

**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 $x=-5$	$x=0$ $x=-5$	(2)
	2.1.2	$\frac{2x+1}{3} = \frac{3x+1}{4}$ $4(2x+1)=3(3x+1)$ $8x+4=9x+3$ $x=1$	$4(2x+1)=3(3x+1)$ $8x+4$ $9x+3$ $x=1$	(4)
2.2	$2(4-3x) \geq 20$ $8-6x \geq 20$ $-6x \geq 12$ $x \leq -2$		$8-6x$ $-6x \geq 12$ $x \leq -2$	(3)
2.3	$a+b=12$(1) $4a+2b=44$(2) From (1)..... $a=12-b$ $4(12-b)+2b=44$ $48-4b+2b=44$ $-2b=-4$ $b=2$ $a=10$ <p style="text-align: center;">OR</p> From (1)..... $b=12-a$ $4a+2(12-a)=44$ $4a+24-2a=44$ $2a=20$ $a=10$ $b=2$ <p style="text-align: center;">OR</p> $4a+4b=48$(3) (3) - (2) $2b=4$ $b=2$ $a=10$ <p style="text-align: center;">OR</p> $2a+2b=24$(3) (2) - (3) $2a=20$ $a=10$ $b=2$		$a=12-b$ $4(12-b)+2b=44$ $48-4b+2b=44$ $b=2$ $a=10$ $b=12-a$ $4a+2(12-a)=44$ $4a+24-2a=44$ $a=10$ $b=2$ $4a+4b=48$	(5)

		$2b = 4$ $b = 2$ $a = 10$ $2a + 2b = 24$ $2a = 20$ $a = 10$ $b = 2$	
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2.4	<p>Son/Seun Siphó</p> <p>Now/Tans x $7x$</p> <p>In 25 years $x+25$ $7x+25$</p> <p>Equation:</p> <p>Oor 25jaar $7x+25=2(x+25)$</p> <p>vergelyking</p> <p style="text-align: center;">$7x+25=2x+50$ $5x=25$ $x=5$</p> <p>His son is 5 years old/Sy seun is 5 jaar oud.</p>	<p>$7x+25$</p> <p>$2(x+25)$</p> <p>$2x+50$</p> <p>$5x=25$</p> <p>$x=5$</p> <p>His son is 5 years old/Sy seun is 5 jaar oud</p>	(5)
			[19]

QUESTION 3/VRAAG 3

3.1	3.1.1	11 and/en14	11 and 14	for both	(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 88	(1)
			4, 42	
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 1 OR/OF 379 00 0 – 0,15 x 379 000 R322 1	(2)
			50	(2)
	4.2.2	$A = P(1+in)$ $A = 322150(1+0,225 \times 4)$ $A = R612085$	$A = P(1+in)$ $A = 322150(1+0,225 \times 4)$ $A = R612085$	(3)
	4.2.3	Instalment/Paaient $= \frac{612085}{48} = R12751,77$	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

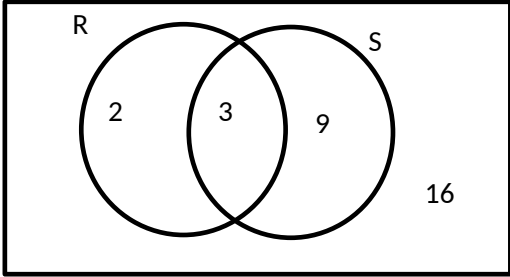
5.1	5.1.1	$y = -1$	$y = -1$	(1)
	5.1.2		f: x – intercept/afsnit y – intercept/afsnit g: asymptote/asimptoot origin shape/vorm and intersection	(5)
	5.1.3	$(2 ; 3)$	2 3	
	5.1.4	$g(-1) = -\frac{1}{2}$ $g(1) = 1$ $m_{ave} = \frac{1 - \left(-\frac{1}{2}\right)}{1 - (-1)} = \frac{3}{4}$	$g(-1) = -\frac{1}{2}$ $g(1) = 1$ $m_{ave} = \frac{1 - \left(-\frac{1}{2}\right)}{1 - (-1)}$ $m_{ave} = \frac{3}{4}$	(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	(2)

			$y = \frac{6}{x}$	
	5.2.4	$A(\sqrt{6}; \sqrt{6})$	$\sqrt{6}$ $\sqrt{6}$	(2)
				[11]

QUESTION 6/VRAAG 6

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

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	<p style="text-align: center;">Class/Klas = 30</p> 	<p style="text-align: center;">2 3 9 16</p>	(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