

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” .

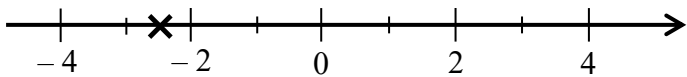
Steps that may be skipped are shown in **shade**.

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

Section A – Sub-paper 3 (9ME3) (1 mark each)

1. B
2. C (9ME2-2)
3. A (9ME2-4)
4. C (9ME4-3)
5. D
6. A
7. D
8. A (9ME2-8)
9. D (9ME2-9)
10. A (9ME4-10)
11. C (9ME4-11)
12. A (9ME4-13)
13. A
14. C (9ME4-14)
15. B
16. D (9ME2-15)
17. B
18. C (9ME4-18)
19. B (9ME2-19)
20. B (9ME4-20)

Section B – Sub-paper 3 (9ME3)

Question Number	Suggested Answers	Marks	Notes
21. (9ME4-22)	(i) $+68 / 68$ (ii) -37	1	All must be correct
22. (9ME2-22)	370	1	
23.		1	(Acceptable range : between -3 and -2)
24. (9ME4-24)	The percentage profit is <u>13%</u> .	1	
25.	$x =$ <u>45</u>	1	
26.	$a^2 + ab + 5a$	1	
27. (9ME2-29)	$9x^2 - 30x + 25$	1	
28. (9ME2-30)	ny	1	
29.	$m = \frac{10-h}{3}$	1	
30.	$x > -1$	1	
31.	$a =$ <u>24°</u>	1	No need to consider unit
32.	$x =$ <u>120°</u>	1	No need to consider unit
33.	Triangle P and Triangle Q	1	All must be correct
34.	$MN =$ <u>26</u> units	1	No need to consider unit
35.	$\theta =$ <u>32.2°</u>	1	r.t. 32.2° No need to consider unit

Question Number	Suggested Answers	Marks	Notes														
36. (9ME2-37)	<table><tr><td colspan="2">Table 1</td></tr><tr><td>Completion time (seconds)</td><td>Frequency</td></tr><tr><td>1 – 8</td><td>1</td></tr><tr><td>9 – 16</td><td>7</td></tr><tr><td>17 – 24</td><td>3</td></tr><tr><td>25 – 32</td><td>3</td></tr><tr><td>33 – 40</td><td>6</td></tr></table>	Table 1		Completion time (seconds)	Frequency	1 – 8	1	9 – 16	7	17 – 24	3	25 – 32	3	33 – 40	6	1(36-1)	
	Table 1																
	Completion time (seconds)	Frequency															
	1 – 8	1															
	9 – 16	7															
	17 – 24	3															
	25 – 32	3															
	33 – 40	6															
	<table><tr><td colspan="2">Table 2</td></tr><tr><td>Completion time (seconds) less than</td><td>Cumulative Frequency</td></tr><tr><td>10.5</td><td>2</td></tr><tr><td>20.5</td><td>9</td></tr><tr><td>30.5</td><td>13</td></tr><tr><td>40.5</td><td>20</td></tr></table>	Table 2		Completion time (seconds) less than	Cumulative Frequency	10.5	2	20.5	9	30.5	13	40.5	20	1(36-2)			
	Table 2																
	Completion time (seconds) less than	Cumulative Frequency															
	10.5	2															
	20.5	9															
	30.5	13															
40.5	20																
37. (9ME2-38)	(a) The athlete ran ____125____ km last week. (b) The athlete performed high-intensity training ____3____ days last week.	1(37a) 1(37b)	No need to consider unit														
38. (9ME4-38)	Mean = ____21____ minutes	1 (38-1)															
	Mode = ____30____ minutes	1 (38-2)															
39.	The modal class is \$ ____201____ – \$ ____250____ .	1	All must be correct														

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Question Number	Suggested Answers	Marks	Notes
42. (9ME4-46)	$\tan \theta = \frac{16}{31}$ $\theta \approx 27.299\ 572\ 21^\circ$ $\theta = 27.3^\circ$ (correct to 3 sig. fig.)	1 (42-1) 1* (42-2) 1** (42-3)	r.t. 27.3°
43. (9ME4-43)	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)	
44.	$\angle ABC = \angle ADC = 90^\circ$ (Given) $AB = AD$ (Given) $AC = AC$ (Common) $\therefore \triangle ABC \cong \triangle ADC$ (RHS)		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.	(a) $(a^3)^4$ $= a^{12}$ (b) $\frac{a^{-2}}{(a^3)^4}$ $= \frac{a^{-2}}{a^{12}}$ $= a^{-2-12}$ $= a^{-14}$ $= \frac{1}{a^{14}}$	1*(45a) 1*(45b1) 1*(45b2)	using $\frac{a^m}{a^n} = a^{m-n}$ or $a^{-n} = \frac{1}{a^n}$ Correct answer (getting marks 1 1)

Question Number	Suggested Answers	Marks	Notes																			
46. (9ME2-44)	The area of polygon $ABCDE$ $= (8-0) \times (3-1) + \frac{(4-0) \times (8-3)}{2}$ = 26 sq. units	1 (46-1) 1* (46-2) 1** (46-3)	Or other correct methods																			
47.	(a) <table><tr><td></td><td colspan="4">Food</td></tr><tr><td></td><td>French toast (F)</td><td>Hamburger (H)</td><td>Fried chicken leg (L)</td><td>Grilled chicken wing (W)</td></tr><tr><td rowspan="2">Drink</td><td>Coffee (C)</td><td>CF</td><td>CH</td><td>CL</td></tr><tr><td>Milk tea (T)</td><td>TF</td><td>TH</td><td>TL</td></tr></table> (b) The required probability is $\frac{1}{4}$.		Food					French toast (F)	Hamburger (H)	Fried chicken leg (L)	Grilled chicken wing (W)	Drink	Coffee (C)	CF	CH	CL	Milk tea (T)	TF	TH	TL	1* (47a) 1* (47b)	All must be correct or 0.25
	Food																					
	French toast (F)	Hamburger (H)	Fried chicken leg (L)	Grilled chicken wing (W)																		
Drink	Coffee (C)	CF	CH	CL																		
	Milk tea (T)	TF	TH	TL																		