basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

SENIOR CERTIFICATE EXAMINATIONS
SENIORSERTIFIKAAT-EKSAMEN

MATHEMATICS P1/*WISKUNDE V1*

2018

MARKING GUIDELINES/*NASIENRIGLYNE*

MARKS: 150
PUNTE: 150

These marking guidelines consist of 19 pages.
Hierdie nasienriglyne bestaan uit* 19 *bladsye.

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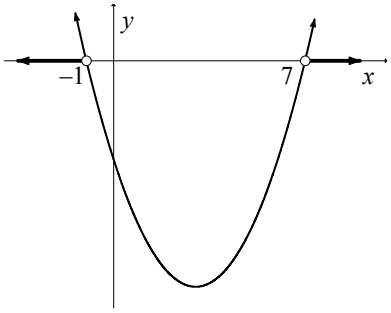
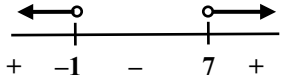
NOTE:
- If a candidate answers a question TWICE, only mark the FIRST attempt.
- Consistent accuracy applies in ALL aspects of the marking guidelines.

LET WEL:
- *Indien 'n kandidaat 'n vraag TWEE KEER beantwoord, merk slegs die EERSTE poging.*
- *Volgehoue akkuraatheid is op ALLE aspekte van die nasienriglyne van toepassing.*

QUESTION/*VRAAG* 1

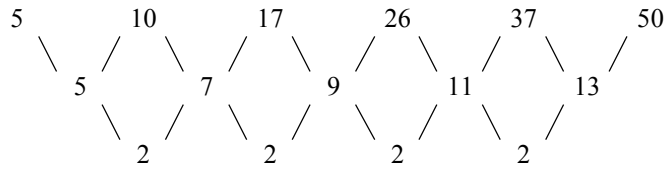
1.1.1	$(3x-1)(x+4)=0$ $x=\frac{1}{3}$ or $x=-4$	✓ $x=\frac{1}{3}$ ✓ $x=-4$ (2)
1.1.2	$2x^2+9x-14=0$ $x=\frac{-b\pm\sqrt{b^2-4ac}}{2a}$ $=\frac{-9\pm\sqrt{9^2-4(2)(-14)}}{2(2)}$ $=\frac{-9\pm\sqrt{193}}{4}$ $x=1{,}22$ or $x=-5{,}72$ **OR/*OF*** $x^2+\frac{9}{2}x+\frac{81}{16}=7+\frac{81}{16}$ $\left(x+\frac{9}{4}\right)^2=\frac{193}{16}$ $x+\frac{9}{4}=\pm\frac{\sqrt{193}}{4}$ $x=\frac{-9\pm\sqrt{193}}{4}$ $x=1{,}22$ or $x=-5{,}72$	✓ substitution into correct formula ✓ simplification ✓ $x=1{,}22$ ✓ $x=-5{,}72$ (4) **OR/*OF*** ✓ for adding $\frac{81}{16}$ on both sides ✓ simplification ✓ $x=1{,}22$ ✓ $x=-5{,}72$ (4)
1.1.3	$\sqrt{3-26x}=3x$ $3-26x=9x^2$ $9x^2+26x-3=0$ $(9x-1)(x+3)=0$ $x=\frac{1}{9}$ or $x=-3$ N/A	✓ $3-26x=9x^2$ ✓ standard form ✓ factors ✓ answer with selection (4)

1.1.4	$(x-1)(x-4) > x+11$ $x^2-5x+4 > x+11$ $x^2-6x-7 > 0$ $(x-7)(x+1) > 0$  **OR**  $x < -1$ or $x > 7$	✓ x^2-5x+4 ✓ standard form ✓ factors ✓✓ $x < -1$ or $x > 7$ (5)
1.2	$\frac{4\sqrt{x^7}-5\sqrt{x^7}}{\sqrt{x}}$ $=\frac{-\sqrt{x^7}}{\sqrt{x}}$ $=\frac{-x^{\frac{7}{2}}}{x^{\frac{1}{2}}}$ $=-x^3$ **OR/OF** $\frac{\sqrt{x^7}(4-5)}{\sqrt{x}}$ $=\sqrt{x^6}(-1)$ $=-x^3$ **OR/*OF*** $\frac{\left(16x^7\right)^{\frac{1}{2}}-\left(25x^7\right)^{\frac{1}{2}}}{x^{\frac{1}{2}}}$ $=\frac{4x^{\frac{7}{2}}-5x^{\frac{7}{2}}}{x^{\frac{1}{2}}}$ $=\frac{-x^{\frac{7}{2}}}{x^{\frac{1}{2}}}$ $=-x^3$	✓ $4\sqrt{x^7}-5\sqrt{x^7}$ ✓ $-\sqrt{x^7}$ ✓ $-x^3$ (3) **OR/*OF*** ✓ $\sqrt{x^7}(4-5)$ ✓ $\sqrt{x^6}(-1)$ ✓ $-x^3$ (3) **OR/OF** ✓ $\frac{4x^{\frac{7}{2}}-5x^{\frac{7}{2}}}{x^{\frac{1}{2}}}$ ✓ $-x^{\frac{7}{2}}$ ✓ $-x^3$ (3)

1.3	$x-2y-3=0$ $x=2y+3$.....(1) $xy=9$.....(2) Substitute (1) into (2) $(2y+3)y=9$ $2y^2+3y=9$ $2y^2+3y-9=0$ $(2y-3)(y+3)=0$ $y=\frac{3}{2}$ or $y=-3$ $x=6$ or $x=-3$	✓ $x=2y+3$ ✓ substitution ✓ standard form ✓ y-values ✓ x-values (5)
	OR/*OF* $y=\frac{x-3}{2}$.....(1) $xy=9$.....(2) Substitute (1) into (2) $x\left(\frac{x-3}{2}\right)=9$ $x^2-3x=18$ $x^2-3x-18=0$ $(x-6)(x+3)=0$ $x=6$ or $x=-3$ $y=\frac{3}{2}$ or $y=-3$	**OR/*OF*** ✓ $y=\frac{x-3}{2}$ ✓ substitution ✓ standard form ✓ x-values ✓ y-values (5)
	OR/OF $x-2y-3=0$ $x=2y+3$.....(1) $y=\frac{9}{x}$.....(2) Substitute (2) into (1) $x=2\left(\frac{9}{x}\right)+3$ $x^2-2(9)-3x=0$ $x^2-3x-18=0$ $x=\frac{-b\pm\sqrt{b^2-4ac}}{2a}$ $=\frac{-3\pm\sqrt{(-3)^2-4(1)(-18)}}{2(1)}$ $=\frac{-3\pm\sqrt{81}}{2}$ $x=6$ or $x=-3$ $y=\frac{9}{6}=1,5$ or $y=\frac{9}{-3}=-3$	**OR/OF** ✓ $y=\frac{9}{x}$ ✓ substitution ✓ standard form ✓ x-values ✓ y-values (5)

1.4	$x^2 + 2xy + 2y^2$ $= x^2 + 2xy + y^2 + y^2$ $= (x+y)^2 + y^2$ $(x+y)^2 \geq 0$ and $y^2 \geq 0$ Therefore $(x+y)^2 + y^2 \geq 0$	✓ $x^2 + 2xy + y^2 + y^2$ ✓ $(x+y)^2$ ✓ $(x+y)^2 \geq 0$ and $y^2 \geq 0$ ✓ $(x+y)^2 + y^2 \geq 0$ (4) **[27]**

QUESTION/*VRAAG* 2

2.1.1	 37; 50	✓ 37 ✓ 50 (2)
2.1.2	$a = \frac{\text{second difference}}{2} = \frac{2}{2} = 1$ $3a + b = 5$ $3 + b = 5$ $b = 2$ $a + b + c = 5$ $1 + 2 + c = 5$ $c = 2$ $T_n = an^2 + bn + c$ $= n^2 + 2n + 2$	✓ second difference of 2 ✓ $a = 1$ ✓ $b = 2$ ✓ $c = 2$ (4)
2.1.3	$n^2 + 2n + 2 = 1765$ $n^2 + 2n - 1763 = 0$ $(n + 43)(n - 41) = 0$ $n = -43$ or $n = 41$ N/A **OR/OF** $n^2 + 2n + 2 = 1765$ $n^2 + 2n - 1763 = 0$ $n = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ $= \frac{-2 \pm \sqrt{2^2 - 4(1)(-1763)}}{2(1)}$ $= \frac{-2 \pm \sqrt{7056}}{2}$ $n = -43$ or $n = 4$ N/A	✓ equating T_n to 1765 ✓ standard form ✓ factors ✓ answer with rejection (4) **OR/OF** ✓ equating T_n to 1765 ✓ standard form ✓ subt in correct formula ✓ answer with rejection (4)

2.2	Sum of multiples of 7 from 35 to 196: *Som van meervoude van* 7 *vanaf* 35 *tot by* 196: $a = 35;\quad d = 7$ $S_n = \frac{n}{2}[a + \ell]$ $= \frac{24}{2}[35 + 196]$ $= 12[231]$ $= 2772$ Sum of all natural numbers from 35 to 196: *Som van alle natuurlike getalle vanaf* 35 *tot by* 196: $a = 35;\ d = 1;\ n = 162$ $S_n = \frac{n}{2}[a + \ell]$ $= \frac{162}{2}[35 + 196]$ $= 81[231]$ $= 18\ 711$ Sum of numbers not divisible by 7/ *Som van getalle nie deelbaar deur* 7 $= 18\ 711 - 2772$ $= 15\ 939$	✓ correct a, d and n substitution into correct formula ✓ answer ✓ 162 ✓ answer ✓ answer (5) **[15]**

QUESTION/*VRAAG* 3

3.1	$r = 0,94;\quad a = 100$ $T_3 = ar^2$ $= 100(0,94)^2$ $= 88,36$ km	✓ $r = 0,94$ ✓ answer (2)
3.2	$S_n = \frac{a(r^n - 1)}{r - 1}$ $750 = \frac{100(0,94^n - 1)}{0,94 - 1}$ $\frac{750(-0,06)}{100} = 0,94^n - 1$ $0,94^n = 1 - \frac{9}{20}$ or $\left(\frac{47}{50}\right)^n = \frac{11}{20}$ $0,94^n = 0,55$ $n = \frac{\log 0,55}{\log 0,94}$ $= 9,66$ He will pass the halfway point on the 10th day *Hy sal die halfpadmerk verbysteek op die* 10*de dag*	✓ substitution into correct formula ✓ $0,94^n = 0,55$ ✓ use of logarithms ✓ answer (4)
3.3	$S_\infty = \frac{a}{1 - r}$ $1500 < \frac{100}{1 - r}$ $1 - r < \frac{100}{1500}$ $r > \frac{14}{15}$ or 93,33%	✓ use of S_∞ formula ✓ substitution ✓ answer (3) **[9]**

QUESTION/*VRAAG* 4

4.1	$0 < x \leq 1$ or $(0\,;1]$	✓✓ answer (2)
4.2	$p = \log_{\frac{4}{3}} \frac{16}{9}$ $\left(\frac{4}{3}\right)^p = \frac{16}{9}$ $\left(\frac{4}{3}\right)^p = \left(\frac{4}{3}\right)^2$ $p = 2$	✓ substitution ✓$\left(\frac{4}{3}\right)^2$ ✓ answer (3)
4.3	$f : y = \log_{\frac{4}{3}} x$ $f^{-1} : x = \log_{\frac{4}{3}} y$ $y = \left(\frac{4}{3}\right)^x$	✓ $x = \log_{\frac{4}{3}} y$ ✓ $y = \left(\frac{4}{3}\right)^x$ (2)
4.4	$y > 0$ or $y \in (0;\infty)$	✓✓ answer (2)
4.5	$\left(-2\,;\frac{16}{9}\right)$	✓ –2 ✓ $\frac{16}{9}$ (2) **[11]**

QUESTION/*VRAAG* 5

5.1	$x \in R;\ x \neq -1$	✓ $x \in R$ ✓ $x \neq -1$ (2)
5.2	x-intercept of f: $0 = \frac{2}{x+1} + 4$ $\frac{2}{x+1} = -4$ $2 = -4x - 4$ $4x = -6$ $x = -\frac{3}{2}$	✓ equating to 0 ✓ answer (2)
5.3	$y = \frac{2}{x+1} + 4$ $\frac{14}{3} = \frac{2}{k+1} + 4$ $\frac{2}{k+1} = \frac{14}{3} - 4$ $\frac{2}{k+1} = \frac{2}{3}$ $2k + 2 = 6$ $k + 1 = 3$ $k = 2$	✓ substitution ✓simplification ✓ answer (3)
5.4	$C(2;4)$	✓ 2 ✓ 4 (2)
5.5	$y = a(x+p)^2 + q$ $= a(x-2)^2 + 4$ Substitute (0 ; 0): $0 = a(0-2)^2 + 4$ $0 = 4a + 4$ $a = -1$ $y = -(x-2)^2 + 4$	✓ $a(x-2)^2 + 4$ ✓ Substitute (0 ; 0) ✓ $a = -1$ (3)
5.6	$x \leq -\frac{3}{2}$ or $-1 < x < 0$ or $x > 4$	✓ $x \leq -\frac{3}{2}$ ✓✓ $-1 < x < 0$ ✓ $x > 4$ (4)

5.7	$\frac{2}{x}-5$: f shifted 1 unit to the right and 9 units down. *f is* 1 *eenheid na regs en* 9 *eenhede afgeskuif.* $-(x-3)^2-5$: g shifted 1 unit to the right and 9 units down. *g is* 1 *eenheid na regs en* 9 *eenhede afgeskuif.* Therefore the shift of both graphs took place relative to each other/*Dus het die skuif van die grafieke relatief tot mekaar plaasgevind.* They only intersect in the third quadrant. *Hulle sny mekaar slegs in die derde kwadrant.* Therefore there is only one point of intersection. *Daar is dus slegs een snypunt.*	✓ both shifted 1 unit to the right ✓ both shifted 9 units down ✓ relative shift ✓ one real root (4) **[20]**

QUESTION/*VRAAG* 6

6.1	$A = P(1-i)^n$ $0{,}5P = P(1-0{,}15)^n$ $(1-0{,}15)^n = 0{,}5$ $(0{,}85)^n = 0{,}5$ $n = \frac{\log 0{,}5}{\log 0{,}85}$ or $\log_{0{,}85} 0{,}5$ $= 4{,}27$ years	✓ $A = 0{,}5P$ ✓ substitution into correct formula ✓ use of logs ✓ answer (4)
6.2	In account one month before his 55th birthday: *In rekening een maand voor sy 55ste verjaardag*: $F = \frac{x[(1+i)^n - 1]}{i}$ $= \frac{1500\left[\left(1+\frac{0{,}092}{12}\right)^{384} - 1\right]}{\frac{0{,}092}{12}}$ $= 3\,478\,620{,}49$ In account on his 55th birthday: *In rekening op sy 55ste verjaardag:* $A = P(1+i)^n$ $= 3478620{,}49\left(1+\frac{0{,}092}{12}\right)^1$ $= R3\,505\,289{,}91$ **OR/OF** $F = \frac{x(1+i)[(1+i)^n - 1]}{i}$ $= \frac{1500\left(1+\frac{0{,}092}{12}\right)\left[\left(1+\frac{0{,}092}{12}\right)^{384} - 1\right]}{\frac{0{,}092}{12}}$ $= \text{R}3\,505\,289{,}91$	✓ value of *i* ✓ value of *n* ✓ substitution into correct formula ✓ adding last month's interest ✓ answer (5) **OR/OF** ✓ value of *i* ✓ value of *n* ✓ substitution into correct formula ✓ adding last month's interest ✓ answer (5)

6.3	Invest Rx in account A paying 8,4% p.a. compounded quarterly./*Belê* Rx *in rekening* A *wa*t 8,4% *p.a rente betaal, kwartaalliks saamgestel.* $A = P(1+i)^n$ $= x\left(1+\frac{0,084}{4}\right)^{48}$ $= 2,711662406\,x$	✓ $\left(1+\frac{0,084}{4}\right)^{48}$
	Invest (R150 000 – x) in Account B paying 9,6% compounded monthly./*Belê* (R150 000 – x *in rekening* A *wa*t 9,6% *p.a rente betaal, maandeliks saamgestel.*	
	After 12 years, the amounts are equal: $x\left(1+\frac{0,084}{4}\right)^{48} = (150\,000-x)\left(1+\frac{0,096}{12}\right)^{144}$ $2,711662406\,x = 3,150044027(150\,000-x)$ $2,711662406\,x = 472506,6041 - 3,150044027\,x$ $5,861706433\,x = 472506,6041$ $x = \text{R}80\,609,05$	✓✓ $(150\,000-x)\left(1+\frac{0,096}{12}\right)^{144}$ ✓ equation ✓ $R80\,609,05$
	Invest R80 609 in Account A and R150 000 – R80 609,05 = R69 390,95 in Account B	✓ R69 390,95 (6)
	OR/OF a = amount invested at 8,4% p.a. compounded quarterly *bedrag belê teen* 8,4% *p.a. kwartaalliks saamgestel* b = amount invested at 9,6% p.a. compounded monthly *bedrag belê teen* 9,6% *p.a. maandeliks saamgestel* a + b = 150 000 a = 150 000 – b	**OR/OF**
	$(150\,000-b)\left(1+\frac{0,084}{4}\right)^{48} = b\left(1+\frac{0,096}{12}\right)^{144}$	✓ $\left(1+\frac{0,096}{12}\right)^{144}$
	$150000\left(1+\frac{0,084}{4}\right)^{48} = b\left[\left(\left(1+\frac{0,096}{12}\right)^{144}+\left(1+\frac{0,084}{4}\right)^{48}\right)\right]$	✓✓ $(150\,000-b)\left(1+\frac{0,084}{4}\right)^{48}$ ✓ equation
	b = R69 390,95 a = R80 609,05	✓ b ✓ a (6)
		[15]

QUESTION/*VRAAG* 7
Penalize 1 mark for incorrect notation in the whole question.

7.1	$f(x+h) = 2-3(x+h)^2$ $= 2-3(x^2+2xh+h^2)$ $= 2-3x^2-6xh-3h^2$ $f(x+h)-f(x) = 2-3x^2-6xh-3h^2-\left(2-3x^2\right)$ $= -6xh-3h^2$ $f'(x) = \lim\limits_{h\to 0}\dfrac{f(x+h)-f(x)}{h}$ $= \lim\limits_{h\to 0}\dfrac{-6xh-3h^2}{h}$ $= \lim\limits_{h\to 0}\dfrac{h(-6x-3h)}{h}$ $= \lim\limits_{h\to 0}\left(-6x-3h\right)$ $= -6x$	✓$2-3x^2-6xh-3h^2$ ✓$-6xh-3h^2$ ✓subst. into formula ✓factorisation ✓answer (5)
	OR/*OF*	**OR/*OF***
	$f'(x) = \lim\limits_{h\to 0}\dfrac{f(x+h)-f(x)}{h}$ $= \lim\limits_{h\to 0}\dfrac{2-3(x+h)^2-(2-3x^2)}{h}$ $= \lim\limits_{h\to 0}\dfrac{2-3x^2-6xh-3h^2-\left(2-3x^2\right)}{h}$ $= \lim\limits_{h\to 0}\dfrac{-6xh-3h^2}{h}$ $= \lim\limits_{h\to 0}\dfrac{h(-6x-3h)}{h}$ $= \lim\limits_{h\to 0}\left(-6x-3h\right)$ $= -6x$	✓subst. into formula ✓simplification ✓ $-6xh-3h^2$ ✓common factor ✓ answer (5)

7.2.1	$D_x\left[(4x+5)^2\right]$ $= D_x\left(16x^2+40x+25\right)$ $= 32x+40$	✓ $16x^2+40x+25$ ✓ $32x$ ✓ $+40$ (3)
7.2.2	$y = \sqrt[4]{x} + \frac{x^2-8}{x^2}$ $y = x^{\frac{1}{4}} + 1 - 8x^{-2}$ $\frac{dy}{dx} = \frac{1}{4}x^{-\frac{3}{4}} + 16x^{-3}$	✓ $x^{\frac{1}{4}}$ ✓ $1-8x^{-2}$ ✓ $\frac{1}{4}x^{-\frac{3}{4}}$ ✓ $16x^{-3}$ (4) **[12]**

QUESTION/*VRAAG* 8

8.1	$C(0;12)$	✓ $C(0;12)$ (1)
8.2	$-x^3+13x+12=0$ $x^3-13x-12=0$ $(x+1)(x^2-x-12)=0$ $(x+1)(x-4)(x+3)=0$ $A(-3;0)$ $B(4;0)$	✓ $f(x)=0$ ✓ $(x+1)$ ✓ (x^2-x-12) ✓ $x=-3$ or 4 ✓ clearly indicating A and B (5)
8.3	$f'(x)=-3x^2+13$ $f''(x)=-6x$ $-6x=0$ $x=0$ For $f(x)$, point of inflection will be at (0 ; 12). *Vir* $f(x)$, *sal buigpunt wees by* (0 ; 12) For $g(x)$, point of inflection will be at (0 ; –12). Vir $g(x)$, *sal buigpunt wees by* (0 ; –12). **OR/OF** $g(x)=x^3-13x-12$ $g'(x)=3x^2-13$ $g''(x)=6x$ $6x=0$ $x=0$ $(0;-12)$ **OR/*OF*** $f'(x)=-3x^2+13$ TP's where $-3x^2+13=0$ $x^2=\frac{13}{3}$ $x=\pm\sqrt{\frac{13}{3}}$ $=\pm 2{,}08$ x-value of point of inflection: $\frac{-2{,}08+2{,}08}{2}=0$ For $f(x)$, point of inflection will be at (0 ; 12). *Vir* $f(x)$, *sal buigpunt wees by* (0 ; 12) For $g(x)$, point of inflection will be at (0 ; –12). Vir $g(x)$, *sal buigpunt wees by* (0 ; –12).	✓ $f'(x)=-3x^2+13$ ✓ $f''(x)=-6x$ ✓ equating to zero ✓ $(0;-12)$ (4) **OF/OR** ✓ $g'(x)=3x^2-13$ ✓ $g''(x)=6x$ ✓ equating to zero ✓ $(0;-12)$ (4) **OR/*OF*** ✓ $f'(x)=-3x^2+13$ ✓ $-3x^2+13=0$ ✓ x-values of TPs ✓ $(0;-12)$ (4)

8.4	$f'(x) = -3x^2 + 13$ $-3x^2 + 13 = -14$ $-3x^2 = -27$ $x^2 = 9$ $x = 3$ or $x = -3$	✓ equating derivative to – 14 ✓ simplification ✓✓ answers (4) **[14]**

QUESTION/*VRAAG* 9

9.1.1	AC = $t-30$	✓answer (1)
9.1.2	$30^2=(t-30)^2+p^2$ [Pythagoras] $p^2=900-(t-30)^2$ $p^2=900-(t^2-60t+900)$ $p^2=900-t^2+60t-900$ $p^2=60t-t^2$	✓ $p^2=900-(t-30)^2$ ✓ $(t^2-60t+900)$ ✓ $p^2=60t-t^2$ (3)
9.2	$V(t)=\frac{1}{3}\pi r^2 t$ $=\frac{1}{3}\pi(60t-t^2)t$ $=20\pi t^2-\frac{1}{3}\pi t^3$	✓ substitution (1)
9.3	$V(t)=20\pi t^2-\frac{1}{3}\pi t^3$ $V'(t)=40\pi t-\pi t^2$ $40\pi t-\pi t^2=0$ $t(40\pi-t\pi)=0$ $t=0$ OR $t=40$ cm N/A	✓ $40\pi t$ ✓ $-\pi t^2$ ✓ answer with selection (3)
9.4	Volume of cone/keël $=20(\pi)(40)^2-\frac{1}{3}\pi(40)^3$ $=10\,666{,}67\pi$ or 33510,33211 Volume of sphere/sfeer $=\frac{4}{3}\pi r^3$ $=\frac{4}{3}\pi(30)^3$ $=36000\pi$ or 113097,3355 $\frac{10666{,}67\pi}{36000\pi}$ $=0{,}296296$ $\approx 29{,}63\%$	✓ volume of cone ✓ volume of sphere ✓ $\frac{10666{,}67\pi}{36000\pi}$ ✓ % cut out (4) **[12]**

QUESTION/*VRAAG* 10

10.1	$10!$ $=3\ 628\ 800$	✓10! ✓ answer (2)
10.2	$4! \times 7!$ $= 120\ 960$ **OR/OF** $4! \times 6! \times 7$ $= 120\ 960$	✓ 4! ✓ 7! ✓ $4! \times 7!$ or 120 960 (3) OR/OF ✓ 4! ✓ $6! \times 7$ ✓ $4! \times 6! \times 7$ or 120 960 (3)
10.3	$\frac{6!}{10!}$ $= \frac{1}{5040}$ or 0,000198	✓ 6! ✓ $\frac{6!}{10!}$ or $\frac{1}{5040}$ or 0,000198 (2) **[7]**

QUESTION/*VRAAG* 11

11.1	$P(\text{tennis}) \times P(\leq 35 \text{ years}) = P(\text{tennis and} \leq 35 \text{ years})$ $\frac{21}{140} \times \frac{80}{140} = \frac{a}{140}$ $a = 12$	✓ statement ✓ substitution ✓ answer (3)
11.2	$P(\text{gym or} \leq 35 \text{ years})$ $= P(\text{gym}) + P(\leq 35 \text{ years}) - P(\text{gym and} \leq 35 \text{ years})$ $= \frac{70}{140} + \frac{80}{140} - \frac{40}{140}$ $= \frac{110}{140}$ $= \frac{11}{14}$ or 0,79	✓ statement ✓ $\frac{70}{140}$ ✓ $\frac{80}{140}$ ✓ $\frac{40}{140}$ ✓ $\frac{110}{140}$ or $\frac{11}{14}$ or 0,79 (5) **[8]**

TOTAL/*TOTAAL*: 150

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