

Education Bureau
Territory-wide System Assessment 2025
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” .

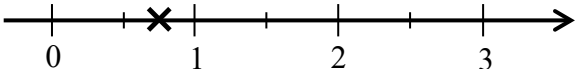
Steps that may be skipped are shown in **shade**.

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

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

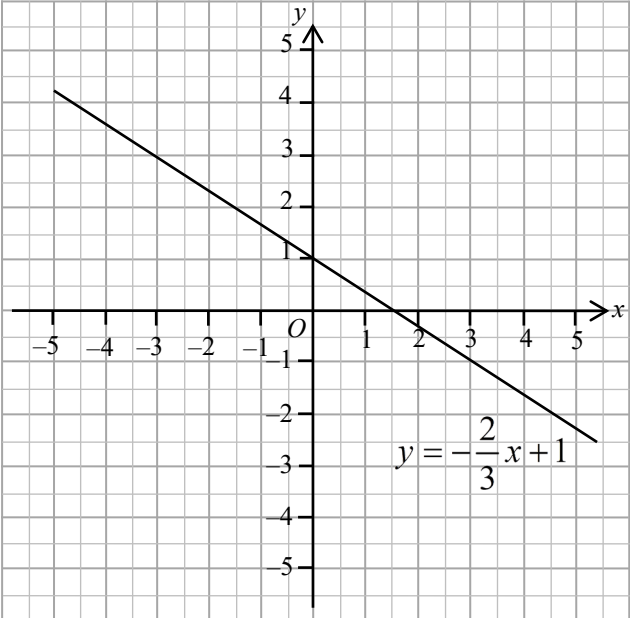
1. D
2. B (9ME2-2)
3. A (9ME2-4)
4. D (9ME4-3)
5. C
6. D
7. C
8. B (9ME2-8)
9. C (9ME2-9)
10. A (9ME4-10)
11. B (9ME4-11)
12. D (9ME4-13)
13. D
14. C (9ME4-14)
15. A
16. B (9ME2-15)
17. D
18. A (9ME4-18)
19. C (9ME2-19)
20. C (9ME4-20)

Section B – Sub-paper 3 (9ME3)

Question Number	Suggested Answers	Marks	Notes
21. (9ME4-22)	(i) $\underline{-2 \text{ kg}}$ (ii) $\underline{+6 / 6 \text{ kg}}$	1	Must be all correct
22. (9ME2-22)	0.034 6	1	
23.		1	(Acceptable range : Between 0.5 and 1.0)
24. (9ME4-24)	The marked price of the novel is $\underline{\$380}$.	1	No need to consider unit
25.	$x = \underline{5}$ $y = \underline{7}$	1	Must be all correct
26.	$4a^2 - 28ab$	1	
27. (9ME2-29)	$4x^2 + 4x + 1$	1	
28. (9ME2-30)	$\frac{2}{hk}$	1	
29.	$x = \frac{3y-4}{7}$	1	
30.	$x \leq 3$	1	
31.	$x = \underline{49^\circ}$	1	No need to consider unit
32.	$x = \underline{120}$	1	No need to consider unit
33.	C	1	
34.	$HK = \underline{20}$ units	1	
35.	$\theta = \underline{16.6^\circ}$	1	r.t. 16.6° No need to consider unit

[illegible]

Section C – Sub-paper 3 (9ME3)

Question Number	Suggested Answers	Marks	Notes								
40.	The amount $= \$8\,000 \times (1 + 5\%)^3$ $= \$9\,261$	1 (40-1) 1* (40-2) 1** (40-3)	r.t. \$9 260								
41.	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>x</td><td>-3</td><td>0</td><td>3</td></tr> <tr> <td>y</td><td>3</td><td>1</td><td>-1</td></tr> </table> 	x	-3	0	3	y	3	1	-1	1* (41-1) 1 (41-2) 1* (41-3)	Must be all 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, 1) 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	3	1	-1								

Question Number	Suggested Answers	Marks	Notes
42. (9ME4-46)	$\tan 23^\circ = \frac{115}{x}$ $x \approx 270.9230221$ $x = 271 \text{ m}$ (correct to 3 sig. fig.)	1 (42-1) 1* (42-2) 1** (42-3)	r.t. 271 m
43. (9ME4-43)	$12h = 288$ $h = 24$	1 (43-1) 1* (43-2)	
44.	$\angle ABD = \angle BAC$ (Given) $\angle ADB = \angle BCA$ (Given) $AB = BA$ (Common side) $\therefore \triangle ABD \cong \triangle BAC$ (AAS)		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. (9ME2-44)	The area of polygon $ABCDEFGH$ $= (9 - 1) \times (4 - 2) + (7 - 3) \times (2 - (-4))$ $= 40$ sq. units	1 (45-1) 1* (45-2) 1** (45-3)	Or other correct methods
46. (9ME2-42)	$\begin{cases} 2x - 3y = 7 & \dots(1) \\ x + 3y = 8 & \dots(2) \end{cases}$ $(1) + (2),$ $3x = 15$ $x = 5$ Substitute $x = 5$ into (2), $5 + 3y = 8$ $y = 1$	 1 (46-1) 1* (46-2) 1 (46-3) 1* (46-4)	 Correct method (eliminating one of the variables) Correct value of x (or y) Correct method Both values are correct

Question Number	Suggested Answers	Marks	Notes																	
47.	(a) Units digit <table><tr><td></td><td>1</td><td>4</td><td>8</td></tr><tr><td rowspan="3">Tens digit</td><td>1</td><td>11</td><td>14</td><td>18</td></tr><tr><td>4</td><td>41</td><td>44</td><td>48</td></tr><tr><td>8</td><td>81</td><td>84</td><td>88</td></tr></table> (b) The required probability is $\frac{4}{9}$.		1	4	8	Tens digit	1	11	14	18	4	41	44	48	8	81	84	88	1* (47a) 1* (47b)	Must be all correct or 0.444
	1	4	8																	
Tens digit	1	11	14	18																
	4	41	44	48																
	8	81	84	88																