7} \times \frac{2}{3} + \frac{12}{21} \div \frac{3}{7}$

7. In the figure below, length  $AB = AC$  and angle  $BAC = 20^\circ$ .



a) Calculate the value of the angle  $ABC$ .

b) Calculate the value of the angle  $ACD$ .

8. a) Compute  $3.2(25.3 + 5.7)$ .

b) Convert sh. 675,800 into US dollar. (1 US dollar = sh. 2,300).

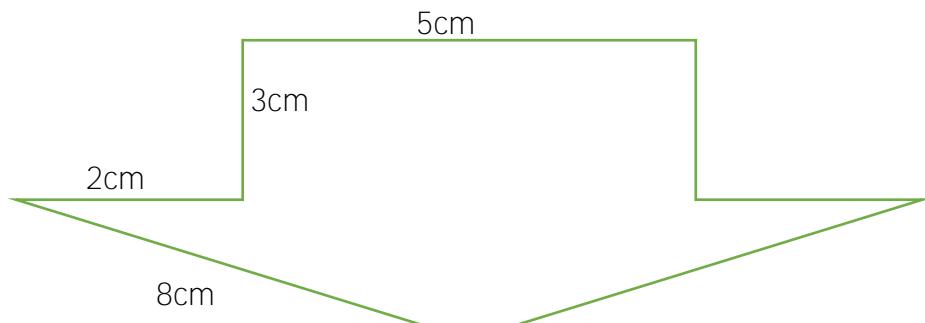
9. a) Convert 26 tonnes into grams.

b) 30% of Ali's salary is sh. 150,000. Calculate his salary.

**SECTION B: (40 Marks)**

**Answer ANY four (4) questions in this section.**

10. a) Calculate the perimeter of the figure below.



b) A diesel storage tank has circular base of **14 m** diameter. If the height of the tank is **12 m**, calculate the volume of diesel that tank can hold. (Use  $\pi = \frac{22}{7}$ ).

11. a) How many mango trees can be planted in rectangular garden  $180m$  by  $120m$  allowing each tree an area of  $60m^2$ ?

b) Convert 20000 mm into

- i) Kilometres
- ii) Centimetres

12. a) Evaluate  $\sqrt[3]{\frac{1}{125}}$

b) The following table show the masses in kg of 16 students.

Mass in kg	40	50	60
Number of students	7	5	4

Calculate the average mass of the students.

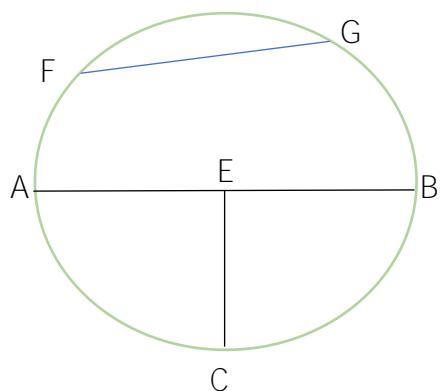
13. a) Simplify the expression  $\frac{18a+12b+15}{4} + \frac{22a-4b-7}{4}$ .

b) If  $y$  is inversely proportional to  $x$  when  $y = 2$ ,  $x = 3$ . Calculate

i)  $x$  when  $y = 12$

ii)  $y$  when  $x = 6$

14. Use the circle of centre E below to answer the following questions.



- a) Name the part of the circle label FG.
  
  
  
  
  
  
- b) Write the name of the line AB and EC.
  
  
  
  
  
  
- c) Explain the relationship between lines AB and EC.
  
  
  
  
  
  
- d) If length of line EC is 3cm, calculate the value of the length of the line AB.

15. a) A science book was bought at sh. **12,000** and sold at sh. **6,000**.  
Calculate the percentage loss.

b) For how long should sh. **6,000,000** be invested at simple rate of **4%** to get an interest of sh. **480,000**?

16. The following table shows juice packets produced by certain small scale factory.

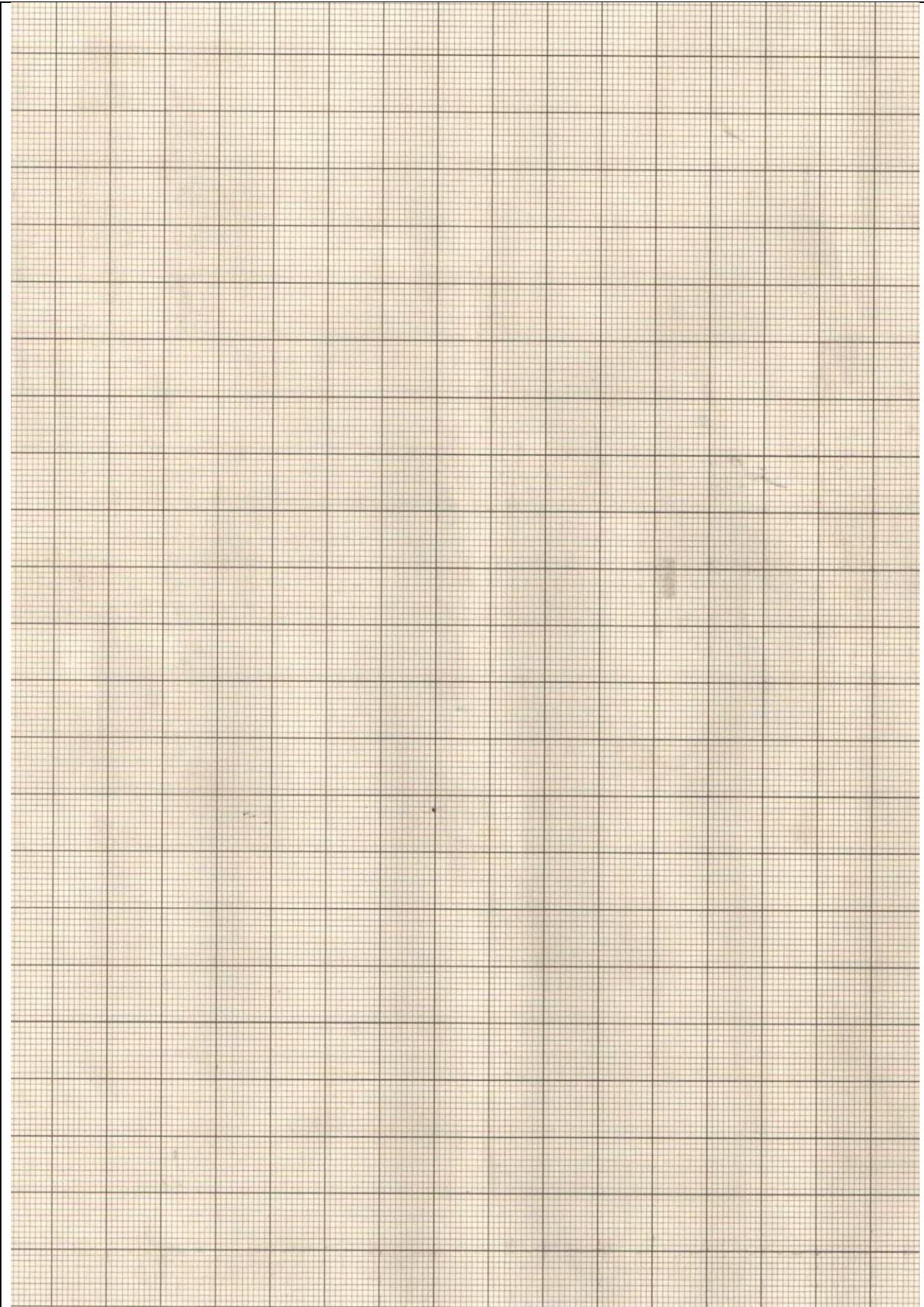
Time in hours	1	2	3	4	5
Number of juice packets	60	120	180	240	300

a) Draw the line graph on graph paper to represent the data.

b) From the graph read:

- Number of juice packets produced in 2 hour and 30 minutes.
- Number of hours taken to produce 270 juice packets.

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**ROUGH WORK**