



Province of the  
**EASTERN CAPE**  
EDUCATION

## **NASIONALE SENIOR SERTIFIKAAT**

**GRAAD 12**

**JUNIE 2018**

### **WISKUNDIGE GELETTERDHEID V1 NASIENRIGLYN**

**PUNTE: 100**

| <b>SIMBOOL</b>    | <b>VERDUIDELIKING</b>  |
|-------------------|--|
| A                 | Akkuraatheid   |
| CA                | Deurlopende akkuraatheid   |
| C                 | Omskakeling/herleiding   |
| J                 | Regverdiging (Rede/Opinie)   |
| M                 | Metode   |
| MA                | Metode met akkuraatheid  |
| P                 | Penalisering vir geen eenhede, foutiewe afronding, ens.  |
| R                 | Afronding  |
| RT/RG/RP<br>RM/RD | Lees vanaf tabel/Lees vanaf 'n grafiek/Lees vanaf 'n plan/Lees vanaf 'n kaart/ Lees vanaf 'n diagram |
| S                 | Vereenvoudiging  |
| SF                | Korrekte vervanging in 'n formule  |
| O                 | Eie opinie   |
| NPR               | Geen penalisering vir afronding  |

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Hierdie nasienriglyn bestaan uit 8 bladsye.

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| VRAAG 1 [20 punte] |   | Verduideliking  | Punte       |
|--------------------|---|---|-------------|
| 1.1.1              | Koste vir deposito = $1,5 + \frac{0,25}{100} \times 2\,000 \checkmark = 1,5 + 5 \text{ MA}$<br>$= R6,50 \checkmark \text{ CA}$  | 1 MA (0,25% van 2 000)<br>1 CA                                      | L1<br>(2)   |
| 1.1.2              | Minimum = R2,00 $\checkmark\checkmark$  | 2 RT  | L1 (2)      |
| 1.2.1              | A = $231,70 - (23,45 + 90 + 23 + 45) \checkmark \text{ MA}$<br>$= 50,25 \checkmark \text{ CA}$  | 1 MA<br>Aftrekking van waardes vanaf 231,70<br>1 CA Waarde van A    | L1<br>(2)   |
| 1.2.2              | Koste van totale data gebruik = $\frac{231,7}{1\,000} \times 149 \checkmark \text{ MA}$<br>$= R34,52 \checkmark \text{ CA}$<br><b>OF</b><br>Koste van totale data gebruik = $\frac{149}{1\,000} \times 231,7 \checkmark \text{ MA}$<br>$= R34,52 \checkmark \text{ CA}$ | 1 MA Totale data as 'n breuk van 1GB x 149<br>1 CA Koste NPR        | L1<br>(2)   |
| 1.3.1              | Sitplek 20B $\checkmark\checkmark$ RT   | 2 RT<br>Sitpleknommer   | L1<br>(2)   |
| 1.3.2              | Tyd van vlug = $13:30 - 12:05 \checkmark \text{ MA}$<br>$= 1\text{h } 25 \text{ min } \checkmark \text{ A}$   | 1 MA Trek tye af<br>1 A<br>1:25 is verkeerd                         | L1<br>(2)   |
| 1.4.1              | Staaf- of grafiese skaal $\checkmark$ A<br>Lineêre skaal $\checkmark$ A<br>Woordskaal $\checkmark$ A<br>Breukskaal of verhoudingskaal $\checkmark$ A  | 2 A Vir enige twee skale genoem                                     | L1<br>(2)   |
| 1.4.2              | Vir elke eenheid op die tekening of op 'n kaart is daar in werklikheid 400 000 eenhede $\checkmark\checkmark$ A   | 2 A<br>Verduideliking   | L1<br>(2)   |
| 1.5.1              | Ander<br>$= 2\,100\,000 - (503\,096 + 439\,719 + 221\,121 + 219\,007) \checkmark \text{ MA}$<br>$= 717\,057 \checkmark \text{ CA}$  | 1 MA<br>Trek totaal af van 2,1 miljoen<br>1 CA                      | L1<br>(2)   |
| 1.5.2              | % Gesondheid van die totaal = $\frac{221\,121}{2\,100\,000} \times 100 \checkmark \text{ MA}$<br>$= 10,53\% \checkmark \text{ CA}$  | 1 MA<br>Breukdeel van korrekte waardes $\times$ 100%<br>1 CA<br>NPR | L1<br>(2)   |
|                    |   |   | <b>[20]</b> |

| VRAAG 2 [27 punte] |   | Verduideliking   | Punte             |
|--------------------|---|--|-------------------|
| 2.1                | $\text{Inflasiekoers} = \frac{369,50 - 343}{343} \times 100 \checkmark \text{ SF}$ $= \frac{26,50}{343} \times 100 \checkmark \text{ S}$ $= 7,73\% \checkmark \text{ CA}$ | 1 SF<br><br>1 S<br><br>1 CA<br>NPR                       | L2<br><br><br>(3) |
| 2.2.1              | $\text{Salaris voor verhoging} = \frac{25\,750}{1,085} \checkmark \checkmark \text{ MA}$ $= \text{R}23\,732,72 \checkmark \text{ CA}$                                     | 1A Korrekte waarde 25 750<br>1 M Deel deur 1,085<br>1 CA | L2<br><br><br>(3) |
| 2.2.2              | $\text{Jaarlikse salaris} = 25\,750 \times 12 \checkmark \text{ MA}$ $= \text{R}309\,000 \checkmark \text{ A}$  | 1 MA<br>Vermenigvuldig korrekte waardes<br>1 CA          | L1<br><br><br>(2) |
| 2.3.1              | $D = \frac{2500}{50} \checkmark \text{ MA} = 50 \text{ kaartjies verkoop} \checkmark \text{ A}$   | 1 MA Deel korrekte waardes<br>1 CA                       | L1<br><br>(2)     |
| 2.3.2              | $\text{Koste vir huur} = \text{R}3\,600 \checkmark \checkmark$  | Verkry van inligting wat verskaf is<br>2 A               | L1<br><br>(2)     |

|       |   |                                   |           |
|-------|---|-----------------------------------|-----------|
| 2.3.3 |   | 1 A Eerste punt<br>1 A Lyn getrek | L2<br>(2) |
|       | 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|                                   |           |

|       |   |  |   |
|-------|---|--|---|
| 2.5.1 | R1 = 0,46406 CYN<br>? = 1 250<br>$? = \frac{1\,250}{0,46406} \checkmark \text{ MA}$<br>= R2 693,62 ✓ A  | 1 MA Deel,<br>gebruik korrekte<br>waardes<br><br>1 A   | L2<br><br><br>(2)                             |
| 2.5.2 | Aantal dele 2 + 3 = 5 ✓ MA<br>Waarde van 1 deel = $\frac{2694}{5} = \text{R538},80 \checkmark \text{ S}$<br>Vrou het 1 deel meer; sy ontvang R538,80 ✓ CA meer<br><b>OF</b><br>Aantal dele = 5 ✓ MA<br>Vrou kry = $\frac{3}{5} \times 2\,694 = \text{R1}\,616,40$<br>Abudalla = $\frac{2}{5} \times 2\,694 = \text{R1}\,077,60$<br>Vrou ontvang 1 616, 40 – 1 077,60 ✓ = R538,80 ✓ CA<br>meer<br><b>OF</b><br>Aantal dele 2 + 3 = 5 ✓ MA<br>Waarde van 1 deel = $\frac{1250}{5} = \text{CYN } 250 \checkmark \text{ S}$<br>Vrou het 1 deel meer; sy ontvang CYN 250 ✓ CA meer | 1 MA waarde van<br>5<br>1 S<br>1 CA<br><br>1 MA waarde van<br>5<br>1 Aftrekking<br>1 CA<br><br>(Toelaatbaar as in<br>Chinese Yuan<br>bereken)<br>1 MA waarde van<br>5<br>1 S<br>1 CA | L2<br><br><br><br><br><br><br><br><br><br>(3) |
|       |   |  | [27]  |

| VRAAG 3 [16 punte] |   | Verduideliking   | Punte       |
|--------------------|---|--|-------------|
| 3.1                | 1,8 m ✓✓ RD<br><b>OF</b><br>$\text{Radius} = \frac{3,6}{2} \checkmark \text{ M}$<br>$= 1,8 \text{ m} \checkmark \text{ A}$  | 2 RD<br>1 M Deel deur 2<br>1 A                                       | L1<br>(2)   |
| 3.2                | $C = \pi r$<br>$C = 3,142 \times 1,8 \text{ m} \checkmark$<br>$= 5,66 \text{ m} \checkmark$<br><b>OF</b><br>$C = 3,142 \times (3,6 \text{ m}) \div 2 \checkmark$<br>$= 5,66 \text{ m} \checkmark$   | 1 SF<br>1 CA vanaf 3.1<br>1 SF<br>1 CA<br>NPR                        | L2<br>(2)   |
| 3.3                | $A + A + A + 0,4 \text{ m} + 1,1 \text{ m} + 1,75 \text{ m} = 5,8 \text{ M} \checkmark$<br>$3A + 3,25 \text{ m} = 5,8 \text{ m}$<br>$3A = 5,8 \text{ m} - 3,25 \text{ m} \checkmark \text{ S}$<br>$\frac{3A}{3} = \frac{2,55 \text{ m}}{3} \checkmark \text{ M/A}$<br>$A = 0,85 \text{ m} \checkmark \text{ CA}$  | 1 M Optel<br>1 S<br>1 M/A Deel<br>1 CA                               | L1<br>(4)   |
| 3.4                | $\text{TO} = \pi r^2 + (\text{lengte} \times \text{breedte}) \times 2$<br>$= 3,142 \times 1,8^2 + (5,8 \text{ m} \times 4,9 \text{ m}) \times 2 \checkmark \checkmark$<br>$= 10,18008 \text{ m}^2 + 28,42 \text{ m}^2 \times 2 \checkmark$<br>$= 10,18008 \text{ m}^2 + 56,84 \text{ m}^2$<br>$= 67,02 \text{ m}^2 \checkmark$<br>$= 67 \text{ m}^2 \checkmark$ | CA vanaf 3.1<br>2 SF<br>1 S<br>1 CA<br>1 Afronding                   | L2<br>(5)   |
| 3.5                | $5,8 \text{ m} + 1,8 \text{ m}$<br>$= 7,6 \text{ m} \checkmark \times 2 \checkmark$<br>$= 15,2 \text{ m} \checkmark$  | 1 M Optel<br>(Waarde 7,6 m)<br>1 M<br>(Vermenigvuldig met 2)<br>1 CA | L2<br>(3)   |
|                    |   |  | <b>[16]</b> |

| VRAAG 4 [11 punte] |  | Verduideliking                | Punte     |
|--------------------|--|-------------------------------|-----------|
| 4.1                | 16 ✓✓ RD   | 2 RD                          | L1<br>(2) |
| 4.2                | a) AA = 48 ✓✓ A  | 2 A Nommer                    | L1<br>(2) |
|                    | b) BB = 65 ✓✓ A  | 2 A Nommer                    | L1<br>(2) |
| 4.3                | Q 5 ✓✓ RD  | 2 RD<br>Ken 1 punt toe vir 5Q | L1<br>(2) |
| 4.4                | Draai dit een keer kloksgewys op so 'n manier dat die linkerkant nou die bokant is, die onderkant nou die linkerkant is en die bokant die regterkant is. ✓✓✓ | 3 A Verduideliking            | L2<br>(3) |
|                    |  |                               | [11]      |

| VRAAG 5 [26 punte] |   | Verduideliking   | Punte     |
|--------------------|---|--|-----------|
| 5.1.1              | 18 ✓✓ RM  | 2A RM Totale aantal datawaardes                        | L1<br>(2) |
| 5.1.2              | Willowmore ✓ RM<br>Port Elizabeth ✓ RM<br>Oos-Londen ✓ RM<br>Aliwal-Noord ✓ RM                        | 4 A RM<br>(1 Punt vir elke dorp of stad)               | L1<br>(4) |
| 5.1.3              | 14; 14; 15; 15; 15; 16; 16; 17; 17; 17; 17 ✓✓ RM  | 2 A RM<br>In stygende volgorde gerangskik              | L1<br>(2) |
| 5.1.4              | 16 ✓✓ CA  | 2 CA Vanaf 5.1.3 Mediaan                               | L2<br>(2) |
| 5.1.5              | $K_1 = 15$ ✓ A en $K_3 = 17$ ✓ A<br>Interkwartiel-omvang = $17 - 15$ ✓ 1 M<br>= 2 ✓ CA                | 2 MA vir $K_1$ en $K_3$<br>1 M Aftrekking<br>1 CA      | L2<br>(4) |
| 5.1.6              | Gemiddelde = $\frac{16+18+21+22+27+28+28}{7} = \frac{160}{7}$ ✓✓ MA<br><br>= 22,86<br>= 23 ✓ A        | 2 MA Optelling en deling<br>1 CA<br>NPR                | L2<br>(3) |
| 5.1.7              | 28 ✓✓ RM  | 2 RM   | L2 (2)    |
| 5.1.8              | Verskil = $28 - 17$ ✓ MA<br>= 11 ✓ CA   | 1 MA Aftrekking<br>1 CA                                | L1<br>(2) |
| 5.2.1              | Waarskynlikheid is die kans dat 'n gebeurtenis kan plaasvind ✓✓                                       | 2A Verduideliking                                      | L1<br>(2) |
| 5.2.2              | P (Stad of dorp met temperatuur minder as $17^\circ\text{C}$ )<br>$= \frac{8}{18}$ ✓✓ = $\frac{4}{9}$ | 1 A vir 8 die teller<br>1 CA Vanaf 5.1.1<br>1 A<br>NPR | L2<br>(3) |
|                    |   |  | [26]      |
| TOTAAL:            |   |  | 100       |