Province of the
EASTERN CAPE
EDUCATION

NATIONAL SENIOR CERTIFICATE / *NASIONALE SENIORSERTIFIKAAT*

GRADE/*GRAAD* 12

SEPTEMBER 2023

TECHNICAL MATHEMATICS P1
MARKING GUIDELINE
TEGNIESE WISKUNDE V1
NASIENRIGLYN

MARKS/ *PUNTE:* **150**

MARKING CODES/*NASIENKODES*	
A	Accuracy/*Akkuraatheid*
AO	Answer only/slegs antwoord
CA	Consistent accuracy/*Volgehoue akkuraatheid*
M	Method/*Metode*
R	Rounding/*Afronding*
NPR	No penalty for rounding/*Geen penalisering vir afronding nie*
NPU	No penalty for units omitted/*Geen penalisering vir eenhede weggelaat nie*
S	Simplification/*Vereenvoudiging*
SF	Substitution in the correct formula/*Vervanging in die korrekte formule*

These marking guidelines consist of 18 pages.
Hierdie nasienriglyne bestaan uit 18 bladsye.

NOTE:

- If a candidate answers a question TWICE, only mark the FIRST attempt.
- The method of consistent accuracy marking must be applied to all aspects of the marking guideline where applicable as indicated with the marking code **CA**.
- If a candidate strikes off a response to a question and does not attempt the question again, then the struck off question should be marked.

LET WEL:

- *Indien 'n kandidaat 'n vraag TWEE keer beantwoord, sien slegs die EERSTE poging na.*
- *Die metode van volgehoue akkuraatheid-nasien moet waar moontlik op alle aspekte van die nasienriglyne toegepas word soos aangedui deur die nasienkode* **CA.**
- *Indien 'n kandidaat 'n antwoord deurhaal en nie poog om die vraag weer te beantwoord dan moet die deurgehaalde antwoord gemerk word.*

QUESTION/*VRAAG* 1

1.1.1	$(x+17)(x-23)=0$ $x=-17$ or/*of* $x=23$	✓ $x=-17$ **A** ✓ $x=23$ **A** (2)
1.1.2	$\frac{x^2}{2}+x-\frac{1}{3}=0$ $x=\frac{-(1)\pm\sqrt{(1)^2-4\left(\frac{1}{2}\right)\left(-\frac{1}{3}\right)}}{2\left(\frac{1}{2}\right)}$ $\therefore x=-2{,}29$ or/*of* $x=0{,}29$	✓ Substitution / *vervanging* **A** ✓ $x=-2{,}29$ **CA** ✓ $x=0{,}29$ **CA** **R** (3)
1.1.3	$x(2x+1)-3\leq 0$ $2x^2+x-3\leq 0$ $(2x+3)(x-1)\leq 0$ CVs/*KWs*: $-\frac{3}{2}$ and/*en* 1 $\therefore\ x\leq -\frac{3}{2}$ or/*of* $x\geq 1$ **OR/*OF***  	✓ Standard form /*standaardvorm* **A** ✓ Factorisation/*faktorisering* / **SF** **CA** ✓ Both critical values/*beide kritiese waardes* **CA** ✓ correct notation/*korrekte notasie* **CA** **OR/*OF*** ✓ Correct number line /*korrekte getallelyn* **CA** (4)

1.2	$y = x + 1 \ldots\ldots\ldots(1)$ and/*en* $y = 3x^2 - xy \ldots\ldots\ldots\ldots(2)$ $3x^2 - x(x+1) = x + 1$ $3x^2 - x^2 - x - x - 1 = 0$ $2x^2 - 2x - 1 = 0$ $x = \frac{-(-2) \pm \sqrt{(-2)^2 - 4(2)(-1)}}{2(2)}$ $x = 1{,}37$ or/*of* $x = -0{,}37$ $y = 1{,}37 + 1$ or/*of* $y = -0{,}37 + 1$ $y = 2{,}37$ or/*of* $y = 0{,}63$ **OR/*OF*** $x = y - 1 \ldots\ldots\ldots(3)$ and/*en* $y = 3x^2 - xy$ $y = 3(y-1)^2 - y(y-1)$ $y = 3(y^2 - 2y + 1) - y^2 + y$ $0 = 3y^2 - 6y + 3 - y^2$ $0 = 2y^2 - 6y + 3$ $y = \frac{-(-6) \pm \sqrt{(-6)^2 - 4(2)(3)}}{2(2)}$ $\therefore y = 2{,}37$ or/*of* $y = 0{,}63$ $x = 2{,}37 - 1$ or/*of* $x = 0{,}63 - 1$ $\therefore x = 1{,}37$ or/*of* $x = -0{,}37$	✓ Equating equations/ *Gelykstellende vergelykings* **A** ✓ Substitution/*vervanging* **CA** ✓Correct standard form/ *Korrekte standaardvorm* **CA** ✓ Both *x*-values/*beide x-waardes* **CA** ✓ Both *y*-values/*beide y-waardes* **CA** **OR/*OF*** ✓ *x* subject/*onderwerp* **A** ✓ Substitution/*vervanging* **CA** ✓ Correct standard form/ *Korrekte standaardvorm* **CA** ✓ both *y*-values /*beide y-waardes* **CA** ✓ both *x* -values/*beide x-waardes* **CA** **NPR** (5)

1.3.1	$D=100\left(\frac{E-F}{E}\right)$ $D.E=100(E-F)$ $D.E=100E-100F$ $100F=100E-D.E$ $100F=(100-D)E$ $\therefore E=\frac{100F}{100-D}$ **OR/*OF*** $D=100\left(\frac{E-F}{E}\right)$ $D.E=100(E-F)$ $\frac{D.E}{100}=E-F$ $\frac{D.E}{100}-E=F$ $E\left(\frac{D}{100}-1\right)=F$ $E=\frac{F}{\frac{D}{100}-1}$	✓ *D.E* subject /*onderwerp* **A** ✓ $100E - 100F$ **A** ✓ Common factor/*gemene factor* **CA** ✓ *E* subject/*onderwerp* **CA** **OR/*OF*** ✓ *D.E* subject /*onderwerp* **A** ✓ $E - F$ **A** ✓ Common factor/*gemene faktor* **CA** ✓ *E* subject /*onderwerp* **CA** (4)
1.3.2	$E=\frac{100F}{100-D}$ $E=\frac{100(80)}{100-3{,}75}$ $\therefore E=83{,}17$ kg	✓ Substitution/*vervanging* **A** ✓ $E = 83{,}17$ **CA** (2)
1.3.3	$E=83{,}17\times1000\text{g}$ $E=83170g$	✓ 83170 **CA** (1)

1.3.4	$E = 83170\text{g} = 8{,}3170 \times 10^4\,\text{g}$	✓ $8{,}3170 \times 10^4$ **CA** (1)
1.4	1000_2 $\underline{-110_2}$ 10_2 **OR/*OF*** $2^3 - \left(2^2 + 2^1\right)$ $= 2$ $\therefore 1000_2 - 110_2 = 10_2$	✓ Method/*metode* **A** ✓ 10_2 **A** **OR/*OF*** ✓ Method/*metode* **A** ✓ 10_2 **A** (2)
		[24]

QUESTION/*VRAAG* 2

2.1	$\Delta = b^2 - 4ac$ $6 = (-3)^2 - 4a(2)$ $6 - 9 = -8a$ $-3 = -8a$ $a = \frac{3}{8}$	✓ Formula /*formule* **A** ✓ Substitution/*vervanging* **CA** ✓ $a = \frac{3}{8}$ **CA** (3)
2.2	Roots are Real, irrational and unequal. / *Wortels is Reëel, irrasionaal en ongelyk* **Accept Real and Unequal / *Aanvaar Reëel en ongelyk***	✓ Irrational/*irrasionaal* **A** (1)
2.3	$b^2 - 4ac = 0$ $(-3)^2 - 4a(2) = 0$ $9 - 8a = 0$ $a = \frac{9}{8}$	✓ $\Delta = 0$ **A** ✓ Substitution/*vervanging* **CA** ✓ $a = \frac{9}{8}$ **CA** (3) **[7]**

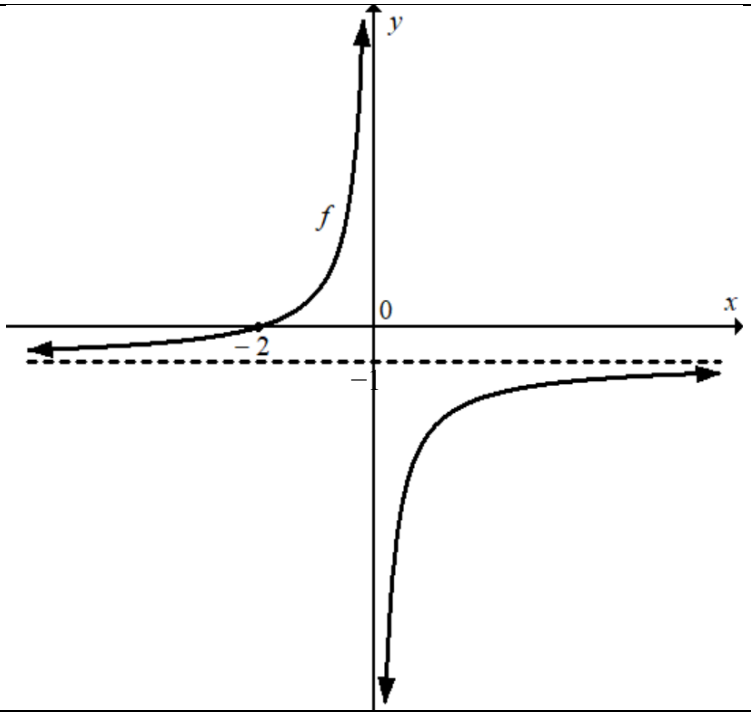
QUESTION/*VRAAG* 3

3.1.1	$\log_x\left(\frac{1}{x}\right)$ $= \log_x x^{-1}$ $= -1$	✓ Exponential form / *eksponensiële vorm* **A** ✓ Log property/*eienskap* **CA** (2)
3.1.2	$4^x - 2^{2x-1}$ $= (2^2)^x - 2^{2x=1}$ $= 2^{2x} - 2^{2x} \cdot 2^{-1}$ $= 2^{2x}(1 - 2^{-1})$ $= 2^{2x} \cdot 2^{-1}$ $= 2^{2x-1}$ **OR/*OF***	✓ Prime factorisation /*priem faktorisering* **A** ✓ Factorisation/*faktorisering* **CA** ✓ 2^{2x-1} **CA** **OR/*OF***

	$4^x - 2^{2x-1}$ $= 4^x - 2^{2x} . 2^{-1}$ $= 4^x - 4^x . 2^{-1}$ $= 4^x (1 - 2^{-1})$ $= 4^x . 2^{-1}$	✓ Exponential law/*eksponensiële wet* **A** ✓ Factorisation/*faktorisering* **CA** ✓ $4^x . 2^{-1}$ **CA** (3)
3.2	$\frac{\sqrt{3x^2} \times \sqrt[3]{12x^3}}{2x^2} = \frac{\sqrt[6]{243}}{\sqrt[3]{2}}$ LHS/*LK* $= \frac{\sqrt{3x^2} \times \sqrt[3]{12x^3}}{2x^2}$ $= \frac{x\sqrt{3} \times x\sqrt[3]{2^2.3}}{2x^2}$ $= \frac{\sqrt{3} \times \sqrt[3]{2^2.3}}{2}$ $= \frac{3^{\frac{1}{2}} \times 2^{\frac{2}{3}} . 3^{\frac{1}{3}}}{2}$ $= \frac{3^{\frac{1}{2}+\frac{1}{3}}}{2^{1-\frac{2}{3}}}$ $= \frac{3^{\frac{5}{6}}}{2^{\frac{1}{3}}} = \frac{\sqrt[6]{3^5}}{\sqrt[3]{2}}$ $= \frac{\sqrt[6]{243}}{\sqrt[3]{2}} =$ RHS/*RK*	✓ Prime factorisation/*priem faktorisering* **A** ✓ Simplification/ *vereenvoudiging* **CA** ✓ Same base law/*dieselfde basis wet* **CA** ✓ Exponential property /*eksponensiële eienskap* (4)
3.3.1	$z = 3 - 4i$	✓ $z = 3 - 4i$ **A** (1)
3.3.2	$\|z\| = \sqrt{(3)^2 + (-4)^2}$ $\|z\| = 5$	✓ Substitution /*vervanging* **CA** ✓ $\|z\| = 5$ **CA** (2)

3.3.3	RA/*VH*: $\tan\theta = \frac{4}{3}$ RA/*VH*: $\theta = 53{,}13°$ $\theta = 360° - 53{,}13°$ $\theta = 306{,}87°$	✓ tan ratio /*verhouding* **CA** ✓ Reference angle / *verwysingshoek* **CA** ✓ 306,87° **CA** (3)
3.3.4	$z = 5cis306{,}87°$	✓ $z = 5cis306{,}87°$ **CA** (1)
3.4	$\frac{x-i}{2i+1} = y+3i$ $x-i = (y+3i)(2i+1)$ $x-i = 2yi + y + 6i^2 + 3i$ $x-i = (2y+3)i + y - 6$ $2y+3 = -1$ and/*en* $x = y-6$ $y = -2$ and/*en* $x = -8$ **OR /*OF*** $\frac{x-i}{2i+1} = y+3i$ $\frac{(x-i)(2i-1)}{(2i+1)(2i-1)} = y+3i$ $\frac{2xi - x - 2i^2 + i}{4i^2 - 1} = y+3i$ $\frac{(2x+1)i - x + 2}{-4-1} = y+3i$ $(2x+1)i - x + 2 = -5y - 15i$ $2x+1 = -15$ and/*en* $-x+2 = -5y$ $\therefore x = -8$ and/*en* $-(-8)+2 = -5y$ $x = -8$ and/*en* $y = -2$	✓ Simplification / *vereenvoudiging* **A** ✓ $i^2 = -1$ **A** ✓ Simplification / *vereenvoudiging* **CA** ✓ $x = -8$ **CA** ✓ $y = -2$ **CA** **OR/*OF*** ✓ Simplification / *vereenvoudiging* **A** ✓ $i^2 = -1$ **A** ✓ Simplification / *vereenvoudiging* **CA** ✓ $x = -8$ **CA** ✓ $y = -2$ **CA** (5) **[21]**

QUESTION/*VRAAG* 4

4.1.1	$y=-1$	✓ $y=-1$ **A** (1)
4.1.2	$0=-\frac{2}{x}-1$ $1=-\frac{2}{x}$ $x=-2$	✓ $y=0$ **A** ✓ Simplification/ *vereenvoudiging* **A** ✓ $x=-2$ **CA** (1)
4.1.3		✓ Shape/*vorm* **CA** ✓ x - intercept/*afsnit* **CA** ✓ Asymptote/*asimptoot* **CA** (3)
4.1.4	$y\neq -1$ **OR / *OF*** $-\infty<y<-1$ or / *of* $-1<y<\infty$ **OR / *OF*** $y\in(-\infty;-1)$ or / *of* $y\in(-1;\infty)$	✓ $y\neq -1$ **A** (1)

4.2.1	$y=-2$	✓ $y=-2$ **A** (1)
4.2.2	$y=-3$	✓ $y=-3$ **A** (1)
4.2.3	$0=x^2-x-2$ $0=(x-2)(x+1)$ $x=-1$ or/*of* $x=2$	✓ $y=0$ **A** ✓ Factorization/ Substitution /*Faktorisering / Vervanging* **A** ✓ $x=-1$ or/*of* $x=2$ **CA** (3)
4.2.4	$0=2^x-3$ $3=2^x$ $x=\log_2 3$ $x=1{,}58$	✓ $y=0$ **A** ✓ log function/*funksie* **A** ✓ $x=1{,}58$ **A** (3)
4.2.5	$k(x)=x^2-x-2$ $k'(x)=2x-1=0$ **OR** / *OF* $x=-\frac{(-1)}{2(1)}$ **OR** / *OF* $x=\frac{-1+2}{2}$ $x=\frac{1}{2}$ $k\left(\frac{1}{2}\right)=\left(\frac{1}{2}\right)^2-\frac{1}{2}-2$ $k\left(\frac{1}{2}\right)=-\frac{9}{4}$	✓ $k'(x)$ **A** ✓ $k'(x)=0$ **A** ✓ $x=\frac{1}{2}$ **CA** ✓ $k\left(\frac{1}{2}\right)=-\frac{9}{4}$ **CA** (4)
4.2.6	$x\in R$ **OR/*OF*** $x\in(-\infty;\infty)$ **OR/*OF*** $-\infty<x<\infty$	✓ $x\in R$ **A** (1)
4.2.7	$x=0$	✓ $x=0$ **A** (1)
4.3.1	$0=x+1$ $x=-1$	✓ $y=0$ **A** ✓ $x=-1$ **A** (2)
4.3.2(a)	B(0 ; 3)	✓ $x=0$ **A** ✓ $y=3$ **A** (2)
4.3.2(b)	$h(x)=x+3$	✓ $h(x)=x+3$ **A** (1)
4.3.2(c)	$g(x)=\sqrt{9-x^2}$	✓ $g(x)=\sqrt{9-x^2}$ **CA** (1) **[28]**

QUESTION/*VRAAG* 5

5.1	$A = P(1-i)^n$ $A = 15000\left(1-\frac{0,03}{4}\right)^{5\times4}$ $= R12\ 903,32$	✓ Formula /*formule* **A** ✓ Substitution /*vervanging* **A** ✓ R12 903,32 **CA** (3)
5.2.1	R15,00	✓ R15,00 **A** (1)
5.2.2	$A = P(1+i)^n$ $18,80 = 3,80(1+i)^{20}$ $\frac{94}{19} = (1+i)^{20}$ $\sqrt[20]{\frac{94}{19}} = 1+i$ $i = 0,0832$ Rate/*Koers* = 8,32%	✓ Substitute/*vervang A* and/*en P* **A** ✓ Substitute/*vervang n* **A** ✓ Simplification /*vereenvoudiging* **CA** ✓ Simplification /*vereenvoudiging* **CA** ✓ 8,32 **CA** (5)

5.3	$A = P(1+i)^n$ $A_4 = \text{R}350\ 000(1+0{,}07)^4 + x$ $A_4 = 458778{,}6035 + x$ $A_6 = (458778{,}6035 + x)(1+0{,}07)^2 - 100\ 000$ $A_6 = 425\ 255{,}6231 + 1{,}1449x$ $A_8 = (425\ 255{,}6231 + 1{,}1449x)\left(1+\frac{0{,}07}{12}\right)^{2\times 12} = 620\ 000$ $1{,}1449x = \frac{620\ 000}{\left(1+\frac{0{,}07}{12}\right)^{2\times 12}} - 425\ 255{,}6231$ $\therefore x = \text{R}99\ 542{,}12$ **OR/*OF*** $[\text{R}350\ 000(1{,}07)^6 + x(1{,}07)^2 - \text{R}100\ 000]\left(\frac{1207}{1200}\right)^{24} = \text{R}620\ 000$ $425\ 255{,}6231 + x(1{,}07)^2 = 539221{,}3909$ $x = \text{R}99\ 542{,}12$	✓ $\text{R}350\ 000(1+0{,}07)^4$ **A** ✓ **M** adding/*tel by x* **A** ✓ $(458778{,}6035 + x)(1+0{,}07)^2$ **CA** ✓ **M** subtracting/*trek af* 100 000 **A** ✓ Substitution/*vervanging* **CA** ✓ R99 542,12 **CA** **OR/*OF*** ✓ $\text{R}350\ 000(1{,}07)^6$ ✓ $+x(1{,}07)^2$ ✓ **M** subtracting/*trek af* 100 000 **A** ✓ $\left(\frac{1207}{1200}\right)^{24}$ ✓ $= \text{R}620\ 000$ ✓ $x = \text{R}99\ 542{,}12$ (6) **[15]**

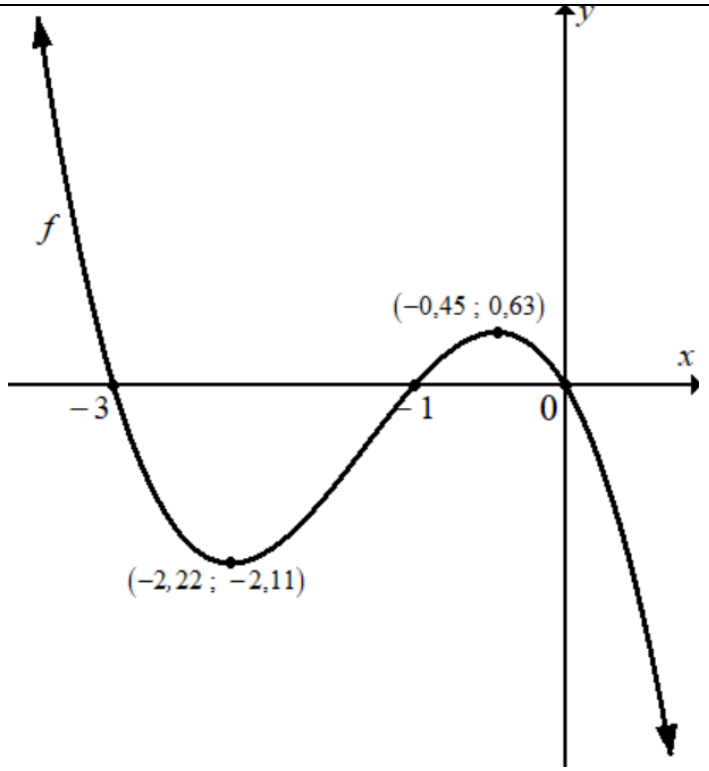
QUESTION/*VRAAG* 6

6.1	$f(x) = 2 - 5x$ $f'(x) = \lim_{h \to 0} \frac{f(x+h) - f(x)}{h}$ $= \lim_{h \to 0} \frac{2 - 5(x+h) - (2-5x)}{h}$ $= \lim_{h \to 0} \frac{-5x - 5h + 5x}{h}$ $= \lim_{h \to 0} \frac{-5h}{h}$ $= \lim_{h \to 0} -5$ $\therefore f'(x) = -5$ **Penalty of one mark for incorrect notation** ***Penaliseer een punt indien notasie foutief is.***	✓ Definition/*definisie* **A** ✓ **SF** **CA** ✓ **S** **CA** ✓ **S** **CA** ✓ –5 **CA** **AO**: **1 mark/*punt*** (5)
6.2.1	$D_x\left(\frac{1}{\sqrt{x}} - 3kx\right)$ $= D_x\left(\frac{1}{x^{\frac{1}{2}}} - 3kx\right)$ $= D_x\left(x^{-\frac{1}{2}} - 3kx\right)$ $= -\frac{1}{2}x^{-\frac{3}{2}} - 3k$	✓ Exponential form /*eksponensiële vorm* **A** ✓ Simplification/ *vereenvoudiging* **CA** ✓ $-\frac{1}{2}x^{-\frac{3}{2}}$ **CA** ✓ $-3k$ **A** (4)

6.2.2	$\frac{dy}{dx}$ if: $y=\frac{2x^3-8x}{x-2}$ $y=\frac{2x\left(x^2-4\right)}{x-2}$ $y=\frac{2x(x-2)(x+2)}{x-2}$ $y=2x(x+2)$ $y=2x^2+4x$ $\frac{dy}{dx}=4x+4$	✓ Factorisation/*faktorisering* **A** ✓ $2x^2+4x$ **CA** ✓ $4x$ **CA** ✓ 4 **CA** (4)
6.3	$h(x)=3x^2-4x$ $h'(x)=6x-4=2$ $x=1$ $h(1)=3(1)^2-4(1)$ $h(1)=-1$	✓ $h'(x)$ **A** ✓ $h'(x)=2$ **A** ✓ $x=1$ **CA** ✓ $h(1)=-1$ **CA** (4)
		[17]

QUESTION/*VRAAG* 7

7.1	$0 = -x^3 - 4x^2 - 3x$ $0 = -x(x^2 + 4x + 3)$ $0 = -x(x+1)(x+3)$ $x = 0$ or/*of* $x = -1$ or/ *of* $x = -3$	✓ $y = 0$ **A** ✓ Factorisation/*faktorisering* **A** ✓ $x = 0$ **CA** ✓ $x = -1$ or/*of* $x = -3$ **CA** (4)
7.2	$y = 0$	✓ $y = 0$ **A** (1)
7.3	$f(x) = -x^3 - 4x^2 - 3x$ $f'(x) = -3x^2 - 8x - 3 = 0$ $x = \frac{-(-8) \pm \sqrt{(-8)^2 - 4(-3)(-3)}}{2(-3)}$ $\therefore x = -2{,}22$ or/*of* $x = -0{,}45$ $y = -(-2{,}22)^3 - 4(-2{,}22)^2 - 3(-2{,}22)$ $y = -2{,}11$ or/*of* $y = -(-0{,}45)^3 - 4(-0{,}45)^2 - 3(-0{,}45)$ $y = 0{,}63$	✓ $f'(x)$ **A** ✓ $f'(x) = 0$ **A** ✓ Substitution/*vervanging* **CA** ✓ Both x-values/*beide x-waardes* **CA** ✓ Both y-values/*beide y-waardes* **CA** (5)

7.4		✓ Shape /*vorm* **A** ✓ Negative *x*-intercepts/*negatiewe x-afsnitte* **CA** ✓ *y* -intercept/*afsnit* **CA** ✓ Both turning points/*beide draaipunte* **CA** (4)
7.5	$f(-2) = -(-2)^3 - 4(-2)^2 - 3(-2) = -2$ $f(-1) = -(-1)^3 - 4(-1)^2 - 3(-1) = 0$ $\text{Average gradient} = \frac{0-(-2)}{-1-(-2)}$ ∴ Gemiddelde gradiënt = 2	✓ −2 **A** ✓ 0 **A** ✓ **SF** **CA** ✓ Ave/*Gemid* grad = 2 **CA** (4) **[18]**

QUESTION/*VRAAG* 8

8.1	$s = ut + \frac{1}{2}gt^2.$ $s = 5\times 4 + \frac{1}{2}(10)(4)^2$ $s = 100$ m **NPU**	✓ Substitution/*vervanging* **A** ✓ s = 100 m **CA** (2)
8.2	$\frac{ds}{dt} = v = u + gt$ **OR/*OF*** $\frac{ds}{dt} = 5 + 10t$	✓ u **A** ✓ gt **A** **OR/*OF*** ✓ 5 ✓ $10t$ (2)
8.3	$v = u + gt$ $v = 5 + 10(4)$ $v = 45$m/s **NPU**	✓ Substitution/*vervanging* **CA** ✓ 45 m/s **CA** (2)
8.4	Average rate of change $= \frac{45-5}{4-0}$ $\therefore$ *(Gemid tempo verandering)* = 10 m/s^2 **NPU**	✓ Substitution/*vervanging* **CA** ✓ 10 m/s **CA** (2) **[8]**

QUESTION/*VRAAG* 9

9.1.1	$\int\left(x^3-8\right)dx$ $=\frac{x^4}{4}-8x+c$	✓ $\frac{x^4}{4}$ **A** ✓ $-8x$ **A** ✓ c **A** (3)
9.1.2	$\int\left(\frac{f(x)}{x^2+2x+4}-2^{3x}\right)dx$ $=\int\left(\frac{x^3-8}{x^2+2x+4}-2^{3x}\right)dx$ $=\int\left(\frac{(x-2)\left(x^2+2x+4\right)}{x^2+2x+4}-2^{3x}\right)dx$ $=\int\left(x-2-2^{3x}\right)dx$ $=\frac{x^2}{2}-2x-\frac{2^{3x}}{3\ln 2}+c$	✓ Factors/*faktore* **A** ✓ Simplification/*vereenvoudiging* **CA** ✓ $\frac{x^2}{2}-2x$ **CA** ✓ $-\frac{2^{3x}}{3\ln 2}+c$ **CA** (4)
9.2	$\text{Area}=-\int_{-1}^{1}\left(x^3-1\right)dx$ $\text{Area}=-\left[\frac{x^4}{4}-x\right]_{-1}^{1}$ $\text{Area}=-\left[\left(\frac{(1)^4}{4}-(1)\right)-\left(\frac{(-1)^4}{4}-(-1)\right)\right]$ $=-\left(\frac{(1)^4}{4}-(1)\right)+\left(\frac{(-1)^4}{4}-(-1)\right)$ $\text{Area}=\frac{3}{4}+\frac{5}{4}$ $=2\text{ sq units/}vk\text{ eenhede}$	✓Area notation/*notasie* **A** ✓ Integral/*integraal* **A** ✓✓Substitution/*vervanging* **CA** ✓ Area = 2 **CA** (5) **[12]**

TOTAL/*TOTAAL*: 150