DR JOHAN JURGENS HIGH SCHOOL

MATHEMATICS

MARKING GUIDELINE

GRADE 10: EXAM PAPER 2 **NOV 2025** TERM 4

NOTE:

- If a candidate answers a question TWICW, mark the FIRST attempt ONLY.
- Consistent accuracy applies in ALL aspects of the marking guideline.
- If a candidate crossed out an attempt of a question and did NOT redo the question, mark the cross-out attempt.
- The mark for substitution is awarded for substitution into the CORRECT formula.

QUESTION 1 [14]

1.1	77%	✓ mode	**(1)**
1.2	59%	✓✓ median	**(2)**
1.3	$\bar{x} = \frac{915}{15}$ $= 61\%$	✓ sum ✓ division ✓ mean	**(3)**
1.4	$Q_1 = 48$ $Q_3 = 77$ Inter quartile range: = 77 – 48 = 29	✓ lower quartile ✓ upper quartile ✓ difference ✓ answer	**(4)**
1.5	New sum = 915 + x $\frac{915 + x}{16} = 63$ $915 + x = 1008$ $x = 93\%$	✓ new sum ✓ division ✓ equation ✓ percentage	**(4)**
			[14]

QUESTION 2 [16]

2.1	B: $4(0) = -3x - 24$ $3x = -24$ $x = -8$ B(-8;0) E: $4y = -3(0) - 24$ $y = -6$ E(0;-6)	✓ substitution ✓ B(-8;0) ✓ substitution ✓ E(0;-6)	(4)
2.2	$G\left(\frac{0-8}{2};\frac{-6-0}{2}\right)$ G(-4;-3)	✓ -4 ✓ -3	(2)
2.3	$= -\frac{3}{4}$	✓ gradient	(1)
2.4	AB = EF $EF = \sqrt{(3-0)^2 + (-2+6)^2}$ $= \sqrt{25}$ $AB \cong 5$	✓ formula ✓ length	(2)
2.5	$BC = \sqrt{(4+8)^2 + (-9-0)^2}$ $= \sqrt{225}$ $BC \cong 15$	✓ formula ✓ length	(2)
2.6	$m = \frac{4}{3}$	✓ method ✓ gradient	(2)
2.7	$m_{EF} = \frac{-2+6}{3-0}$ $= \frac{4}{3}$ $m_{AB} = m_{EF}$	✓ substitution ✓ gradient ✓ gradients equal	(3)
			[16]

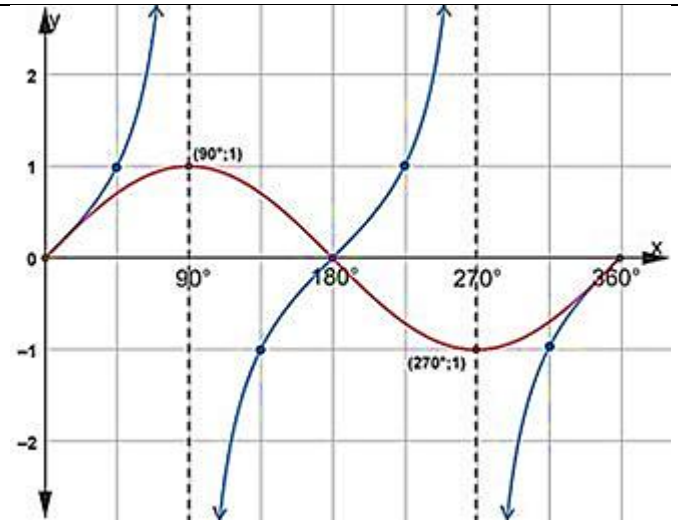
QUESTION 3 [15]

3.1.1	$y = \sqrt{15^2 - 9^2}$ $= 12$	✓ x-value ✓ Pythagoras ✓ y-value	(3)
3.1.2	$\sin\theta = \frac{12}{15} = \frac{4}{5}$	✓ value ✓ simplified	(2)
3.1.3	$\tan\theta = \frac{12}{9} = \frac{4}{3}$	✓ value ✓ simplified	(2)
3.2	$= \frac{1}{\frac{1}{2} \times \frac{1}{2}}$ $= 4$	✓ 1 ✓ $^1/_2$ ✓ $^1/_2$ ✓ 4	(4)
3.3.1	$\tan\theta = \frac{1}{7}$ $\therefore \theta = 8{,}13°$	✓ standard form ✓ angle	(2)
3.3.2	$\sin 2\theta = \frac{\sqrt{3}}{3}$ $2\theta = 35{,}2644$ $\therefore \theta = 17{,}63°$	✓ standard form ✓ angle	(2)
			[15]

QUESTION 4 [11]

4.1	$= 45°$	✓✓ angle	(2)
4.2	$\frac{CD}{14{,}14} = \cos 45°$ $CD = 10cm$	✓ ratio ✓✓ length	(3)
4.3	$AB = \sqrt{10^2 - 8^2}$ $= 6cm$	✓ Pythagoras ✓ ✓ length	(3)
4.4	$\sin B\hat{A}C = \frac{8}{10}$ $\therefore B\hat{A}C = 53{,}13°$	✓ ratio ✓✓ angle	(3)
			[11]

QUESTION 5 [17]

5.1.1	$a = 1$	✓ value	(1)
5.1.2	$180°$	✓ answer	(1)
5.1.3	$0° \leq x < 90°$ or $90° < x < 270°$ or $270° < x \leq 360°$	✓ $0° \leq x < 90°$ ✓ $90° < x < 270°$ ✓ $270° < x \leq 360°$	(3)
5.2	$90° < x < 180°$ or $270° < x < 360°$	✓ $90° < x < 180°$ ✓ $270° < x < 360°$	(2)
5.3.1	$\tan x = \sin x$ $\frac{\sin x}{\cos x} \times \frac{1}{\sin x} = \sin x \frac{1}{\sin x}$ $\cos x = 1$ $\therefore x = 0° \; or \; x = 180° \; or \; x = 360°$	✓ equation ✓ $x = 0°$ ✓ $x = 180°$ ✓ $x = 360°$	(4)
5.3.2		✓ start & end ✓ intercepts ✓ turning points ✓ shape	(4)
5.3.3	$-1 \leq y \leq 1$	✓values ✓notation	(2)
			[17]

QUESTION 6 [7]

	Cylinder: $V = \pi(1{,}5)^2(5)$ $= 35{,}3429 \ldots cm^3$ Rectangular Prism: $V = (1)(1)(5)$ $= 5cm^3$ Volume of metal $= 30{,}34cm^3$	✓ radius ✓ substitution ✓ volume ✓ dimensions ✓ substitution ✓ volume ✓ metal volume	(7)
			[7]

QUESTION 7 [20]

7.1	At least one pair opposite sides parallel.	✓ property	(1)
7.2	Alternate angles; LM | | ON	✓ alternate angles ✓ LM||ON	(2)
7.3.1	$\widehat{N}_1 = \widehat{N}_3$ …(vertically opp. ∠'s) $= 117°$	✓ statement ✓ reason ✓ angle	(3)
7.3.2	$\widehat{N}_4 = 180° - \widehat{N}_3$ …(suppl. ∠'s) $= 63°$	✓ statement ✓ reason ✓ angle	(3)
7.3.3	$\widehat{M}_2 = L\widehat{M}N - \widehat{M}_1$ $L\widehat{M}N = \widehat{N}_4$ …(corresponding ∠'s; LM||ON) $= 63°$ $\therefore \widehat{M}_2 = 63° - 47$ $= 16°$	✓ $\widehat{M}_2 = L\widehat{M}N - \widehat{M}_1$ ✓ statement ✓ reason ✓ angle ✓ angle	(5)

7.4	$\frac{5}{2}x + x + 47° = 180°$ …(∠'s of ΔLMO) $5x + 2x + 94 = 360$ $7x = 266$ $x = 38°$ $\therefore \hat{L} = \frac{5}{2}(38°)$ $= 95°$	✓ equation ✓ reason ✓ simplification ✓ angle *x* ✓ substitution ✓ angle	(6)
			[20]

TOTAL: 100

TAXONOMY LEVELS					
GRADE 10					
MATHEMATICS					
November 2025 Exam P2					
QUESTION	KNOWLEDGE	ROUTINE PROCEDURES	COMPLEX PROCEDURES	PROBLEM SOLVING	TOTAL
DESIRED %	20%	35%	30%	15%	100%
1.1	1				1
1.2	2				2
1.3		3			3
1.4			4		4
1.5				4	4
2.1		4			4
2.2		2			2
2.3	1				1
2.4		2			2
2.5		2			2
2.6	2				2
2.7			3		3
3.1.1		3			3
3.1.2	2				2
3.1.3	2				2
3.2		4			4
3.3.1		2			2
3.3.2			2		2
4.1	3				3
4.2		2			2
4.3		3			3
4.4			3		3
5.1.1	1				1
5.1.2	1				1
5.1.3			3		3
5.2			2		2
5.3.1				4	4
5.3.2		4			4
5.3.3		2			2
6			7		7
7.1	1				1
7.2	2				2
7.3.1		3			3
7.3.2		3			3
7.3.3			5		5
7.4				6	6
Total	18	39	29	14	100
Actual %	18,0	39,0	29,0	14,0	100,0
Desired %	20%	35%	30%	15%	100