

SMZ

ZANZIBAR EXAMINATIONS COUNCIL

FORM ONE ENTRANCE EXAMINATION

130

MATHEMATICS

TIME: 2.00 HOURS

SOLUTIONS

TUESDAY 3rd NOVEMBER, 2019 A.M

INSTRUCTIONS TO CANDIDATES

1. This paper consists of FOUR (4) sections A, B, C and D.
2. Answer ALL questions in section A and B. Choose ONE (1) question from section C and ONE (1) question from section D.
3. Write your examination number on each page.
4. Write all answers in the space provided.
5. Use a blue or black pen in writing.
6. Cellular phones and unauthorized materials are not allowed in the examination room.

FOR EXAMINER'S USE ONLY

QUESTION NUMBER	MARKS	SIGNATURE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
JUMLA		

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SECTION A

1. Find the perimeter of rectangular plot with sides of 55 m and 40 m
Perimeter = $2(l + w)$

$$= 2(55 + 40)$$

$$= \mathbf{190\ m}$$

2. (a) Define decimal number.

Decimal number = number written using decimal point.

- (b) Express $14/25$ as a decimal.

$$14/25 = 0.56$$

3. (a) Define

(i) Even number = namba inayogawanyika kwa 2

(ii) Odd number = namba isiyogawanyika kwa 2

(iii) Whole number = 0, 1, 2, 3, ...

- (b) Compute $1111_2 + 111_2$

4. Circumference = 440 m

$$C = \pi d$$

$$440 = 22/7 \times d$$

$$d = 440 \times 7 \div 22$$

$$d = 140\ \text{m}$$

5. Find the value of the angle in the figure

$$78 + t = 180. \ t = 102^\circ$$

$$16 + p + t = 180$$

$$16 + p + 102 = 180$$

$$p = 152^\circ$$

6. Area of triangle

$$= 1/2 \times 18 \times 16$$

$$= 144\ \text{cm}^2$$

Area of square = 144

$$\text{Side} = \sqrt{144}$$

$$= 12\ \text{cm}$$

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7. Simplify $5x + (5x + 14y) + (2x - 6y)$

$12x + 8y$

8. Sh 395 shared in the ratio 2:3,

Jumla ya sehemu = $2 + 3 = 5$

Sehemu ya kila mmoja

Juma = $\frac{2}{5} \times 395 = \text{Sh. } 158$

Ali = $\frac{3}{5} \times 395 = \text{Sh. } 237$

9. Three men weigh 72kg215g, 96kg750g and 65kg500g. What is their total weight?

Kg	g
72	215
69	750
+ 65	500
<u>207</u>	<u>465</u>

10.(a)

Let number = x

$2x + 3 = 17$

$2x = 14$

$x = 7$

10.(b) If $m = 2$, $n = 1$, find the value of $2(3m - 2n)$

$2(3m - 2n) = 2(3 \times 2 - 2 \times 1)$

$= 8$

SECTION B

11.(a)

Profit = $SP - CP$

Loss = $CP - SP$

11.(b)

$CP = 300,000$

$SP = 350,000$

Profit = $50,000$

Profit %

$= 50,000 \div 300,000 \times 100$

$= 16\frac{2}{3}\%$

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12.(a) Find LCM and HCF of 72 and 108

$$72 = 2^3 \times 3^2$$

$$108 = 2^2 \times 3^3$$

HCF

$$= 2^2 \times 3^2$$

$$= 4 \times 9$$

$$= 36$$

LCM

$$= 2^3 \times 3^3$$

$$= 8 \times 27$$

$$= 216$$

(b) Find the value of x if $x^3 = 3375$

$$3375 = 15 \times 15 \times 15$$

$$x = 15$$

13.(a) $33/5$ to mixed number

$$= 6 \frac{3}{5}$$

13.(b) Angles

Acute $< 90^\circ$

Right = 90°

Obtuse $90^\circ - 180^\circ$

Straight line = 180°

Reflex $> 180^\circ$

14.(a) Area of sphere

$$A = 4\pi r^2$$

$$= 4 \times 3.14 \times 20^2$$

$$\text{Area} = 5024 \text{ cm}^2$$

(b)

$$I = PRT$$

$$100,000 = 500,000 \times r \times 10$$

$$r = 100,000 \div 5,000,000$$

$$r = 0.02 = 2\%$$

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15.(a)

Volume of rectangular container
= length \times width \times height

Given

Length = 60 cm

Width = 40 cm

Volume = 72 liters

1 liter = 1000 cm³

72 liters = 72,000 cm³

So,

$60 \times 40 \times h = 72,000$

$2400 \times h = 72,000$

$h = 72,000 \div 2400$

$h = 30$

Height of the container = 30 cm

(b) Mean

= sum of data \div number of data

= $20 + 31 + 19 + 50 + 18 + 36 + 70 + 24 + 35 + 40 = 343$

= $343/10 = 34.3$

16.(a) History = 35%

Angle = $35/100 \times 360$

= 126°

16.(b) Kiswahili = 22%

Angle = $22/100 \times 360$

= 79.2°

16.(c) Mathematics = 20%

Angle = $20/100 \times 360$

= 72°

16.(d)

Jumla = $126 + 79.2 + 72$

= 277.2°

16.(e)

Science = 15%

Idadi = $15/100 \times 200$

= 30 books

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