



Province of the
EASTERN CAPE
EDUCATION

**NATIONAL
SENIOR CERTIFICATE/
NASIONALE
SENIOR SERTIFIKAAT**

NOVEMBER 2019

GRADE 10/GRAAD 10

**MATHEMATICS P1/WISKUNDE V1
MARKING GUIDELINE/NASIENRIGLYN
EXEMPLAR/EKSEMPLAAR**

MARKS/PUNTE: 100

This marking guideline consists of 8 pages./
Hierdie nasienriglyn bestaan uit 8 bladsye.

QUESTION 1/VRAAG 1

1.1	1.1.1	$x = 2$	✓ $x = 2$	(1)
	1.1.2	$x - 2 < 0$ $x < 2$	✓ $x - 2 < 0$ ✓ $x < 2$ Answer only: Full marks Slegs antwoord: Volpunte	(2)
1.2	1.2.1	$(a - 2)(a^2 + 2a + 4)$ $= a^3 - 8$	✓ a^3 ✓ -8	(2)
	1.2.2	$\left(\frac{a}{2} + 1\right)\left(\frac{a}{2} - 1\right)$ $= \frac{a^2}{4} - 1$	✓ $\frac{a^2}{4}$ ✓ -1	(2)
1.3	1.3.1	$2x^2 - x - 6$ $= (2x + 3)(x - 2)$	✓ $(2x + 3)$ ✓ $(x - 2)$	(2)
	1.3.2	$(a - b)^2 - 100c^2$ $= (a - b - 10c)(a - b + 10c)$	✓ $(a - b - 10c)$ ✓ $(a - b + 10c)$	(2)
				[11]

QUESTION 2/VRAAG 2

2.1	2.1.1	$x(x+5) = 0$ $x = 0$ or $x = -5$	$\checkmark x = 0$ $\checkmark x = -5$	(2)
	2.1.2	$\frac{2x+1}{3} = \frac{3x+1}{4}$ $4(2x+1) = 3(3x+1)$ $8x+4 = 9x+3$ $x = 1$	$\checkmark 4(2x+1) = 3(3x+1)$ $\checkmark 8x+4$ $\checkmark 9x+3$ $\checkmark x = 1$	(4)
2.2		$2(4-3x) \geq 20$ $8-6x \geq 20$ $-6x \geq 12$ $x \leq -2$	$\checkmark 8-6x$ $\checkmark -6x \geq 12$ $\checkmark x \leq -2$	(3)
2.3		$a+b = 12 \dots\dots\dots(1)$ $4a+2b = 44 \dots\dots\dots(2)$ From (1)..... $a = 12 - b$ $4(12-b) + 2b = 44$ $48 - 4b + 2b = 44$ $-2b = -4$ $b = 2$ $a = 10$ OR From (1)..... $b = 12 - a$ $4a + 2(12-a) = 44$ $4a + 24 - 2a = 44$ $2a = 20$ $a = 10$ $b = 2$ OR $4a + 4b = 48 \dots\dots\dots(3)$ $(3) - (2)$ $2b = 4$ $b = 2$ $a = 10$ OR $2a + 2b = 24 \dots\dots\dots(3)$ $(2) - (3)$ $2a = 20$ $a = 10$ $b = 2$	$\checkmark a = 12 - b$ $\checkmark 4(12-b) + 2b = 44$ $\checkmark 48 - 4b + 2b = 44$ $\checkmark b = 2$ $\checkmark a = 10$ $\checkmark b = 12 - a$ $\checkmark 4a + 2(12-a) = 44$ $\checkmark 4a + 24 - 2a = 44$ $\checkmark a = 10$ $\checkmark b = 2$ $\checkmark \checkmark 4a + 4b = 48$ $\checkmark 2b = 4$ $\checkmark b = 2$ $\checkmark a = 10$ $\checkmark \checkmark 2a + 2b = 24$ $\checkmark 2a = 20$ $\checkmark a = 10$ $\checkmark b = 2$	(5)

2.4	Son/Seun Sipho Now/Tans x $7x$ In 25 years $x + 25$ $7x + 25$ Equation: Oor 25jaar $7x + 25 = 2(x + 25)$ vergelyking $7x + 25 = 2x + 50$ $5x = 25$ $x = 5$ His son is 5 years old/Sy seun is 5 jaar oud.	✓ $7x + 25$ ✓ $2(x + 25)$ ✓ $2x + 50$ ✓ $5x = 25$ $x = 5$ ✓ His son is 5 years old/Sy seun is 5 jaar oud	(5)
			[19]

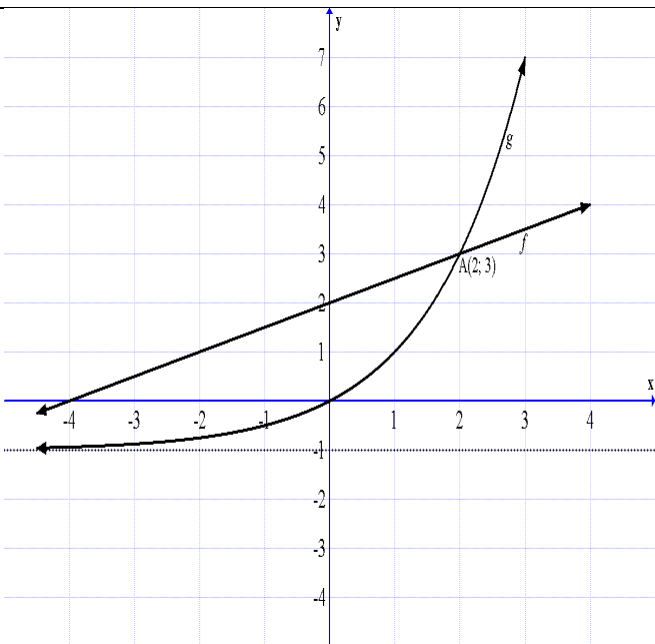
QUESTION 3/VRAAG 3

3.1	3.1.1	11 and/en14	✓ for both 11 and 14	(1)
	3.1.2	$T_n = 3n - 4$	✓ $3n$ ✓ -4	(2)
	3.1.3	$T_{33} = 3(33) - 4 = 95$	✓ $3(33) - 4$ ✓ 95	(2)
	3.1.4	$3n - 4 = 83$ $3n = 87$ $n = 29$	✓ $3n - 4 = 83$ ✓ $n = 29$	(2)
	3.1.5	$3n - 4 = 116$ $3n = 120$ $n = 40$	✓ $3n - 4 = 116$ ✓ $3n = 120$ ✓ $n = 40$	(3)
3.2		$3x + 2 - (x + 3) = 6x - 1 - (3x + 2)$ $2x - 1 = 3x - 3$ $x = 2$	✓ $3x + 2 - (x + 3)$ ✓ $6x - 1 - (3x + 2)$ ✓ $2x - 1 = 3x - 3$ ✓ $x = 2$	(4)
				[14]

QUESTION 4/VRAAG 4

4.1	Amount/Bedrag = 18, 18 x 3569 = R64 884, 42		✓ R64 884, 42	(1)
4.2	4.2.1	Loan/Lening = 0, 85 x 379 000 = R322 150 OR/OF Loan/Lening = 379 000 – 0,15 x 379 000 = R322 150	✓ 0, 85 x 379 000 ✓ R322 150 OR/OF ✓ 379 000 – 0,15 x 379 000 ✓ R322 150	(2) (2)
	4.2.2	$A = P(1 + in)$ $A = 322150(1 + 0,225 \times 4)$ $A = R612\ 085$	✓ $A = P(1 + in)$ ✓ $A = 322150(1 + 0,225 \times 4)$ ✓ $A = R612\ 085$	(3)
	4.2.3	Instalment/Paalement $= \frac{612085}{48} = R12751,77$	✓ 48 ✓ R12751,77	(2)
4.3		$A = P(1 + i)^n$ $96714,02 = P(1 + 0,067)^6$ $P = \frac{96714,02}{(1,067)^6}$ $P = R65539,47$	✓ $A = P(1 + i)^n$ ✓ $96714,02 = P(1 + 0,067)^6$ ✓ $P = R65539,47$	(3)
				[11]

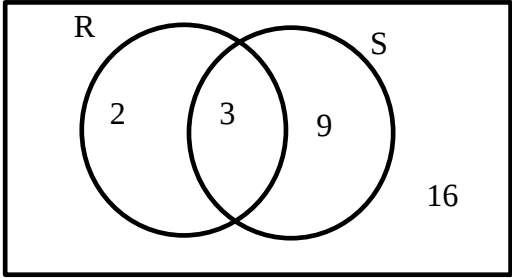
QUESTION 5/VRAAG 5

5.1	5.1.1	$y = -1$	✓ $y = -1$	(1)
	5.1.2		f: ✓ x – intercept/afsnit ✓ y – intercept/afsnit g: ✓ asymptote/asimptoot ✓ origin ✓ shape/vorm and intersection	(5)
	5.1.3	(2;3)	✓ 2 ✓ 3	
	5.1.4	$g(-1) = -\frac{1}{2}$ $g(1) = 1$ $m_{ave} = \frac{1 - \left(-\frac{1}{2}\right)}{1 - (-1)} = \frac{3}{4}$	✓ $g(-1) = -\frac{1}{2}$ ✓ $g(1) = 1$ ✓ $m_{ave} = \frac{1 - \left(-\frac{1}{2}\right)}{1 - (-1)}$ ✓ $m_{ave} = \frac{3}{4}$	(4)
5.2	5.2.1	$m = \tan 45^\circ = 1$	✓ 1	(1)
	5.2.2	$y = x$	✓ $y = x$	(1)
	5.2.3	$xy = 4 \times \frac{3}{2} = 6$ $y = \frac{6}{x}$	✓ 6 ✓ $y = \frac{6}{x}$	(2)
	5.2.4	$A(\sqrt{6}; \sqrt{6})$	✓ $\sqrt{6}$ ✓ $\sqrt{6}$	(2)
				[11]

QUESTION 6/VRAAG 6

6.1	$f: y = ax^2 + q$ $0 = a(-2)^2 + 8$ $4a = -8$ $a = -2$ $y = -2x^2 + 8$ $g: m = \frac{-4-0}{0-(-2)} = -2$ $y = -2x - 4$	$\checkmark 0 = a(-2)^2 + 8$ $\checkmark a = -2$ $\checkmark y = -2x^2 + 8$ $\checkmark m = -2$ $\checkmark y = -2x - 4$	(5)
6.2	$F(1;6)$ $G(1;-6)$ $FG = 12$ units/eenhede	$\checkmark F(1;6)$ $\checkmark G(1;-6)$ $\checkmark FG = 12$ units/eenhede	(3)
6.3	$\{y : y \leq 8; y \in R\}$ OR/OF $(-\infty; 8]$	$\checkmark\checkmark \{y : y \leq 8; y \in R\}$ $\checkmark\checkmark (-\infty; 8]$	(2) (2)
6.4	$-2 < x < 2$	$x > -2 \checkmark$ and/en $x < 2$ $\checkmark$	(2)
			[12]

QUESTION 7/VRAAG 7

7.1	7.1.1	$P(A) = \frac{2}{7}$ or/of 0,29	✓✓ $P(A) = \frac{2}{7}$ or/of 0, 29	(2)
	7.1.2	$P(V) = \frac{3}{7}$ or/of 0,43	✓✓ $P(V) = \frac{3}{7}$ or/of 0, 43	(2)
	7.1.3	$P(C) = \frac{4}{7}$ or/of 0,57	✓ $P(C) = \frac{4}{7}$ or/of 0, 57	(1)
7.2	7.2.1	Class/Klas = 30 	✓ 2 ✓ 3 ✓ 9 ✓ 16	(4)
	7.2.2	$\frac{16}{30} = \frac{8}{15} = 0,53$	✓✓ $\frac{16}{30} = \frac{8}{15} = 0,53$	(2)
	7.2.3	(a) $\frac{14}{30} = \frac{7}{15} = 0,47$	✓✓ $\frac{14}{30} = \frac{7}{15} = 0,47$	(2)
		(b) $\frac{9}{30} = \frac{3}{10} = 0,3$	✓✓ $\frac{9}{30} = \frac{3}{10} = 0,3$	(2)
				[15]
TOTAL/TOTAAL:				100