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GRAAD 11

NOVEMBER 2015

**WISKUNDIGE GELETTERDHEID V2
MEMORANDUM**

PUNTE: 100

Simbool	Verduideliking
M	Metode
MA	Metode met akkuraatheid
CA	Voortgesette akkuraatheid
A	Akkuraatheid (Antwoord)
C	Omskakeling
S	Vereenvoudiging
RT/RG/RM	Lees van tabel/Lees van grafiek/Lees van kaart
F	Kies van korrekte formule
SF	Vervanging in formule
J/O	Mening
P	Penalisering vir geen eenhede, verkeerde afronding, ens.
R	(Afronding/Rede)

Hierdie memorandum bestaan uit **6** bladsye.

VRAAG 1

1.1	1.1.1	5 Ingange ✓✓	2A Identifiseer die aantal ingange	(2)
	1.1.2	<ul style="list-style-type: none"> • Loop reguit na Winkel No. 6 en draai links. ✓ • Edgars sal aan jou linkerkant wees en loop aan tot by Winkel Nr. 60 en draai regs. ✓ • Hou aan tot by Winkel Nr. 52-53 en draai links waar Ingang 2 is ✓ Aanvaar enige relevante verduideliking	3A Verduideliking	(3)
1.2	1.2.1	1h ✓57 minute ✓	1A Ure 1A Minute	(2)
	1.2.2	$11:20 + 45 \text{ min} + 15 \text{ min} \checkmark = 12:20 \checkmark$ Dit sal te laat wees vir 12:15 vertoning ✓ $14:45 + 1:57 = 16:42 + 40 \text{ min} \checkmark = 17:22 \text{ min} \checkmark$ Die enigste gepaste tydgleuf sal die 14:45 vertoning wees en steeds betyds by die huis wees. ✓	1M Tel 45 min en 15 min 1A 1O Opinie 1A Tel 1h57 en 40 min by 1A Tyd vir aankoms tuis 1O Opinie	(6)
	1.2.3	<ul style="list-style-type: none"> • Skoonmaak van die kinema ✓ • Om vir die volgende vertoning voor te berei ✓ OF <ul style="list-style-type: none"> • Om die kinemawerkers 'n blaaskans te gee ✓ Aanvaar enige gepaste redes	1A Eerste rede 1A Tweede rede	(2)
1.3	1.3.1	Gewone prysing = $75 + 55 \checkmark \checkmark = R130 \checkmark$	1A Identifiseer die korrekte waardes 1M Optelling 1A	(3)
	1.3.2	<ul style="list-style-type: none"> • Dit is te duur op 'n Sondag of naweke ✓✓ OF <ul style="list-style-type: none"> • Dit is baie goedkoper op ander dae ✓✓ Aanvaar enige ander gepaste verduideliking	2O Explanation	(2)
				[20]

VRAAG 2

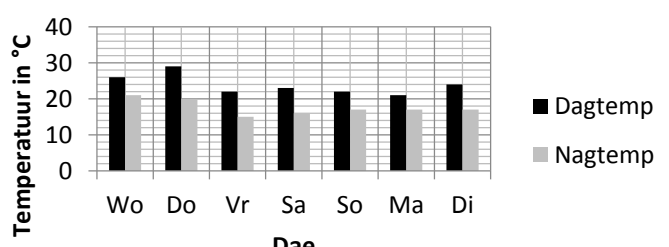
2.1	2.1.1	(a)	<p>Totale koste (in rand) = R200 ✓ + aantal minute meer as 150 ✓ x R0,60 ✓</p> <p>OF</p> <p>Totale koste (in rand) = R 200 ✓ + (aantal minute meer as 150) ✓ x R0,60 ✓</p> <p>OF</p> <p>Totale koste (in rand) = R200 ✓+ (aantal minute – 150) ✓ x R0,60 ✓</p>	<p>1A Huurkoste 1A Minute meer as 150 1A x 60 sent</p> <p>1A Huurkoste 1A Minute meer as 150 1A x 60 sent</p> <p>1A Huurkoste 1A Minute meer as 150 1A x 60 sent</p>	(3)
		(b)	<p>Totale koste (in rand) = R200 + (aantal minute – 150) x R0,60 = 200 + (625 – 150) x 0,60 ✓ = 200 + (475 ✓ x 0,60) = 200 + 285 ✓ = R485,00 ✓</p>	<p>CA vanaf 2.1.1 (a) 1SF 1S 1S 1A</p>	(4)
2.1.2	<p>Landlynoproepkette</p> <p>Koste in Rand</p> <p>Tyd in minute</p> <p>Oproeppakket A</p> <p>Oproeppakket B</p>			<p>1 Punt vir lyn 0–100 minute 1 Punt vir korrekte gelykbreekpunt 2 Punte vir enige 3 punte korrek afgesteek 1M Benoeming van Oproeppakket A</p>	(5)
2.1.3	<p>Vir dieselfde aantal minute wat gebruik word ✓ sal dieselfde bedrag vir beide Oproeppakkette betaal word ✓</p>			<p>1A Verwys na minute 1A Verwys na koste</p>	(2)
2.1.4	<p>Gelykbreekpunt (450✓;380✓)</p>			<p>CA vanaf 2.1.2 1CA 450 minute 1CA 380 rand Indien orde verkeerd 0</p>	(2)

2.1.5	<p>Oproeppakket A</p> <p>Totale koste = $100 + (451 - 100) \times 0,80 \checkmark$</p> <p style="margin-left: 40px;">$= 100 + (351 \times 0,80)$</p> <p style="margin-left: 40px;">$= 100 + 280,8$</p> <p style="margin-left: 40px;">$= R\ 380,80 \checkmark$</p> <p>Oproeppakket B</p> <p>Totale koste = $200 + (451 - 150) \times 0,60$</p> <p style="margin-left: 40px;">$= 200 + (301 \times 0,60)$</p> <p style="margin-left: 40px;">$= 200 + 180,60$</p> <p style="margin-left: 40px;">$= R\ 380,60 \checkmark$</p> <p>Verskil = $R\ 380,80 - R\ 380,60$</p> <p style="margin-left: 40px;">$= R\ 0,20 \checkmark$</p> <p style="text-align: center;">OF</p> <p>Oproeppakket A – Oproeppakket B</p> <p>$= 100 + (451 - 100) \times 0,80 \checkmark - 200 + (451 - 150) \times 0,60$</p> <p>$= 100 + (351 \times 0,80) - 200 + (301 \times 0,60)$</p> <p>$= 100 + 280,80 - 200 + 180,60$</p> <p>$= R\ 380,80 \checkmark - R\ 380,60 \checkmark$</p> <p>$= R\ 0,20 \checkmark$</p>	<p>1SF</p> <p>1CA</p> <p>1CA</p> <p>1CA Verskil</p> <p>1SF</p> <p>1CA</p> <p>1CA</p> <p>1CA Verskil</p>	 <
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VRAAG 3

3.1	3.1.1	$A = 17,20 \times 1,14 \checkmark$ $= R\ 19,61 \checkmark$ $B = \frac{31,95}{1,14} \checkmark$ $= R28,03 \checkmark$	1M 1A 1M 1A	(4)
	3.1.2	Nee \checkmark , sy sal nie vir die eerste 6 kl betaal nie \checkmark	1A 1O	(2)
	3.1.3	Betaling vir 19,5 kl $= (6 \times 0) + (4,5 \times 7,60) + (9 \times 11,61) \checkmark$ $= R\ 0 + R\ 34,20 + R\ 104,49 \checkmark$ $= R\ 138,69 \checkmark \times 1,14$ $= R\ 158,11 \checkmark$	1M 1S 1A 1A Insluitende BTW	(4)
3.2	3.2.1	Deursnee = 750 mm, daarom is radius = 375 mm $\checkmark = 0,375\ m$ Hoogte = 2230 mm = 2,230 m \checkmark Volume = $3,142 \times 0,375\ m^2 \times 2,230\ m \checkmark$ $= 3,142 \times 0,140625\ m^2 \times 2,230\ m$ $= 0,985311562\ m^3 \checkmark \times 1000$ $= 985,311562 /$ Aanvaar 985,312 \checkmark Daarom; $1000 / \neq 985,311562 \checkmark$ OF $985,312 \checkmark$	1A Vind radius 1A Herlei mm na m (beide) 1SF 1S radius ² 1CA in liter 1A	(6)
	3.2.2	Die gegewe inligting is afgerond tot die naaste 1000 \checkmark Kopers is onder die indruk dat hulle 'n watertenk koop met 'n kapasiteit van 1 000 l, terwyl dit slegs 'n kapasiteit van 985 l het. $\checkmark \checkmark$	1O 2O	(3)
	3.2.3	Tenk kan oorstroom as dit die aanbevole gevulde hoogte oorskry $\checkmark \checkmark$	2R	(2)
	3.2.4	Enige van die vertikale ronde watertenke $\checkmark \checkmark$	2A	(2)
3.3	Balk of staafgrafiek \checkmark en sirkeldiagram \checkmark		1A Balk grafiek 1A staafgrafiek	(2)
[25]				

VRAAG 4

4.1	4.1.1	Gemiddelde = $\frac{26 + 29 + 22 + 23 + 22 + 21 + 24}{7}$ ✓ $= \frac{167}{7}$ $= 23,85714286$ ✓ $= 24^{\circ}\text{C}$ ✓	1M tel alle dag temp op 1M / 7 1CA 1CA	(4)
	4.1.2	Omvang = $29^{\circ}\text{C} - 15^{\circ}\text{C}$ ✓ $= 14^{\circ}\text{C}$ ✓	1M konsep van omvang 1A	(2)
	4.1.3	Mediaan = 15; 16; 17; 17; 17; 20; 21 ✓ $= 17^{\circ}\text{C}$ ✓	1M Rangskik waardes 1A	(2)
	4.1.4	Nagtemperature daal vanaf Woensdag na Vrydag waarna dit toeneem op Saterdag en dan konstant bly vanaf Sondag tot Dinsdag ✓✓	2O	(2)
	4.1.5	Maandag ✓ met 4°C ✓	1RT Dag 1A Verskil	(2)
	4.1.6	Vrydag ✓✓	2RT	(2)
	4.1.7	<div> <p>Dag- en nagtemperature vir George vanaf 14 Jan - 20 Jan 2015</p>  <p>Temperatuur in °C</p> <p>Wo Do Vr Sa So Ma Di</p> <p>Dae</p> <p>■ Dagtemp ■ Nagtemp</p> </div>	Enige 4 pare korrek afgesteek 1Punt vir sleutel 1 Punt vir korrekte grafiek	(6)
4.2		Dit is hoogs onwaarskynlik dat dit op Vrydag sal reën omdat dit slegs 30% is wat 'n klein kans is vir reën om te val ✓✓	2O	(2)
4.3	4.3.1	Tyd = $\frac{\text{Afstand}}{\text{Spoed}}$ $= \frac{64,7 \text{ km}}{90 \text{ km/h}}$ ✓ $= 0,7188 \dots \text{hours} \times 60$ ✓ $= 43,133 \dots$ $= 43 \text{ minutes}$ ✓	1M 1S 1A	(3)
	4.3.2	Jou spoed gaan verminder ✓, daarom sal dit jou langer neem ✓ om die rit te voltooi	1A verwys na spoed 1A verwys na tyd	(2)

[27]

TOTAAL: 100