



education

Department:
Education
North West Provincial Government
REPUBLIC OF SOUTH AFRICA

PROVINCIAL ASSESSMENT PROVINSIALE ASSESSERING

GRADE/GRAAD 10

MATHEMATICS P1/WISKUNDE V1

NOVEMBER 2024

MARKING GUIDELINES/NASIENRIGLYNE

MARKS/PUNTE: 100

TIME/TYD: 2 hours/uur

**These marking guidelines consists of 7 pages.
Hierdie nasienriglyne bestaan uit 7 bladsye.**

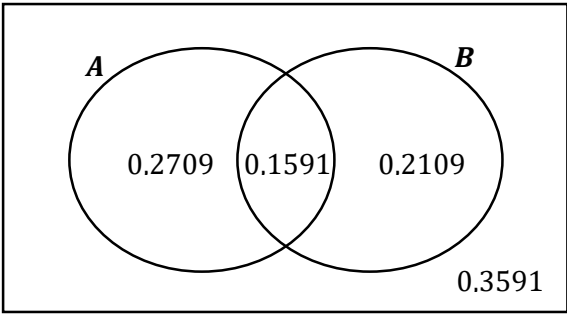
QUESTION/VRAAG 1		
1.1.1	$x^2 - 16x + 15$ $= (x - 1)(x - 15)$	✓ answer/antwoord (1)
1.1.2	$a(6a + 2b) - 3(3a + b)$ $= 2a(3a + b) - 3(3a + b)$ $= (3a + b)(2a - 3)$	✓ common factor/ <i>gemeenskaplike faktor</i> ✓ answer/antwoord (2)
1.2.1	$(3^3)^{\frac{2}{3}} / \sqrt[3]{(3^3)^2}$ $= 3^2$ $= 9$ OR / OF $(\sqrt[3]{27})^2$ $= 3^2$ $= 9$	✓ $\sqrt[3]{(3^3)^2}$ ✓ 9 ✓ $(\sqrt[3]{27})^2$ ✓ 9 (2)
1.2.2	$\frac{x+3}{x-3} \times \frac{x^3-27}{x^2-9} \times \frac{x-3}{x^2+3x+9}$ $= \frac{x+3}{x-3} \times \frac{(x-3)(x^2+3x+9)}{(x-3)(x+3)} \times \frac{x-3}{x^2+3x+9}$ $= 1$	✓ $\times \frac{x-3}{x^2+3x+9}$ ✓ $(x-3)(x^2+3x+9)$ ✓ $(x-3)(x+3)$ ✓ answer/antwoord (4)
1.2.3	$\frac{3^{x+1}(1-3)}{3^x(3^2+1)} / \frac{3^x(3-3^2)}{3^x(3^2+1)}$ $= \frac{3^1(-2)}{10}$ $= \frac{(-6)}{10}$ $= \frac{3}{5}$ $= -\frac{3}{5}$ OR/OF $\frac{3^x \cdot 3 - 3^x \cdot 3^2}{3^x \cdot 3^2 + 3^x}$ $= \frac{3^x(3-3^2)}{3^x(3^2+1)}$ $= \frac{-6}{10}$ $= -\frac{3}{5}$	✓ common factor numerator/ <i>gemeenskaplike faktor teller</i> ✓ common factor denominator <i>gemeenskaplike faktor noemer</i> ✓ simplifying/vereenvoudig ✓ answer/antwoord ✓ common factor numerator/ <i>gemeenskaplike faktor teller</i> ✓ common factor denominator <i>gemeenskaplike faktor noemer</i> ✓ simplifying/vereenvoudig ✓ answer/antwoord (4)
		[13]

QUESTION/VRAAG 2		
2.1.1	$2 \cdot 3^{2x} = 2 \cdot 3^2$ $3^{2x} = 3^2$ $2x = 2$ $x = 1$	✓ factorising/faktoriseer ✓ simplifying/vereenvoudig ✓ simplifying/vereenvoudig ✓ answer/antwoord (4)
2.1.2	$2x - 1 \geq 3(2x + 1)$ $2x - 1 \geq 6x + 3$ $-4x \geq 4$ $x \leq -1$	✓ simplifying /vereenvoudig ✓ multiplication brackets ✓ simplifying/vereenvoudig ✓ answer/antwoord (4)
2.1.3	$2x^2 - x - 10 = 0$ $(2x - 5)(x + 2) = 0$ $2x - 5 = 0$ or $x + 2 = 0$ $x = \frac{5}{2} / 2\frac{1}{2} / 2,5$ or / of $x = -2$	✓ factorising/faktoriseer ✓ equal to 0/stel gelyk aan 0 ✓✓ answers/antwoorde (4)
2.2	$(x + 5)(x - 5) = x^2 - 25$ $(x + 1)(x - 25) = x^2 - 24x - 25$ -24x must be added at $(x + 5)(x - 5)$ -24x moet by $(x + 5)(x - 5)$ bygetel word	✓ $x^2 - 25$ ✓ $x^2 - 25$ ✓ $-24x$ ✓ answer/antwoord (4)
2.3	$y = 3x - 2$ (1) $7x - 2y = 8$ (2) $7x - 2(3x - 2) = 8$ $7x - 6x + 4 = 8$ $x = 4$ $y = 3(4) - 2$ $y = 10$	✓ $3x - 2$ ✓ substitution/vervanging ✓ $x = 4$ ✓ $y = 10$ (4)
		[20]
QUESTION/VRAAG 3		
3.1.1	$T_n = 3n$	✓ $3n$ (1)
3.1.2	$T_{300} = 3(300)$ $T_{300} = 900$	✓ substitution/vervanging ✓ answer/antwoord CA from/van 3.1.1 (2)
3.1.3	$1500 = 3n$ $n = 500$	✓ substitution/vervanging ✓ answer/antwoord CA from /van 3.1.1 (2)
3.2	TERMSTERMS...repeat after the fifth letter.	✓ see pattern/sien patroon

	<p><i>TERMSTERMS..herhaal na die vyfde letter.</i></p> $\frac{383}{5} = 76 \text{ remainder } 3$ <p>The 383rd letter will be a R / <i>Die 383^{ste} letter sal 'n R wees.</i></p>	<p>✓ ÷ 5 ✓ answer/antwoord</p> <p>(3)</p>
3.3.1	36 ; 43	<p>✓✓ answers/antwoorde</p> <p>(2)</p>
3.3.2	Add 7 to the previous term / <i>Tel 7 by die vorige term.</i>	<p>✓✓ answer/antwoord</p> <p>(2)</p>
		[12]
QUESTION/VRAAG 4		
4.1	$3 \times \$ 450 = \$ 1\,350$ $\$ 1\,350 \times R 9,10$ $= R 12\,285$	<p>✓ $3 \times \\$ 450 = \\$ 1\,350$ ✓ $\\$ 1\,350 \times R 9,10$ ✓ answer/antwoord</p> <p>(3)</p>
4.2.1	<p>Balance/ <i>Balance</i> = R20 000 – R3000 – R2000 = R15 000</p> <p>Total installments/ <i>Totale paaieimente</i> = 24 x R900 = R21600</p> <p>Total interest paid = Total installments – Balance <i>Totale rente betaal= Totale paaieimente - Balans</i> = R21 600 – R15 000 = R6 600</p>	<p>✓ 20 000 – 3000 – 2000 ✓ answer/antwoord ✓ 24 x R900 ✓ Total installments/ <i>Totale paaieimente</i> ✓ R21 600 – R15 000 ✓ answer/antwoord</p> <p>(6)</p>
4.2.2	$A = P(1 + ni)$ $21\,600 = 15\,000(1 + 2i)$ $\frac{21\,600}{15\,000} - 1 = 2i$ $0,22 = i$ $r = 22\%$	<p>✓ formula/formule ✓ substitution/invervanging ✓ simplification/vereenvoudig</p> <p>✓ answer/antwoord</p> <p>(4)</p>
		[13]

QUESTION/VRAAG 5		
5.1		<ul style="list-style-type: none"> ✓ $f(x)$: intercepts/afsnitte ✓ $f(x)$: shape & turning point vorm en draaipunt ✓ $g(x)$: intercept/afsnit ✓ $g(x)$: shape/vorm ✓ $g(x)$: asymptote/asimptote
5.2	TP (0;4)	<ul style="list-style-type: none"> ✓ answer/antwoord (1)
5.3	The graph of f is reflected in the x – axis / OR f is reflected in the line $y = 0$.	<ul style="list-style-type: none"> ✓ reflected/refleksie ✓ x-axis/as ✓ reflected/refleksie ✓ $y = 0$
		[8]
QUESTION/VRAAG 6		
6.1	$c = -4$ $m = \frac{-8}{-4} = 2$ OR /OF Substitute/Vervang A (4;4) $g(x) = mx - 4$ $4 = m(4) - 4$ $8 = 4m$ $m = 2$ OR / OF	<ul style="list-style-type: none"> ✓ $c = -4$ ✓ $m = 2$ ✓ substitution/vervanging ✓ $m = 2$

	$m = \frac{\Delta y}{\Delta x}$ $= \frac{4 - (-4)}{4 - 0}$ $= \frac{8}{4}$ $= 2$	✓ substitution/ <i>vervanging</i> ✓ $m = 2$	(2)
6.2	$y \in R; y \neq -2$	✓ $y \in R$ ✓ $y \neq -2$	(2)
6.3	$\frac{4}{x} - 2 = 2x - 4$ $4 - 2x = 2x^2 - 4x$ $0 = 2x^2 - 2x - 4$ B (2; 0) E (-1; -6)	✓ $\frac{4}{x} - 2 = 2x - 4$ ✓ $0 = 2x^2 - 2x - 4$ ✓ B (2; 0) ✓ E (-1; -6)	(4)
6.4	$-1 \leq x < 0$ or $x \geq 2$	✓ $-1 \leq x < 0$ ✓ $x \geq 2$ CA from/ <i>van</i> 6.3	(2)
6.5	$f(4) = \frac{4}{4} - 2$ $= -1$ AC = 4 + 1 = 5 units/ <i>eenhede</i>	✓ $f(4) = \frac{4}{4} - 2$ ✓ -1 ✓ AC = 4 + 1 = 5	(3)
			[13]
QUESTION/VRAAG 7			
7.1	$y = -2$	✓ $y = -2$	(1)
7.2	$a = 1$ $q = -2$ $0 = (1)b^1 - 2$ $\therefore b = 2$ $\therefore h(x) = 2^x - 2$	✓ $a = 1$ ✓ $q = -2$ ✓ $b = 2$ ✓ $h(x) = 2^x - 2$ CA from/ <i>van</i> 7.1	(4)

7.3	$y = -1$ OR / OF $2^0 - 2$ $= -1$	$\checkmark y = -1$ (1)
		[6]
QUESTION/VRAAG 8		
8.1	$P(A) + P(B) = 0,43 + 0,37$ $= 0,80$ Not complementary events / <i>Nie komplimentêre gebeurtenisse.</i> $P(A) + P(B) \neq 1$	$\checkmark 0,43 + 0,37$ \checkmark conclusion/gevolgtrekking (2)
8.2	$P(A \text{ and } B) \neq 0$ Not mutually exclusive events/ <i>Nie onderling uitsluitende gebeurtenisse.</i>	$\checkmark P(A \text{ and } B) \neq 0$ \checkmark conclusion/gevolgtrekking (2)
8.3		$\checkmark 0,2709$ $\checkmark 0,1591$ $\checkmark 0,2109$ $\checkmark 0,3591$ (4)
		[8]
QUESTION/VRAAG 9		
9.1	$P(\text{Not } A) = 1 - P(A) / P(\text{Nie } A) = 1 - P(A)$ $= 1 - \frac{2}{3}$ $= \frac{1}{3}$	$\checkmark 1 - \frac{2}{3}$ $\checkmark \frac{1}{3}$ (2)
9.2	$P(B) = 1 - P(B^1)$ $= 1 - \frac{3}{5}$ $= \frac{2}{5}$	$\checkmark 1 - \frac{3}{5}$ $\checkmark \frac{2}{5}$ (2)
9.3	$P(A \text{ or/of } B) = P(A) + P(B) - P(A \text{ and/en } B)$ $\frac{4}{7} = \frac{2}{3} + \frac{2}{5} - P(A \text{ and/en } B)$ $P(A \text{ and/en } B) = \frac{52}{105}$	\checkmark formula/formule \checkmark substitution/substitusie \checkmark answer/antwoord (3)
		[7]
TOTAL/TOTAAL: 100		