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	$(a-b)^2 - 100c^2$ $= (a-b-10c)(a-c+10c)$	✓ $(a-b-10c)$ ✓ $(a-c+10c)$	(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)….. $a=12-b$ $4(12-b)+2b=44$ $48-4b+2b=44$ $-2b=-4$ $b=2$ $a=10$ **OR** From (1)….. $b=12-a$ $4a+2(12-a)=44$ $4a+24-2a=44$ $2a=20$ $a=10$ $b=2$ **OR** $4a+4b=48$…….(3) (3) – (2) $2b=4$ $b=2$ $a=10$ **OR** $2a+2b=24$ …….(3) (2) – (3) $2a=20$ $a=10$ $b=2$	✓ $a=12-b$ ✓ $4(12-b)+2b=44$ ✓ $48-4b+2b=44$ ✓ $b=2$ ✓ $a=10$ ✓ $b=12-a$ ✓ $4a+2(12-a)=44$ ✓ $4a+24-2a=44$ ✓ $a=10$ ✓ $b=2$ ✓ ✓ $4a+4b=48$ ✓ $2b=4$ ✓ $b=2$ ✓ $a=10$ ✓ ✓ $2a+2b=24$ ✓ $2a=20$ ✓ $a=10$ ✓ $b=2$	(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]

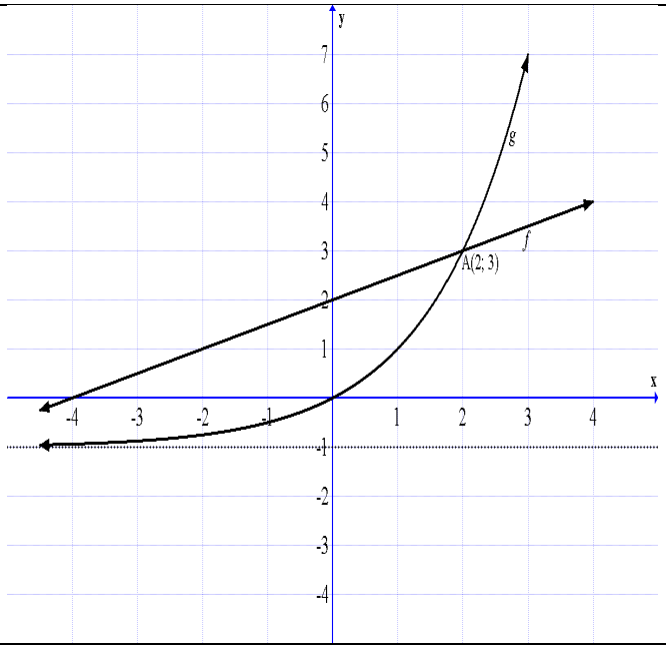
QUESTION 3/*VRAAG 3*

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/*Paaiement* $= \frac{612085}{48} = R12751{,}77$	✓ 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]

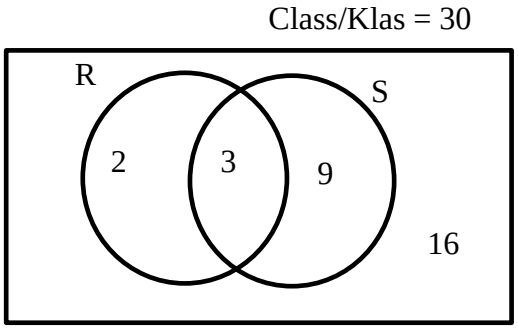
QUESTION 5/*VRAAG 5*

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	$A\left(\sqrt{6};\sqrt{6}\right)$	✓ $\sqrt{6}$ ✓ $\sqrt{6}$	(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*: $m = \frac{-4-0}{0-(-2)} = -2$ $y = -2x - 4$	✓ $0 = a(-2)^2 + 8$ ✓ $a = -2$ ✓ $y = -2x^2 + 8$ ✓ $m = -2$ ✓ $y = -2x - 4$	(5)
6.2	$F(1;6)$ $G(1;-6)$ FG = 12 units/eenhede	✓ $F(1;6)$ ✓ $G(1;-6)$ ✓FG = 12 units/eenhede	(3)
6.3	$\{y : y \leq 8; y \in R\}$ **OR/OF** $(-\infty;8]$	✓✓ $\{y : y \leq 8; y \in R\}$ ✓✓ $(-\infty;8]$	(2) (2)
6.4	$-2 < x < 2$	$x > -2$ ✓ and/en $x < 2$ ✓	(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		✓ 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**