



Province of the
EASTERN CAPE
EDUCATION

**NASIONALE
SENIOR SERTIFIKAAT**

GRAAD 12

SEPTEMBER 2012

**WISKUNDE V2
MEMORANDUM**

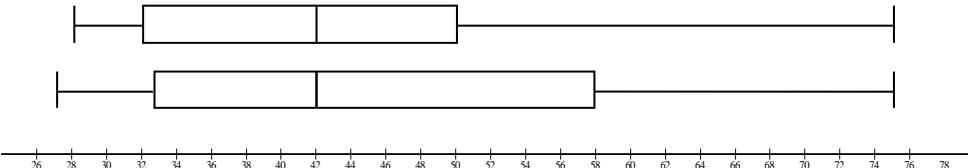
PUNTE: 150

Hierdie memorandum bestaan uit 14 bladsye.

VRAAG 1

1.1	55			✓ Antwoord	(1)
1.2	OUDERDOMME	FREKWENSIE	KUMULATIEWE FREKWENSIE	Kumulatiewe frekwensie ✓ Eerste 4 waardes korrek ✓ oorblywende 3 korrek Frekwensie ✓ Eerste 4 waardes korrek ✓ oorblywende 3 korrek (AA punte)	(4)
	18 ≤ $x < 23$	4	4		
	23 ≤ $x < 28$	8	12		
	28 ≤ $x < 33$	13	25		
	33 ≤ $x < 38$	15	40		
	38 ≤ $x < 43$	10	50		
	43 ≤ $x < 48$	4	54		
	48 ≤ $x < 53$	1	55		
1.3	Mediaan = 34 jaar			✓ Antwoord	(1)
1.4	Kiesers 35 jaar of ouer = 55 – 31 = 24			✓ Antwoord	(1)
					[7]

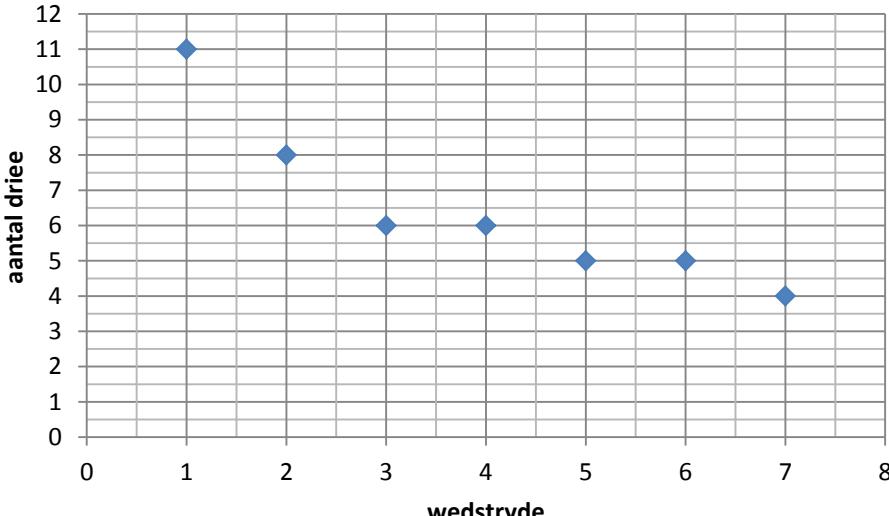
VRAAG 2

2.1	<p>27; 31; 31; 35; 39; 40; 44; 50; 54; 62; 65; 75 $\text{Min} = 27, Q_1 = \frac{31+35}{2} = 33, Q_2 = \frac{40+44}{2} = 42, Q_3 = \frac{54+62}{2} = 58, \text{Maks} = 75$ Sien onderste mond-en-snor diagram</p> 	<input checked="" type="checkbox"/> Min en Maks <input checked="" type="checkbox"/> Q_1 <input checked="" type="checkbox"/> Q_2 <input checked="" type="checkbox"/> Q_3	
			(4)
2.2	<p>Min = 28, $Q_1 = 32$, $Q_2 = 42$, $Q_3 = 32+18 = 50$, Maks = 75 Sien diagram in 2.1(Boonste mond-en-snor diagram)</p>	<input checked="" type="checkbox"/> Min, $Q_1, Q_2 \& \text{maks}$ <input checked="" type="checkbox"/> Q_3	(2)
2.3	<p>Dutyswa het meer families met ouer persone.</p> <ul style="list-style-type: none"> • 25% 58 jaar en ouer. (d.w.s. $Q_3 = 58$) • 75% 33 jaar en ouer. • Enige aanvaarbare rede wat na syfers verwys. <p>Aanvaar: Albei dorpe Rede: Het dieselfde mediaan 42.</p>	<input checked="" type="checkbox"/> Dutyswa <input checked="" type="checkbox"/> Rede	(2)
			[8]

VRAAG 3

3.1	$\begin{aligned} \text{Gemiddelde} \\ = \frac{65,3 + 81,9 + 70 + 88,2 + 56,5 + 94,8 + 83 + 44,1 + 75 + 79,4}{10} \\ = \frac{738,2}{10} \\ = 73,82 \end{aligned}$	$\checkmark \quad \frac{738,2}{10}$ $\checkmark \quad 73,82$ Slegs antwoord: 2/2	(2)																																				
3.2	<table border="1"> <thead> <tr> <th>x</th> <th>$x - \bar{x}$</th> <th>$(x - \bar{x})^2$</th> </tr> </thead> <tbody> <tr><td>65,3</td><td>$65,3 - 73,82 = -8,52$</td><td>72,5904</td></tr> <tr><td>81,9</td><td>$81,9 - 73,82 = 8,08$</td><td>65,2864</td></tr> <tr><td>70</td><td>$70 - 73,82 = -3,82$</td><td>14,5924</td></tr> <tr><td>88,2</td><td>$88,2 - 73,82 = 14,18$</td><td>201,0724</td></tr> <tr><td>56,5</td><td>$56,5 - 73,82 = -17,32$</td><td>299,9824</td></tr> <tr><td>94,8</td><td>$94,8 - 73,82 = 20,98$</td><td>440,1604</td></tr> <tr><td>83</td><td>$83 - 73,82 = 9,18$</td><td>84,2724</td></tr> <tr><td>44,1</td><td>$44,1 - 73,82 = -29,72$</td><td>883,2784</td></tr> <tr><td>75</td><td>$75 - 73,82 = 1,18$</td><td>1,3924</td></tr> <tr><td>79,4</td><td>$79,4 - 73,82 = 5,58$</td><td>31,1364</td></tr> <tr> <td></td><td>Som</td><td>2093,764</td></tr> </tbody> </table> $\text{SA} = \frac{\overline{2093,764}}{10}$ $\text{SA} = 14,49$	x	$x - \bar{x}$	$(x - \bar{x})^2$	65,3	$65,3 - 73,82 = -8,52$	72,5904	81,9	$81,9 - 73,82 = 8,08$	65,2864	70	$70 - 73,82 = -3,82$	14,5924	88,2	$88,2 - 73,82 = 14,18$	201,0724	56,5	$56,5 - 73,82 = -17,32$	299,9824	94,8	$94,8 - 73,82 = 20,98$	440,1604	83	$83 - 73,82 = 9,18$	84,2724	44,1	$44,1 - 73,82 = -29,72$	883,2784	75	$75 - 73,82 = 1,18$	1,3924	79,4	$79,4 - 73,82 = 5,58$	31,1364		Som	2093,764	$\checkmark \quad \text{Som}$ $\checkmark \quad \frac{2093,764}{10}$ $\checkmark \quad \text{Antwoord}$	
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3.3	$73,82 - 14,49 = 59,33$	$\checkmark \quad \text{metode}$ $\checkmark \quad \text{Antwoord}$	(2)																																				
			[7]																																				

VRAAG 4

4.1	 <table border="1"> <thead> <tr> <th>wedstryde</th> <th>aantal drieë</th> </tr> </thead> <tbody> <tr><td>1</td><td>11</td></tr> <tr><td>2</td><td>8</td></tr> <tr><td>3</td><td>6</td></tr> <tr><td>4</td><td>6</td></tr> <tr><td>5</td><td>5</td></tr> <tr><td>6</td><td>5</td></tr> <tr><td>7</td><td>4</td></tr> </tbody> </table>	wedstryde	aantal drieë	1	11	2	8	3	6	4	6	5	5	6	5	7	4	<ul style="list-style-type: none"> ✓ Eerste 4 punte korrek. ✓ oorblywende 3 punte korrek 	
wedstryde	aantal drieë																		
1	11																		
2	8																		
3	6																		
4	6																		
5	5																		
6	5																		
7	4																		
			(2)																
4.2	Eksponensieel	✓ Antwoord	(1)																
4.3	Minder as 5 drieë. Soos die getal wedstryde toeneem, neem die getal drieë af.	✓ Antwoord met rede	(1)																
			[4]																

VRAAG 5

5.1	$C(-4 ; 7) \ A(1;4)$ $AC = \sqrt{(-4 - 1)^2 + (7 - 4)^2}$ $AC = \sqrt{34}$	<ul style="list-style-type: none"> ✓ Instelling ✓ Antwoord 	(2)
5.2	$B(s ; -1) , M(-3 ; t) , C(-4 ; 7)$ $-3 = \frac{s - 4}{2}$ $-6 = s - 4$ $s = -2$ $t = \frac{-1 + 7}{2}$ $t = 3$	<ul style="list-style-type: none"> ✓ Instelling ✓ $s = -2$ ✓ Instelling ✓ $t = 3$ 	(4)
5.3	$C(-4 ; 7) \ A(1 ; 4), B(-2 ; -1)$ $m_{AB} = \frac{-1 - 4}{-2 - 1}$ $m_{AB} = \frac{5}{3}$ $m_{AC} = \frac{4 - 7}{1 + 4}$ $m_{AC} = \frac{3}{5}$ $m_{AC} \times m_{AB} = -\frac{3}{5} \times \frac{5}{3} = -1$ ΔCAB is reghoekig	<ul style="list-style-type: none"> ✓ gradiënt van AB ✓ gradiënt van AC ✓ Produk van gradiënte 	
	OF		
	$AB = \sqrt{(-4 - 1)^2 + (7 - 4)^2}$ $AB = \sqrt{34}$ $AC = \sqrt{34}$ $BC = \sqrt{(-4 + 2)^2 + (7 + 1)^2}$ $BC = \sqrt{68}$ $BC^2 = AB^2 + AC^2$ Dus is ΔCAB reghoekig.	<ul style="list-style-type: none"> ✓ Lengte van AB ✓ Lengte van AC ✓ Lengte van BC 	<ul style="list-style-type: none"> ✓ Gevolgtrekking met gebruik van Pythagoras se stelling

5.4	$m_{AB} = \frac{5}{3}$, C(-4 ; 7) $y - 7 = \frac{5}{3}(x + 4)$ $y = \frac{5}{3}x + \frac{41}{3}$	✓ Gradiënt ✓ Instelling ✓ Antwoord	
	OF		
	$m_{AB} = \frac{5}{3}$, C(-4 ; 7) $y = mx + c$ $7 = \frac{5}{3}(-4) + c$ $c = \frac{41}{3}$ $y = \frac{5}{3}x + \frac{41}{3}$	✓ Gradiënt ✓ Instelling ✓ Waarde van c/ vergelyking	(3)
5.5	A(1 ; 4), B(-2 ; -1) $m_{AB} = \frac{-1 - 5}{-2 - 1} = \frac{5}{3}$ $\tan \alpha = \frac{5}{3}$ $\alpha = 59,04^\circ$ $m_{AE} = -3$ $\tan \theta = -3$ $\theta = 108,43^\circ$ $BAE = 108,43^\circ - 59,04^\circ = 49,39^\circ$ $CAE = 90^\circ + 49,39^\circ$ $= 139,39^\circ$	✓ $\tan \alpha = \frac{5}{3}$ ✓ Grootte van α ✓ $\tan \theta = -3$ ✓ $\theta = 108,43^\circ$	
		✓ Antwoord	(5)
5.6	C(-4 ; 7) A(1 ; 4), D(p ; 1) $m_{AC} = -\frac{3}{5}$ $m_{AD} = \frac{1 - 4}{p - 1}$ $-\frac{3}{5} = \frac{-3}{p - 1}$ $3p - 3 = 15$ $p = 6$	✓ Gradiënt van AD ✓ gradiënte gelyk	
		✓ Antwoord	(3)
			[21]

VRAAG 6

6.1	6.1.1	E(2 ; -1), O(0 ; 0) Radius van die kleiner sirkel = OE $OE = \sqrt{2^2 + (-1)^2}$ = $\sqrt{5}$	✓ Instelling ✓ Lengte van OE	(2)
	6.1.2	OE = $\sqrt{5}$ en E(2 ; -1), D(a ; -3) $ED = 2\sqrt{5}$ $ED^2 = (a - 2)^2 + (-3 + 1)^2$ $20 = a^2 - 4a + 4 + 4$ $a^2 - 4a - 12 = 0$ $(a - 6)(a + 2) = 0$ $a = 6$ or $a = -2$ $a = 6$	✓ Lengte van ED ✓ Vergelyking in standaard vorm ✓ Faktore ✓ $a = 6$	(4)
	6.1.3	D(6 ; -3) $r^2 = 20$ $(x - 6)^2 + (y + 3)^2 = 20$	✓ $r^2 = 20$ ✓ $(x - 6)^2$ ✓ $(y + 3)^2$	(3)
	6.1.4	E(2 ; -1), D(6 ; -3), O(0 ; 0) $m_{OE} = \frac{-1 - 0}{2 - 0} = -\frac{1}{2}$ $m_{raaklyn} = 2$ $y + 1 = 2(x - 2)$ $y = 2x - 5$	✓ Gradiënt van radius ✓ Gradiënt van raaklyn ✓ Instelling ✓ Antwoord	(4)
6.2	6.2.1	$x^2 + y^2 - 4x + 5y + k = 0$ $x^2 - 4x + 4 + y^2 + 5y + \frac{25}{4} = -k + 4 + \frac{25}{4}$ $(x - 2)^2 + (y + \frac{5}{2})^2 = -k + \frac{41}{4}$ Middelpunt $(2 ; -\frac{5}{2})$	✓ Kwadraatsvoltooiing ✓ Faktor vorm ✓ x-waarde by middelpunt ✓ y-waarde by middelpunt	(4)
	6.2.2	middellyn = 24, dus radius = 12 $-k + \frac{41}{4} = 144$ $-4k = 576 - 41$ $k = -\frac{535}{4} = -133,75$	✓ $r^2 = 144$ ✓ vergelyking ✓ Antwoord	(3)
				[20]

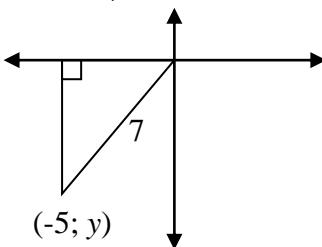
VRAAG 7

7.1	Refleksie in die y -as ($x = 0$)	<input checked="" type="checkbox"/> refleksie <input checked="" type="checkbox"/> y -as	(2)
7.2	$(x ; y) \rightarrow (-y ; x)$ Aanvaar: Rotasie deur 90° antikloksgewys.	<input checked="" type="checkbox"/> - y <input checked="" type="checkbox"/> x	(2)
7.3	$(x ; y) \rightarrow (-x ; y) \rightarrow (-y ; -x)$ $(x ; y) \rightarrow (-y ; -x)$ Aanvaart: Refleksie in die lyn $y = -x$	<input checked="" type="checkbox"/> - y <input checked="" type="checkbox"/> - x	(2)
7.4	$M''(2 ; 1)$, $A''(6 ; 1)$, $T''(6 ; 4)$, $H''(4 ; 5)$, $S''(2 ; 4)$ $M'''(4 ; 2)$, $A'''(12 ; 2)$, $T'''(12 ; 8)$, $H'''(8 ; 10)$, $S'''(4 ; 8)$	<p>✓ Twee korrekte punte ✓ Oorblywende 3 punte korrek ✓ Diagram</p>	(3)
7.5	$(x ; y) \rightarrow (-y ; -x) \rightarrow (-2y ; -2x)$ $(x ; y) \rightarrow (-2y ; -2x)$	<input checked="" type="checkbox"/> - $2y$ <input checked="" type="checkbox"/> - $2x$	(2)
7.6	As area van MATHS = a , dan is area van $M'''A'''T'''H'''S''' = 2^2 \times a$ Dus area van MATHS : area van $M'''A'''T'''H'''S''' = 1 : 4$	<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 4	(2)
7.7	$(x ; y) \rightarrow (x - 4 ; y + 3)$ en $M(-1 ; -2)$ $L(-5 ; 1)$	<input checked="" type="checkbox"/> -5 <input checked="" type="checkbox"/> 1	(2)
			[15]

VRAAG 8

<p>8.1</p> $\begin{aligned} T' &= \left(-\frac{5}{2}, -\frac{2}{2} \right), T(-3; 2) \\ x' &= x \cos \theta - y \sin \theta \\ -\frac{5}{2} &= -3 \cos \theta - 2 \sin \theta \quad \dots \dots \dots \quad (1) \\ y' &= y \cos \theta - x \sin \theta \\ -\frac{2}{2} &= 2 \cos \theta - 3 \sin \theta \quad \dots \dots \dots \quad (2) \\ (1) \times 2 \text{ and } (2) \times 3: \\ -\frac{10}{2} &= -6 \cos \theta - 4 \sin \theta \quad \dots \dots \dots \quad (3) \\ -\frac{3}{2} &= 6 \cos \theta - 9 \sin \theta \quad \dots \dots \dots \quad (4) \\ (3) + (4): -13 \sin \theta &= -\frac{13}{2} \\ \sin \theta &= \frac{1}{2} \\ \theta &= 45^\circ \end{aligned}$	<ul style="list-style-type: none"> ✓ Instelling in die formule vir x' ✓ Instelling in die formule vir y' ✓ $(1) \times 2$ en $(2) \times 3$ ✓ $-13 \sin \theta = -\frac{13}{2}$ ✓ $\sin \theta = \frac{1}{2}$ ✓ $\theta = 45^\circ$ 	(6)
OF		
<p>Stel $TOX = \beta$</p> $\begin{aligned} \tan \beta &= \frac{2}{-3} \\ \therefore \beta &= 146,31^\circ \\ \tan(\theta + \beta) &= \frac{-\frac{2}{2}}{\frac{-5}{2}} \\ \therefore \theta + \beta &= 191,31^\circ \\ \theta &= 191,31^\circ - 146,31^\circ \\ \therefore \theta &= 45^\circ \end{aligned}$	<ul style="list-style-type: none"> ✓ $\tan \beta = \frac{2}{-3}$ ✓ $\beta = 146,31^\circ$ ✓ $\tan(\theta + \beta)$ ✓ $\theta + \beta = 191,31^\circ$ ✓ Metode ✓ Antwoord 	(6)
<p>8.2</p> $\begin{aligned} T(-3 ; 2) \rightarrow T'(3 ; -2) &\text{ is rotasie om die oorsprong} \\ &\text{deur } 180^\circ: \\ \theta + \alpha &= 180^\circ \text{ en } \theta = 45^\circ \\ \alpha &= 135^\circ \end{aligned}$	<ul style="list-style-type: none"> ✓ $\theta + \alpha = 180^\circ$ ✓ $\alpha = 135^\circ$ 	(2)
		[8]

VRAAG 9

9.1	9.1.1	$7\cos \beta + 5 = 0$ en $\tan \beta > 0$ $\cos \beta = -\frac{5}{7}$  $y^2 + (-5)^2 = (7)^2$ $y = -\sqrt{24}$ $\tan \beta = \frac{\sqrt{24}}{5}$	✓ Diagram ✓ $y = -\sqrt{24}$ ✓ Antwoord	(3)
	9.1.2	$\sin(450^\circ + \beta) = \cos \beta$ $= \frac{-5}{7}$	✓ $\cos \beta$ ✓ Antwoord	(2)
	9.1.3	$\sin 2\beta = 2\sin \beta \cos \beta$ $= 2 \times \frac{-\sqrt{24}}{7} \times \frac{-5}{7}$ $= \frac{10\sqrt{24}}{49}$	✓ $2\sin \beta \cos \beta$ ✓ Antwoord	(2)
9.2		$\cos 2x - \frac{1}{3} = \frac{1}{3} \sin x$ $1 - 2\sin^2 x - \frac{1}{3} = \frac{1}{3} \sin x$ $6\sin^2 x + \sin x - 2 = 0$ $(3\sin x + 2)(2\sin x - 1) = 0$ $\sin x = -\frac{2}{3}$ or $\sin x = \frac{1}{2}$ $x = 221,81^\circ + k \cdot 360^\circ$ of $x = 318,19^\circ + k \cdot 360^\circ$ ($k \in \mathbb{Z}$) OF $x = 30^\circ + k \cdot 360^\circ$ of $x = 150^\circ + k \cdot 360^\circ$ ($k \in \mathbb{Z}$)	✓ $1 - 2\sin^2 x$ ✓ Standaard vorm ✓ Faktore ✓ waardes van $\sin x$ ✓ $x = 221,81^\circ + k \cdot 360^\circ$ ✓ $x = 318,19^\circ + k \cdot 360^\circ$ ✓ $x = 30^\circ + k \cdot 360^\circ$ ✓ $150^\circ + k \cdot 360^\circ$ ✓ $(k \in \mathbb{Z})$	(9)
				[16]

VRAAG 10

10.1	$\begin{aligned} & \tan 360^\circ - x \cdot \cos x - 90^\circ + \cos(540^\circ - x) \\ & \frac{\tan x}{-\tan x \cdot \sin x - \cos x} \\ & \frac{\tan x}{-\frac{\sin x}{\cos x} \cdot \sin x - \cos x} \\ & \frac{\sin x}{\cos x} \\ & \frac{-\sin^2 x - \cos^2 x}{\cos x} \\ & \frac{\sin x}{\cos x} \\ & \frac{-1}{\cos x} \times \frac{\cos x}{\sin x} \\ & -\frac{1}{\sin x} \end{aligned}$	<ul style="list-style-type: none"> ✓ $-\tan x$ ✓ $\sin x$ ✓ $-\cos x$ ✓ $\frac{\sin x}{\cos x}$ ✓ $-\sin^2 x - \cos^2 x$ ✓ -1 ✓ Antwoord 	(7)
10.2	10.2.1 $\begin{aligned} LK &= (\sin x + \cos x)^2 \\ &= \sin^2 x + 2 \sin x \cos x + \cos^2 x \\ &= 2 \sin x \cos x + 1 \\ &= RK \end{aligned}$	<ul style="list-style-type: none"> ✓ kwadreer ✓ Antwoord 	(2)
	10.2.2 $\begin{aligned} & 3 \sin 5\theta + 3 \cos 5\theta \\ &= 3(\sin 5\theta + \cos 5\theta) \\ &= 3 \sin 10\theta + 1 \\ &= 3 \frac{1}{2} \end{aligned}$	<ul style="list-style-type: none"> ✓ gemene faktor ✓ vierkantswortel ✓ $\sin 10\theta$ ✓ Antwoord 	(4)
10.3	$\begin{aligned} LK &= \frac{\sin 2x+1}{\cos 2x} \\ &= \frac{\sin^2 x + 2 \sin x \cos x + \cos^2 x}{\cos^2 x - \sin^2 x} \\ &= \frac{\sin x + \cos x}{\cos x - \sin x} \cdot \frac{(\sin x + \cos x)}{(\cos x + \sin x)} \\ &= \frac{\sin x + \cos x}{\cos x - \sin x} = RK \end{aligned}$	<ul style="list-style-type: none"> ✓ $\sin^2 x + \cos^2 x$ ✓ $2 \sin x \cos x$ OF gebruik 10.2.1 ✓ $\cos^2 x - \sin^2 x$ ✓ faktore 	(4)
			[17]

VRAAG 11

11.1	$x = -90^\circ$ $x = 90^\circ$	<input checked="" type="checkbox"/> $x = -90^\circ$ <input checked="" type="checkbox"/> $x = 90^\circ$	(2)
11.2	$f(x) = \frac{1}{2} \tan x$ $\frac{\partial f}{\partial x} = \tan x + \frac{1}{2}$ $\frac{\partial^2 f}{\partial x^2} = \sec^2 x$	$f(x) = \frac{1}{2} \tan x$ <input checked="" type="checkbox"/> asimptote <input checked="" type="checkbox"/> x -afsnit <input checked="" type="checkbox"/> y -afsnit <input checked="" type="checkbox"/> vorm $g(x) = \sin x + 1$ <input checked="" type="checkbox"/> x - afsnit <input checked="" type="checkbox"/> y -afsnit <input checked="" type="checkbox"/> vorm <input checked="" type="checkbox"/> draaipunt	(7)
11.3	$x = 0^\circ$ $x = 180^\circ$	<input checked="" type="checkbox"/> $x = 0^\circ$ <input checked="" type="checkbox"/> $x = 180^\circ$	(2)
11.4	$f(45^\circ) - g(30^\circ)$ $= 0,5 - 1,5$ $= -1$	<input checked="" type="checkbox"/> Instelling <input checked="" type="checkbox"/> Antwoord	(2)
11.5	$m = -120^\circ$ $m = 60^\circ$	<input checked="" type="checkbox"/> $m = -120^\circ$ <input checked="" type="checkbox"/> $m = 60^\circ$	(2)
11.6	90°	<input checked="" type="checkbox"/> Antwoord	(1)
			[16]

VRAAG 12

12.1	$UPQ = 180^\circ - (\theta + \alpha)$ $\sin UPQ = \sin 180^\circ - \theta + \alpha$ $\therefore \sin UPQ = \sin (\theta + \alpha)$	✓ $UPQ = 180^\circ - (\theta + \alpha)$ ✓ Antwoord	(2)
12.2	$UPQ = 180^\circ - (\theta + \alpha)$ and $PQ = 2t$ $\frac{UQ}{\sin \theta + \alpha} = \frac{2t}{\sin \alpha}$ $UQ = \frac{2t \sin \theta + \alpha}{\sin \alpha}$ $\sin \theta = \frac{t}{QT}$ $QT = \frac{t}{\sin \theta}$ $UT = \frac{2t \sin \theta + \alpha}{\sin \alpha} + \frac{t}{\sin \theta}$	✓ Sinusreël ✓ Instelling in sinusreël ✓ $UQ = \frac{2t \sin \theta + \alpha}{\sin \alpha}$ ✓ $QT = \frac{t}{\sin \theta}$ ✓ Antwoord	(5)
12.3	$t = 3\text{m}$, $\theta = 42^\circ$ en $\alpha = 83^\circ$ $UQ = \frac{2t \sin \theta + \alpha}{\sin \alpha}$ $UQ = \frac{2(3) \sin 83^\circ + 42^\circ}{\sin 83^\circ}$ $UQ = 4,95 \text{ m}$ area of $\Delta UPQ = \frac{1}{2} \times 4,95 \times 6 \times \sin 42^\circ$ $= 9,94 \text{ m}^2$	✓ Instelling ✓ Antwoord ✓ Instelling ✓ Antwoord	(4)
			[11]
		TOTAAL:	150