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 4 (9ME4) (1 mark each)

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

9ME4

Section B - Sub-paper 4 (9ME4)

Question Number	Suggested Answers	Marks	Notes
21.	$3 \times 3 \times 7 / 3^2 \times 7$	1	
22. (9ME3-21)	(i) <u>- 2 kg</u> (ii) + 6 / 6 kg	1	Must be all correct
23.	<i>a</i> = <u>216</u>	1	
24. (9ME3-24)	The marked price of the novel is\$380	1	No need to consider unit
25. (9ME1-25)	Number of basketballs : Number of footballs : Number of volleyballs =6 :7 :5	1	
26.	The value of the 3rd term of the sequence is -8 .	1	
27.	The coefficient of x in the polynomial is $\underline{-6}$.	1	
28. (9ME1-27)	$2x^2 - x - 3$	1	
29. (9ME1-29)	(7x+1)(7x-1)	1	
30. (9ME1-30)	$h = \frac{1}{6}$	1	
31. (9ME1-31)	$x \ge -5$	1	
32.	The volume of the circular cone is $2700\pi \text{ cm}^3$.	1	No need to consider unit
33.	$x = \underline{35^{\circ}}$	1	No need to consider unit
34.	x = <u>64°</u>	1	No need to consider unit
35.	x = <u>26°</u>	1	No need to consider unit
36.	The compass bearing of Q from P is $N 50^{\circ} E$.	1	

9ME4

Question Number	Suggested Answers	Marks	Notes	
37. (9ME1-37)	(a) The fast-food chain has 18 branches.	1 (37a)		
	(b) The highest-selling branch of the fast-food chain			
	sold 95 hamburgers.	1 (37b)		
	(c) The mode of the sale of hamburgers at each		No need to consider unit	
	branch of the fast-food chain yesterday			
	was <u>60</u> .	1 (37c)		
38. (9ME3-38)	Mean = 18		No need to consider unit	
	Median =15	1 (38-2)	No need to consider unit	
39.	The required relative frequency = $\frac{1}{10}$	1	or 0.1	

Section C - Sub-paper 4 (9ME4)

Question Number	Suggested Answers	Marks	Notes		
40.	The total amount of these 3 items = \$29.8 + \$38.8 + \$24.1 < \$30 + \$40 + \$30 = 100	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 gift 		
	∴ Jackie had enough money to buy all 3 items.	Partial evidence of using estimation strategies, but the solution is incomplete or contains errors	 Estimate the price of each gift 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.	The weight of sugar in the box of lemon tea $= \frac{5}{100} \times 250$ $= 12.5 \text{ g}$	1 (41-1) 1* (41-2)			
	8	1** (41-3)			

9ME4

Question Number	Suggested Answers	Marks	Notes
42. (9ME1-41)	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	1* (42-1)	Must be all correct
	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1 (42-2) 1* (42-3)	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.
43. (9ME3-43)	12h = 288	1 (43-1)	
,	h=24	1* (43-2)	

Question Number	Suggested Answers					Marks	Notes	
44.	$\angle ABC = \angle EDC$ (Given)							
	$\angle ACB = \angle EC$	CD		(Comr	<i>'</i>			
	$\angle BAC = 180^{\circ}$	- ∠ABC -	∠ACB	(∠ sur	$n \text{ of } \Delta$)			Or other
	$= 180^{\circ} - \angle EDC - \angle ECD$					correct proofs		
	= ∠DE	CC		(∠ sun	$1 \text{ of } \Delta$			
	$\therefore \triangle ABC \sim \triangle$	EDC		(AAA))			
			(Conditions				
	(1) Any corre	ct proof wit	th correct	reasons			3	
	(2) Any correction	ct proof wit		esentation, 1	nissing r	easons or	2	
	(3) Incomplet correspon	e proof with	•	correct stat	ement an	d one	1	
	(4) Incomplet	e proof with	hout any c	orrect state	ments		0	-
							<u> </u>	
45.	$x = \sqrt{44^2 + 33^2}$						1 (45-1)	
	= 55 cm					1* (45-2) 1** (45-3)		
46. (9ME3-42)	$\tan 23^\circ = \frac{115}{}$					1 (46-1)		
	x ~ 270	0220221						
	$x \approx 270.9230221$ x = 271 m (correct to 3 sig. fig.)					1* (46-2) 1** (46-3)	r.t. 271 m	
47.	(a)						()	
	Number of voluntary services	1 – 2	3 – 4	5-6	7 – 8	9 – 10	1* (47a)	Must be all correct
	Class mark	1.5	3.5	5.5	7.5	9.5		
	Frequency	15	14	3	6	2		
	(b) The mean of the number of volunteer services participated in by 40 volunteer team members in the last school year $= \frac{1.5 \times 15 + 3.5 \times 14 + 5.5 \times 3 + 7.5 \times 6 + 9.5 \times 2}{15 + 14 + 3 + 6 + 2}$ $= 3.8$					1 (47b1)		
						1* (47b2) 1** (47b3)		