TABORA MUNICIPAL COUNCIL

FORM TWO DISTRICT ASSESSMENT (FTNA)

SEPTEMBER 2026

043: MATHEMATICS

Qn	Step-by-Step Solutions & Scoring	Marks Breakdown
1a	i. 254,968 rounded to the nearest thousand is **255,000**. ii. In standard form: **2.54968×10^5**.	002 Marks 003 Marks
1b	Find the LCM of 12, 18, 24: $12 = 2^2 \times 3$, $18 = 2 \times 3^2$; $24 = 2^3 \times 3$. LCM = $2^3 \times 3^2 = 8 \times 9 = 72$. They will dock together after **72 days**.	003 Marks 002 Marks
2a	Let total profit be P. 1/4P + 2/5P + 350,000 = P 13/20P + 350,000 P – 13/20P = 350,000 7/20P = 350,000. P = (350,000 x 20)/7 = TZS 1,000,000.	003 Marks 002 Marks
2b	Marked Price = 150,000 x 1.20 = TZS 180,000 Discount = 5% of 180,000 = TZS 9,000. Selling Price = 180,000 - 9,000 = TZS 171,000. Profit = 171,000 - 150,000 = TZS 21,000.	002 Marks 001 Mark 002 Marks
3a	Actual Distance = 5.6 cm x 250,000 = 1,400,000cm. Convert to km 1,400,000 /100,000 = 14 km.	002 Marks 003 Marks
3b	$R = kL/r^2 \rightarrow 5 = k(10)/2^2 \rightarrow 5 = 10k/4 \rightarrow k = 2$. For second wire: $R = (2 \times 15)/3^2 = 30/9 = 10/3$ Omega or 3.33 Omega.	002 Marks 003 Marks

Shulelibrary.com

4a	Consecutive interior angles sum to 180°. $(4x + 20) + (2x + 10) = 180 \rightarrow 6x + 30 = 180 \rightarrow 6x = 150 \rightarrow$ $x = 25$. Smaller angle: $2(25) + 10 = 60°$.	003 Marks 002 Marks
4b	Sum of interior angles = $(n - 2) \times 180° = (8 - 2) \times 180°$ $6 \times 180° = 1080°$. Each interior angle = $1080°/ 8 = 135°$.	003 Marks 002 Marks
5a	i. Let Math Set be \(m\), Ruler be r: $(4m + 3r = 13500)$ and $(2m + 5r = 8500)$. ii. Multiply eq (2) by 2: $(4m + 10r = 17000)$. Subtract eq (1): $7r = 3500 \rightarrow r = 500$. Substitute r: $(2m + 5(500) = 8500 \rightarrow 2m = 6000$ $m = 3000$ **Math Set = TZS 3,000; Ruler = TZS 500**.	002 Marks 004 Marks
5b	$3x - 6 < 5x + 4 \rightarrow -10 < 2x \rightarrow x > -5$. (Award marks for number line with open circle at -5 pointing right).	002 Marks 002 Marks
6a	Gradient $m = (6 - (-2))/(5 - 1) = 8/4 = 2$. Equation: $y - 6 = 2(x - 5) \rightarrow y - 6 = 2x - 10$ $y = 2x - 4$	003 Marks 003 Marks
6b	For x-intercept, set $y = 0$ $0 = 2x - 4 \rightarrow 2x = 4$ $x = 2$. The coordinate is **(2, 0)**	004 Marks
7a	$\sqrt{25x3} - 2\sqrt{9x3} + \sqrt{4x3} = 5\sqrt{3} - 6\sqrt{3} + 2\sqrt{3} = \sqrt{3}$	003 Marks 002 Marks
7b	$\text{Log}_{10}[3(y + 4)] = \log_{10}(5y + 2) \rightarrow 3y + 12 = 5y + 2$ $10 = 2y$ $y = 5$	003 Marks 002 Marks
8a	Let width = w, length = w + 5. Area = w (w + 5) = 84 $W^2 + 5W - 84 = 0$. $w^2 + 5w + (5/2)^2 = 84 + 25/4$ $(w + 5/2)^2 = 361/4$.	002 Marks 004 Marks

Shulelibrary.com

	w + 5/2 = ±19/2 w = 14/2 = 7 (ignore negative). **Width = 7m, Length = 12m**.	
8b	$3x^2$ - 9x - x + 3 = 0 → 3x(x - 3) - 1(x - 3) = 0 (3x - 1)(x - 3) = 0 → x = 1/3 or **x = 3**	002 Marks 002 Marks
9a	By Pythagoras: $Length^2 = 8^2 + 6^2 = 64 + 36 = 100$. Length = $\sqrt{100}$ = 10 meters.	003 Marks 002 Marks
9b	tan(60° = Height/30 → $\sqrt{3}$ = Height/30. Height = 30/$\sqrt{3}$ meters	003 Marks 002 Marks
10a	Let Intersection =12. Maize only = 30 - 12 = 18 Cassava only = 25 - 12 = 13. (Award 4 Marks for proper bounding rectangle and intersecting circles). Neither = 50 - (18 + 12 + 13) = 50 - 43 = 7 farmers.	004 Marks 002 Marks
10b	Arranged Ascending: 55, 55, 64, 70, 72, 80. Mean = (55 + 55 + 64 + 70 + 72 + 80)/6 = 396/6 = 66 Median = (64 + 70)2} = 67.	002 Marks 002 Marks

Shulelibrary.com