

Education Bureau
Territory-wide System Assessment 2026
Secondary 3 Mathematics
Marking Scheme

Note (for Section B and C of each sub-paper):

***Mark for Answer:**

- (1) The Mark for Answer may be given when there is a correct answer without any work shown.
- (2) If the work shown is incorrect, the Mark for Answer will not be given.
- (3) If the work shown is poorly presented but there is a correct answer, the Mark for Answer may be given.

****Mark for Presentation:**

- (1) If the work shown is correct but the answer is incorrect, the Mark for Presentation may be given.
- (2) If the work shown is incorrect, the Mark for Presentation will not be given.
- (3) If the numerical value of the answer is correct but not the approximate value as required by the question, the Mark for Presentation will not be given.
- (4) The Mark for Presentation may include overall work such as mathematical expressions, units, written explanations, use of symbols, etc.

r.t. xxx means “accept answers which can be rounded to xxx” .

Steps that may be skipped are shown in **shade**.

Alternative suggested answers are shown in **boxes**.

Section A – Sub-paper 4 (9ME4) (1 mark each)

1. B (9ME1-1)
2. D (9ME1-2)
3. C (9ME3-4)
4. C (9ME1-5)
5. D (9ME1-6)
6. B
7. B (9ME1-7)
8. B
9. D
10. A (9ME3-10)
11. C (9ME3-11)
12. C (9ME1-11)
13. A (9ME3-12)
14. C (9ME3-14)
15. D
16. A
17. D
18. C (9ME3-18)
19. A (9ME1-19)
20. B (9ME3-20)

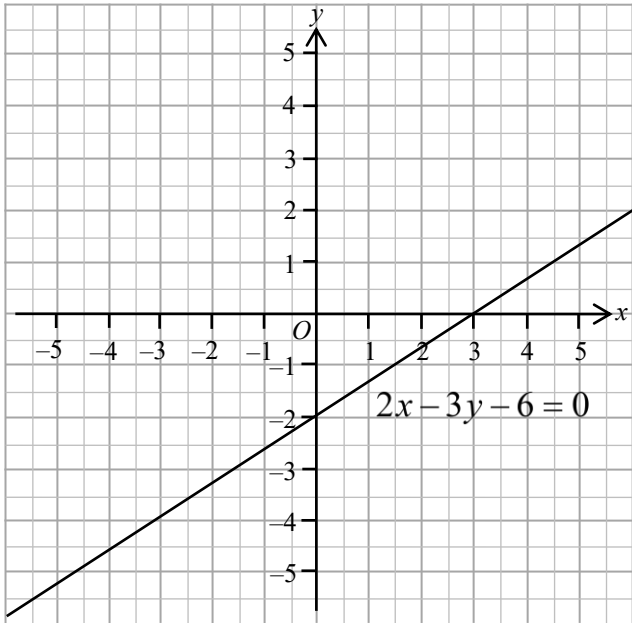
Section B – Sub-paper 4 (9ME4)

Question Number	Suggested Answers	Marks	Notes
21.	$2 \times 3 \times 5$	1	
22. (9ME3-21)	(i) $+68 / 68$ (ii) -37	1	All must be correct
23.	$a = \underline{\quad 16 \quad}$	1	
24. (9ME3-24)	The percentage profit is $\underline{\quad 13\% \quad}$.	1	
25. (9ME1-25)	The number of fans of Team A : The total number of fans of both teams $= \underline{\quad 16 \quad} : \underline{\quad 25 \quad}$	1	
26.	The value of the 4th term of the sequence is $\underline{\quad 14 \quad}$.	1	
27.	2	1	
28. (9ME1-27)	$3x^2 - 2xy - y^2$	1	
29. (9ME1-29)	$(4m + 3)(4m - 3)$	1	
30. (9ME1-30)	$W = \underline{\quad -\frac{15}{4} \quad}$	1	
31. (9ME1-31)	$y < 30$	1	
32.	The volume of the sphere is $\underline{\quad 4\,500\pi \quad} \text{ cm}^3$.	1	No need to consider unit
33.	$x = \underline{\quad 42^\circ \quad}$	1	No need to consider unit
34.	$x = \underline{\quad 52^\circ \quad}$	1	No need to consider unit
35.	$x = \underline{\quad 36^\circ \quad}$	1	No need to consider unit
36.	The gradient of the path AB is $\underline{\quad \frac{36}{77} \quad}$.	1	r.t. 0.468

Question Number	Suggested Answers	Marks	Notes																
37. (9ME1-37)	(a)	1 (37a) 1 (37b) 1 (37c)	All must be correct All must be correct																
	<table><tr><td>Daily rainfall (mm)</td><td>0 – 15</td><td>15 – 30</td><td>30 – 45</td><td>45 – 60</td><td>60 – 75</td><td>75 – 90</td><td>90 – 105</td></tr><tr><td>Frequency</td><td>5</td><td>6</td><td>3</td><td>7</td><td>4</td><td>4</td><td>2</td></tr></table>			Daily rainfall (mm)	0 – 15	15 – 30	30 – 45	45 – 60	60 – 75	75 – 90	90 – 105	Frequency	5	6	3	7	4	4	2
	Daily rainfall (mm)			0 – 15	15 – 30	30 – 45	45 – 60	60 – 75	75 – 90	90 – 105									
	Frequency			5	6	3	7	4	4	2									
	(b) There were <u>6</u> days in July with rainfall of not less than 75 mm .																		
(c) The modal class of the daily rainfall for July was <u>45</u> mm – <u>60</u> mm .																			
38. (9ME3-38)	Mean = <u>21</u> minutes Mode = <u>30</u> minutes	1 (38-1) 1 (38-2)																	
39.	The required relative frequency = $\frac{19}{40}$	1	or 0.475																

Section C – Sub-paper 4 (9ME4)

Question Number	Suggested Answers	Marks	Notes
40.	Total expenditure $= \$308 + \$461 + \$212$ $> \$300 + \$400 + \$200$ $= \$900$ $\therefore \$900 > \$888$ $\therefore$ I agree with Lily's claim.	0 0 No evidence of using estimation strategies nor giving reasonable justification	- Exact calculation only - The estimate is given only after exact calculation - Use wrong methods to get the approximation for the price of each dish
		1 0 Partial evidence of using estimation strategies, but the solution is incomplete or contains errors	- Estimate the price of each dish correctly, but the total amount is omitted or wrongly estimated - Estimate the total amount correctly, but the conclusion is omitted or wrong - Correct method used, but errors occurred
		1 1 Estimate with reasonable justification	- No need to consider unit/presentation - The conclusion must be correct and aligned with a reasonable explanation
41.	He pays $= \$\left(\frac{12}{100} \times 320\right)$ $= \$38.4$	1 (41-1) 1* (41-2)	No need to consider unit

Question Number	Suggested Answers	Marks	Notes								
42. (9ME1-41)	<table border="1"> <tr> <td>x</td><td>-3</td><td>0</td><td>3</td></tr> <tr> <td>y</td><td>-4</td><td>-2</td><td>0</td></tr> </table> 	x	-3	0	3	y	-4	-2	0	1* (42-1) 1 (42-2) 1* (42-3)	All must be correct In case the data in the above table is incorrect, students can still use the ordered pairs to draw a straight line. The line must pass through $(0, -2)$ and the range of x must include the values from -3 to 3. Correct graph (include: correct position, use ruler to draw the line, pass through the 3 correct points and extend two ends of the line) If the table is incomplete but no mistakes are found and the graph is correct, $(0, 1, 1)$ can be given.
x	-3	0	3								
y	-4	-2	0								
43. (9ME3-43)	Let the height of the prism be h cm . $\frac{4 \times 6}{2} \times h = 108$ $12h = 108$ $h = 9$ $\therefore$ The height of the prism is 9 cm .	1 (43-1) 1* (43-2) 1** (43-3)									

Question Number	Suggested Answers	Marks	Notes
44.	$\frac{AB}{DB} = \frac{8}{12} = \frac{2}{3}$ $\frac{AD}{DC} = \frac{18}{27} = \frac{2}{3}$ $\frac{BD}{BC} = \frac{12}{18} = \frac{2}{3}$ $\therefore \frac{AB}{DB} = \frac{AD}{DC} = \frac{BD}{BC}$ $\therefore \triangle ABD \sim \triangle DBC$ (3 sides prop.)		Or other correct proofs
	Conditions		
	(1) Any correct proof with correct reasons	3	
	(2) Any correct proof with poor presentation, missing reasons or inappropriate reasons	2	
	(3) Incomplete proof with any one correct statement and one corresponding reason	1	
	(4) Incomplete proof without any correct statements	0	
45.	$AC = \sqrt{15^2 + (23 - 15)^2}$ $= 17 \text{ cm}$	1 (45-1) 1* (45-2) 1** (45-3)	
46. (9ME3-42)	$\tan \theta = \frac{16}{31}$ $\theta \approx 27.299\ 572\ 21^\circ$ $\theta = 27.3^\circ$ (correct to 3 sig. fig.)	1 (46-1) 1* (46-2) 1** (46-3)	r.t. 27.3°
47.	(a)		1* (47a) <