WINTERVELDT & MABOPANE PLC

GRADE 10

MARKING GUIDELINES

MATHEMATICS: CONTROL TEST (TERM 1)

MARCH 2026

MARKS: 50

This marking guidelines consists of 7 pages, including the cognitive grid.

NOTE:

- If a candidate answers a question TWICE, mark only the FIRST attempt.
- Consistent accuracy applies in ALL aspects of the marking memorandum. Stop marking at the second calculation error.
- Assuming answers/values in order to solve a problem is NOT acceptable.

QUESTION 1

	SUGGESTED ANSWERS NB: ANY OTHER METHOD IS ACCEPTED.	DESCRIPTORS	
1.1	Irrational	✓ correct answer	(1)
1.2	$\sqrt{\frac{9}{11-x}}$ $x = 11$	✓ $\boldsymbol{x = 11}$	(1)
1.3	$-\sqrt{25} < -\sqrt{23} < -\sqrt{16}$ $-5 < -\sqrt{23} < -4$	✓ - 5 ✓ - 4	(2)
1.4.1	$x^2 - 8x + 15$ $= (x-3)(x-5)$	✓ $(x-3)$ ✓ $(x-5)$	(2)
1.4.2	$3a^2 - 27$ $= 3(a^2 - 9)$ $= 3(a+3)(a-3)$	✓ $3(a^2-9)$ ✓ $3(a+3)(a-3)$	(2)
1.5.1	$(x-2)(x+5)$ $= x^2 + 5x - 2x - 10$ $= x^2 + 3x - 10$	✓ Multiplying ✓ Simplify	(2)
1.5.2	$-(3-2y)^2$ $= -(3-2y)(3-2y)$ $= -(9-6y-6y+4y^2)$ $= -(9-12y+4y^2)$ $= -9+12y-4y^2$	✓ $= -(9-6y-6y+4y^2)$ ✓ $= -(9-12y+4y^2)$ ✓ $= -9+12y-4y^2$	(3)

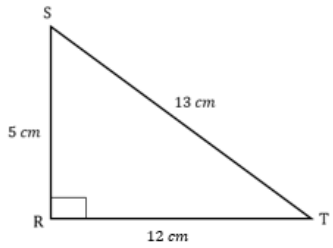
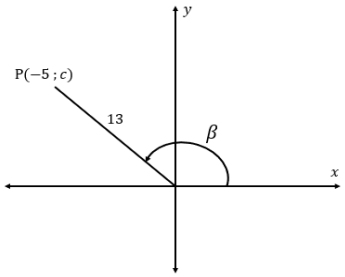
1.5.3	$\frac{x^2-4}{2x^2+5x+2} \div \frac{x^3-8}{6x+3}$ $= \frac{(x+2)(x-2)}{(2x+1)(x+2)} \times \frac{3(2x+1)}{(x-2)(x^2+2x+4)}$ $= \frac{3}{x^2+2x+4}$	✓ $(x+2)(x-2)$ ✓ $3(2x+1)$ ✓ $(2x+1)(x+2)$ ✓ $(x-2)(x^2+2x+4)$ ✓ $\frac{3}{x^2+2x+4}$	(5)
1.5.4	$\frac{2.3^x+3^{x-2}}{5.3^{x+1}-7.3^{x-1}}$ $= \frac{2.3^x+3^x.3^{-2}}{5.3^x.3^1-7.3^x.3^{-1}}$ $= \frac{3^x(2+3^{-2})}{3^x(5.3^1-7.3^{-1})}$ $\frac{(\frac{19}{9})}{(\frac{38}{3})}$ $= \frac{1}{6}$	✓ Split ✓✓ Common factor **(1 mark numerator, 1 mark denominator)** ✓ Simplifying ✓ answer	(5)
			[23]

QUESTION 2

2.1.1	$5^{2x-3} = 1$ $5^{2x-3} = 5^0$ $2x - 3 = 0$ $2x = 3$ $\therefore x = \frac{3}{2}$	✓ $5^{2x-3} = 5^0$ ✓ $2x - 3 = 0$ ✓ $\therefore x = \frac{3}{2}$	(3)
2.1.2	$8x^2 + 14x = 15$ $8x^2 + 14x - 15 = 0$ $(4x - 3)(2x + 5) = 0$ $4x - 3 = 0 \; or \; 2x + 5 = 0$ $4x = 3 \; or \; 2x = -5$ $\therefore x = \frac{3}{4} \; or \; x = -\frac{5}{2}$	✓ $(4x - 3)(2x + 5) = 0$ ✓ $x = \frac{3}{4}$ ✓ $x = -\frac{5}{2}$	(3)
2.1.3	$3x - 4 \leq 5x + 2$ $-4 - 2 \leq 5x - 3x$ $-6 \leq 2x$ $\therefore x \geq -3$	✓ $-4 - 2 \leq 5x - 3x$ ✓ $-6 \leq 2x$ ✓ $\therefore x \geq -3$	(3)
2.2	$2x + y = 4$ ……(1) $3x - y = 11$ ……(2) $y = 4 - 2x$ ……..(3) <u>Subst (3) into (2)</u> $3x - (4 - 2x) = 11$ $3x - 4 + 2x = 11$ $3x + 2x = 11+4$ $5x = 15$ $\therefore x = 3$ <u>Subst x into (3)</u> $y = 4 - 2(3)$ $y = 4 - 6$ $\therefore y = -2$	✓ $y = 4 - 2x$ ✓ substituting (3) into (2) ✓ value of x	(5)

<table>
<tr><td></td><td></td><td>✓ subst $x = 3$
✓ value of y</td><td></td></tr>
<tr><td>2.3</td><td>
<table>
<tr><td></td><td>Now</td><td>In 8 years' time</td></tr>
<tr><td>Nelson</td><td>$x + 20$</td><td>$x + 20 + 8 = x + 28$</td></tr>
<tr><td>Son</td><td>x</td><td>$x + 8$</td></tr>
</table>
$\therefore x + 28 = 3(x + 8)$
$x + 28 = 3x + 24$
$2x = 4$
$\therefore x = 2$
Nelson is 22 years and his son is 2 years old.</td><td>✓ $x + 20$ & x
✓ $x + 28$ & $x + 8$
✓ equating
✓ $x = 2$
✓ answer</td><td>(5)</td></tr>
<tr><td></td><td></td><td></td><td></td><td>**[19]**</td></tr>
</table>

QUESTION 3

3.1			
3.1.1	$\sin T = \frac{5}{13}$	✓$\sin T = \frac{5}{13}$	(1)
3.1.2	$\tan S = \frac{12}{5}$	✓$\tan S = \frac{12}{5}$	(1)
3.2			
3.2.1	$r^2 = x^2 + y^2$ $13^2 = (-5)^2 + c^2$ $c^2 = 169 - 25$ $c = \pm\sqrt{144}$ $\therefore c = 12$	✓correct substitution into theorem of Pythagoras ✓ $c = 12$	(2)
3.2.2	$(\sin\beta + \cos\beta)^2$ $= \left(\frac{12}{13} + \left(\frac{-5}{13}\right)\right)^2$ $= \left(\frac{7}{13}\right)^2$ $= \frac{49}{169}$	✓ $\frac{12}{13}$ ✓ $\frac{-5}{13}$ ✓ $\frac{49}{169}$	(3)
3.2.3	$tan\beta = \frac{12}{-5} = -\frac{12}{5}$	✓ $-\frac{12}{5}$	(1)
			[08]

ANALYSIS GRID (GRADE 10 TERM 1 TEST: MARCH 2026)

Q.no	Concepts	Level 1	Level 2	Level 3	Level 4	Total
1.1	Number system	1				
1.2	undefined	1				
1.3	Integers	2				
1.4.1	Factorise trinomial		2			
1.4.2	Factorise difference of 2 squares	2				
1.5.1	Simplify binomial by binomial	2				
1.5.2	Squaring binomial		3			
1.5.3	Simplify by factorising		5			
1.5.4	Simplify exponents			5		
Total		**8**	**10**	**5**	**0**	**23**
2.1.1	Solve for x, exponents		3			
2.1.2	Solve for x, trinomial			3		
2.1.3	Inequalities		3			
2.2	Simultaneous equations			5		
2.3	Word problem				5	
Total		**0**	**6**	**8**	**5**	**21**
3.1.1	Trigonometric Ratio	1				1
3.1.2	Trigonometric Ratio	1				1
3.2.1	Third side Pythagoras			2		2
3.2.2	Trigonometric ratios value				3	3
3.2.3	Trigonometric Ratio		1			1
Total		**2**	**0**	**2**	**3**	**8**
Gr.Total		**10**	**17**	**15**	**8**	**8**
Expected marks(policy)		**10**	**17**	**15**	**8**	**50**
Actual %		**20%**	**35%**	**30%**	**15%**	**100**
Expected(policy) %		**20%**	**35%**	**30%**	**15%**	**100**