



education

Department:
Education
North West Provincial Government
REPUBLIC OF SOUTH AFRICA

PROVINSIALE ASSESSERING

GRAAD 10

**WISKUNDE V2
NOVEMBER 2024
NASIENRIGLYNE**

PUNTE: 100

Hierdie nasienriglyne bestaan uit 10 bladsye.



Testpapers.co.za

Kopiere

Past exam papers

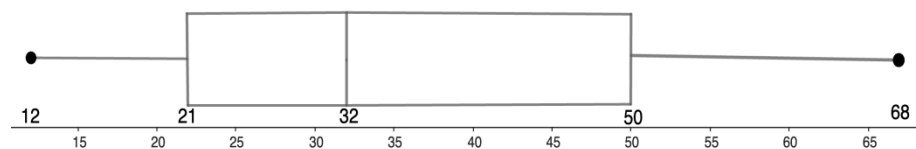
Summaries

Study Guides

seblief

C.A is van toepassing in alle aspekte van die nasienriglyne.**VRAAG 1**

1.1



✓ min waarde,
maks waarde
✓
✓(Kombinasie)
 $Q_1 = 16$
 $Q_2 = 30$
 $Q_3 = 38$ (3)

1.2

$$\begin{aligned} \text{IKV} &= Q_3 - Q_1 \\ &= 38 - 16 \\ &= 22 \end{aligned}$$

Slegs antwoord: volpunte

✓ formule
✓ antwoord (2)

1.3

$$\begin{aligned} \text{Omvang} &= \text{maks} - \text{min} \\ &= 68 - 12 \\ &= 56 \end{aligned}$$

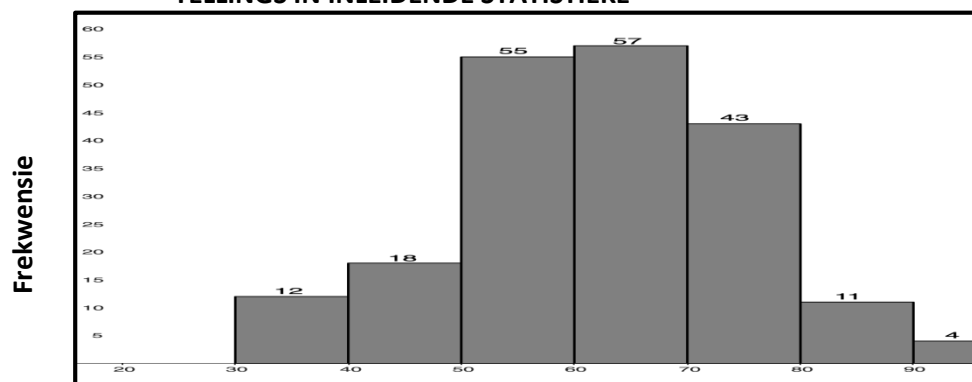
Slegs antwoord: volpunte

✓ formule
✓ antwoord (2)

1.4

Die data het skeefgetrek na regs.

✓ antwoord (1)

[8]**VRAAG 2****TELLINGS IN INLEIDENDE STATISTIEKE****Eksamen tellings**

2.1

$n = 200$

✓ antwoord (1)

2.2

$60 < m \leq 70$

✓ antwoord (1)

2.3

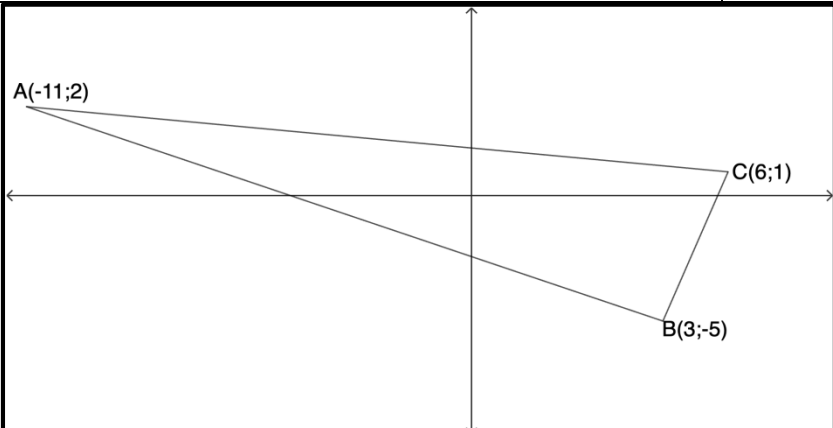
Eksamenpunte	Frekwensie	$x \cdot f$
$30 < m \leq 40$	12	420
$40 < m \leq 50$	18	810
$50 < m \leq 60$	55	3025
$60 < m \leq 70$	57	3705
$70 < m \leq 80$	43	3225
$80 < m \leq 90$	11	935
$90 < m \leq 100$	4	380
	200	12500

✓ Optel (200)
✓ $x \cdot f$ (12 500)
✓ substitusie
✓ antwoord (4)

	$\frac{\sum xf}{n} = \frac{12500}{200}$ $= 62,5$	
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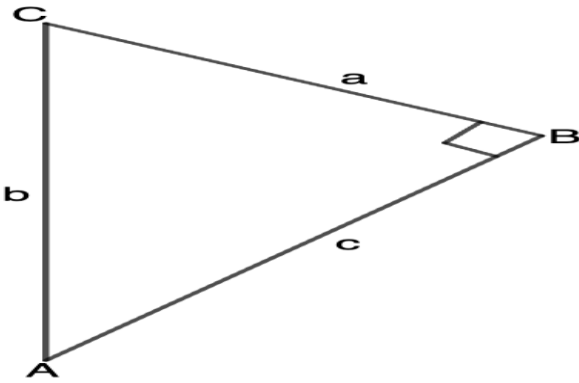
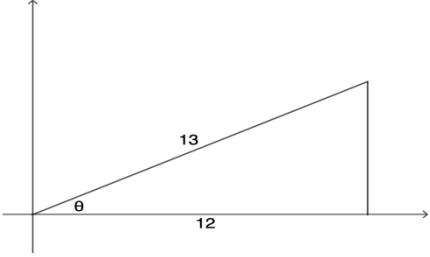
2.4	$\frac{n+1}{2} = \frac{200+1}{2}$ $= 100,5$ $Q_2 = 60 < m \leq 70$	Slegs antwoord: volpunte ✓ 100,5 ✓ antwoord (2)
2.5	$\frac{3(n+1)}{4} = \frac{3(200+1)}{4}$ $= 150,75[\text{posisie}]$ $70 < m \leq 80$	✓ antwoord (1)

[9]**VRAAG 3**

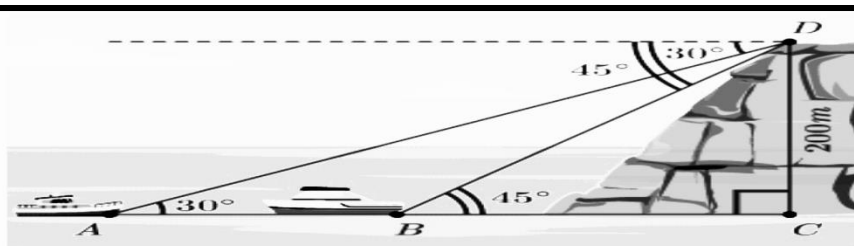
		
3.1	$BC = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$ $= \sqrt{(6 - 3)^2 + (1 - (-5))^2}$ $= 3\sqrt{5}$	✓ substitusie ✓ antwoord (2)
3.2	$D = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$ $= \left(\frac{-11 + 3}{2}, \frac{2 + (-5)}{2} \right)$ $= \left(-4; -\frac{3}{2} \right)$	✓ formule ✓ substitusie ✓✓ middelpunt (4)

3.3	$M_{AB} = \frac{y_2 - y_1}{x_2 - x_1}$ $M_{AB} = \frac{2 - (-5)}{-11 - 3}$ $M_{AB} = -\frac{7}{14} = -\frac{1}{2}$ $M_{BC} = \frac{y_2 - y_1}{x_2 - x_1}$ $M_{BC} = \frac{1 - (-5)}{6 - 3}$ $M_{BC} = 2$ $M_{AB} \times M_{BC}$ $-\frac{1}{2} \times 2 = -1$ $AB \perp BC$ $\therefore \hat{ABC} = 90^\circ$	✓ formule ✓ substitusie ✓ gradient van AB ✓ gradient van BC ✓ antwoord (5)
3.4	$BC = 3\sqrt{5}$ $AB = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$ $AB = \sqrt{(3 - (-11))^2 + (-5 - 2)^2}$ $AB = 7\sqrt{5}$ $A = \frac{1}{2}(BC \times AB)$ $= \frac{1}{2}(3\sqrt{5} \times 7\sqrt{5})$ $= \frac{105}{2} \text{ eenhede}^2 = 52,5 \text{ eenhede}^2$	✓ afstand van AB ✓ formule ✓ substitusie ✓ antwoord (4)
		[15]

VRAAG 4

		
4.1.1	$\sin A = \frac{a}{b}$	✓ antwoord (1)
4.1.2	$\cot C = \frac{a}{c}$	✓ antwoord (1)
4.1.3	$\hat{C} = 40^\circ$ – som $\angle$ 'e van 'n Δ . $\cot C = \frac{a}{c}$ $\cot 40^\circ = \frac{5}{c}$ $c = \frac{5}{\cot 40^\circ}$ $c = 4.20$	✓ S/R ✓ substitusie ✓ $c = 4.20$ (3)
4.2.1	$13 \cos \theta = 12$ $\cos \theta = \frac{12}{13}$ $r^2 = x^2 + y^2$ $(13)^2 = (12)^2 + y^2$ $5 = y$ $\sin \theta = \frac{5}{13}$	 ✓ $\cos \theta = \frac{12}{13}$ ✓ diagram ✓ $5 = y$ ✓ $\sin \theta = \frac{5}{13}$ (4)
4.2.2	$\tan \theta - \operatorname{cosec}^2 \theta$ $= \left(\frac{5}{12} - \left(\frac{13}{5} \right)^2 \right)$ $= -\frac{1903}{300} = -6.34$	✓ $\frac{5}{12}$ ✓ $\frac{13}{5}$ ✓ antwoord (3)

4.3	$\operatorname{cosec} 60^\circ \cdot \cot 30^\circ + \cos 45^\circ \cdot \operatorname{cosec} 45^\circ$ $= \frac{2}{\sqrt{3}} \cdot \sqrt{3} + \frac{1}{\sqrt{2}} \cdot \sqrt{2}$ $= 2 + 1$ $= 3$	$\checkmark \frac{2}{\sqrt{3}}$ $\checkmark \sqrt{3}$ $\checkmark \frac{1}{\sqrt{2}}$ $\checkmark \sqrt{2}$ $\checkmark 3$ (5)
4.4	$3 + \sec x = 5$ $\sec x = 2$ $\frac{1}{\cos x} = 2$ $\cos x = \frac{1}{2}$ $x = \cos^{-1}\left(\frac{1}{2}\right)$ $x = 60$	$\checkmark \sec x = 2$ $\checkmark \frac{1}{\cos x} = 2$ $\checkmark x = 60$ (3)
		[20]
VRAAG 5		
5.1	$a = 1$ $b = -2$	$\checkmark a = 1$ $\checkmark b = -2$ (2)
5.2	360°	$\checkmark$ antwoord (1)
5.3	$y \in [0; 2]$ of $0 \leq y \leq 2$	$\checkmark \checkmark y \in [0; 2]$ of $0 \leq y \leq 2$ (kombinasie) (2)
5.4	2	$\checkmark$ antwoord (1)
5.5	1 oplossing	$\checkmark$ antwoord (1)
5.6	$0^\circ < x < 180^\circ$ of $x \in (0^\circ; 180^\circ)$	$\checkmark \checkmark 0^\circ < x < 180^\circ$ of $(0^\circ; 180^\circ)$ (kombinasie) (2)
5.7.1	$h(x) = -\cos x - 3$	$\checkmark -\cos x$ $\checkmark -3$ (2)
5.7.2	$y \in [-4; -2]$ of $-4 \leq y \leq -2$	$\checkmark \checkmark$ antwoord (kombinasie) (2)
		[13]

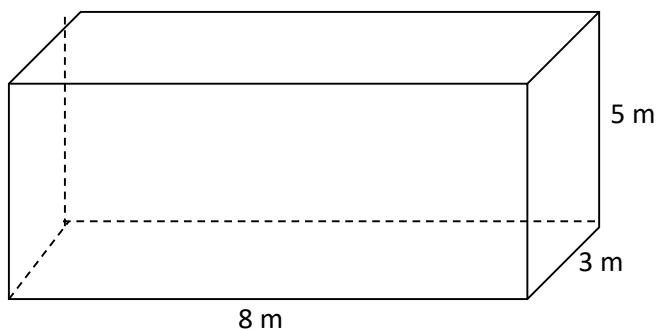
VRAAG 6

6.1	$\hat{B} + \hat{C} + \hat{BDC} = 180^\circ - \text{som } \angle\text{'e van 'n } \Delta$ $45^\circ + 90^\circ + \hat{BDC} = 180^\circ$ $\hat{BDC} = 180^\circ - 45^\circ - 90^\circ$ $\hat{BDC} = 45^\circ$	✓ S/R ✓ antwoord (2)
6.2	$\tan B = \frac{DC}{BC}$ $\tan 45^\circ = \frac{200}{BC}$ $BC = 200m$ OF BC = 200m- sye teenoor = hoeke	✓ substitusie ✓ antwoord ✓ S✓ R (2)
6.3	$\tan \hat{A} = \frac{CD}{AC}$ $\tan 30^\circ = \frac{200}{AC}$ $AC = \frac{200}{\tan 30^\circ}$ $AC = 346.41$ $AC - BC = AB$ $346.41 - 200 = AB$ $146.41 = AB$	✓ verhouding ✓ $AC = 346.41 / 200\sqrt{3}$ ✓ Verskil ✓ antwoord (4)
		[8]

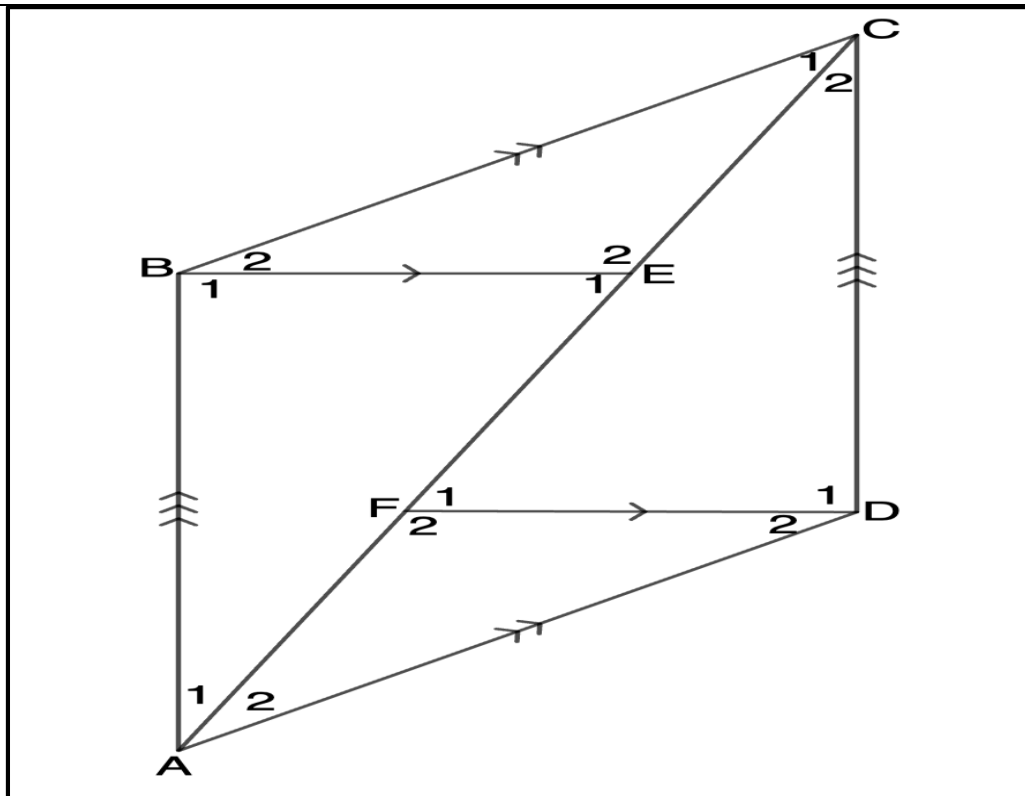
VRAAG 7

$$V = L.B.H$$

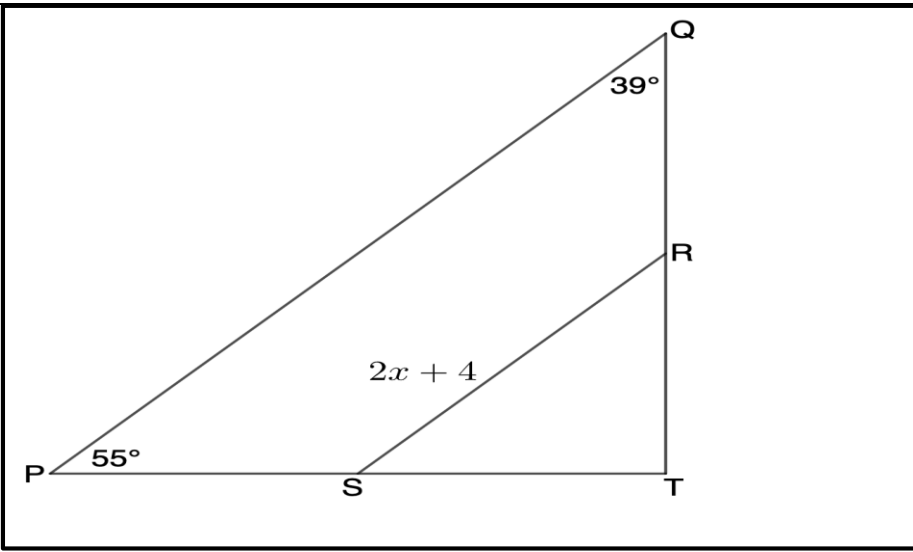
$$SA = 2(L.B) + 2(L.H) + 2(H.B)$$



7.1	$= 2(8 \times 5) + (2(3 \times 5)) + 2(3 \times 8)$ $= 158m^2$	✓ substitusie ✓ antwoord (2)
7.2	$V = L.B.H$ $= 8 \times 3 \times 5$ $= 120m^3$	✓ substitusie ✓ antwoord (2)
7.3	$V = L.B.H$ $16 \times 9 \times 2,5$ $360 m^3$	✓ ✓ $16 \times 9 \times 2,5$ ✓ antwoord (3)
		[7]

VRAAG 8

8.1.1	$AB = CD$ – teenoost sye van parm is = $\hat{A}_1 = \hat{C}_2$ – verw $\angle$'s $AB \parallel CD$ $\hat{E}_1 = \hat{F}_1$ – verw $\angle$'s $BE \parallel FD$ $\therefore \square ABE \cong \triangle CDF$, HHS	✓ S/R ✓ S/R ✓ S/R ✓ gevolgtrekking (4)
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8.1.2	$\hat{C}_1 = \hat{A}_2$ – verw $\angle$'s $BC \parallel AD$ (H) $\hat{B} = \hat{D}$ – teenoorst $\angle$'s van 'n parm $\hat{B}_1 = \hat{D}_1$ – bewys ($\triangle ABE \equiv \triangle CDF$) $\hat{B}_2 = \hat{D}_2$ – (H) $\hat{F}_2 = \hat{E}_2$ – som $\angle$ 'e van 'n $\triangle$	$\checkmark$ S/R $\checkmark$ S/R $\checkmark$ S/R (3)
8.1.3	$\hat{C}_1 = \hat{A}_2$ – bewys $\hat{B}_2 = \hat{D}_2$ – bewys $BC = AD$ – teenoorst sye van parm is= $\therefore \square CBE \equiv \triangle ADF, HHS$ $AF = CE$ – kongruente $\triangle$	$\checkmark$ S/R $\checkmark$ S/R $\checkmark$ gevolgtrekking (3)
		[10]
VRAAG 9		
		
9.1	$PQ = 2 \times SR$ – Middelpunt stelling $= 2(2x + 4) = 4x + 8$	$\checkmark$ S/R $\checkmark$ antwoord (2)

9.2	$18 = 4x + 8$ $18 - 8 = 4x$ $\frac{10}{4} = \frac{5}{2} = x$	$\checkmark 18=4x+8$ $\checkmark 10=4x$ $\checkmark$ antwoord (3)
9.3	RS is 'n middelpunt $\therefore SR \parallel PQ$ $\hat{Q} = \hat{R} = 39^\circ$ – ooreenkomst $\angle$'s $SR \parallel PQ(H)$ $\hat{P} = \hat{S} = 55^\circ$ – ooreenkomst $\angle$'s $SR \parallel PQ(H)$ $\hat{T} = \hat{T}$ – gemeenskaplik $\angle(H)$ $\therefore \triangle TRS \equiv \triangle TQP, HHH$	$\checkmark S \checkmark R$ $\checkmark S \checkmark R$ $\checkmark$ gevolgtrekking (5)
		[10]
TOTAAL : 100		