Province of the

**EASTERN CAPE**

EDUCATION

**NASIONALE**

**SENIOR SERTIFIKAAT**

**GRAAD 11**

**NOVEMBER 2010**

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| **WISKUNDIGE GELETTERDHEID VRAESTEL 1**  **MEMORANDUM** |

**PUNTE: 100**

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| Hierdie memorandum bestaan uit 6 bladsye. |

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| **SIMBOOL** | **VERDUIDELIKING** |
| **M** | Metode |
| **MA** | Metode met Akkuraatheid. |
| **CA** | Deurlopende Akkuraatheid |
| **A** | Akkuraatheid |
| **C** | Herleiding |
| **S** | Vereenvoudiging |
| **RT / RG** | Lees vanaf ŉ tabel / grafiek |
| **F** | Kies van die korrekte formule |
| **SF** | Substitusie in ŉ formule |
| **O** | Opinie |
| **P** | Straf: bv. vir: geen eenhede, verkeerde afronding ensovoorts. |
| **R** | Afronding |
| **G** | Afsteek/Stipping/Teken van grafiek |

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| **VRAAG 1** | |  |  |
|  | |  |  |
| 1.1 | Trapesium ✓✓  Vierhoek | A:1 A:1  (slegs *1 Punt*) | (2) |
|  |  |  |  |
| 1.2 | ½ (10 m)(3 m + 1,5 m) ✓ ✓  = 5 m x 4,5 m ✓  = 22,5 m2 ✓ | SF:1 (vi*r 10 m*)  SF:1(vi*r 3 m en 1,5 m*)  S:1  A:1 | (4) |
|  |  |  |  |
| 1.3 | GHEF ✓ | A:1 | (1) |
|  |  |  |  |
| 1.4.1 | Area van ABHG = 4 m x 3 m ✓  = 12 m2 ✓ | M:1  A:1 | (2) |
|  |  |  |  |
| 1.4.2 | Area van CEFD = 4m x 1,5m ✓  = 6 m2 ✓ | M:1  A:1 | (2) |
|  |  |  |  |
| 1.5.1 | (22,5 m2 x 2) + 12 m2 + 6 m2 ✓✓  = 63 m2 ✓  **OF**  (22,5 m2 + 22,5 m2) + 12 m2 + 6 m2 ✓✓  = 63 m2 ✓ | M:1,  M:1  A:1 | (3) |
|  |  |  |  |
| 1.5.2 | 20 cm x 10 cm ✓  = 200 cm2 ✓  200 ÷ 10 000 ✓  = 0,02 m2 ✓ | SF: 1  A: 1 | (4) |
|  |  |  |  |
| 1.5.3 | 63 m2 ÷ 0,02 m2 ✓  = 3 150 teëls ✓ | M:1  A:1 | (2) |
|  |  |  |  |
| 1.5.4 | 3 150 ÷ 24 ✓  = 131,25 dose ✓  ≈ 132 dose ✓ | M:1  A:1  R:1 | (3) |
|  |  |  |  |
| 1.5.5 | 132 x R127,75 ✓  = R16 863 ✓ | M:1  A:1 | (2) |
|  |  |  |  |
| 1.6.1 | 22,5 m2 x 4 m ✓  =90 m3 ✓ | M:1  A:1 | (2) |
|  |  |  |  |
| 1.6.2 | 90 kℓ ✓ | A:1 | (1) |
|  |  |  |  |
| 1.7 | 90 x R11,89 ✓  = R1 070,10 ✓ | M:1  A:1 | (2) |
|  |  |  |  |
| 1.8 | ½ (3 m + 1,5 m) ✓  = 2,25 m ✓ | M:1  A:1 | (2) |
|  |  |  | **[32]** |

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| **VRAAG 2** | |  |  |
|  | |  |  |
| 2.1.1 | 4 ure ✓ | A:1 | (1) |
|  |  |  |  |
| 2.1.2 | 10 ure ✓ | A:1 | (1) |
|  |  |  |  |
| 2.2.1 | 10 + 9 + 8 + 8 + 7 + 4 ✓  = 46 ure ✓ | RG:1  A:1 | (2) |
|  |  |  |  |
| 2.2.2 | 4 + 6 + 8 + 9 + 9 + 10 ✓  = 46 ure ✓ | RG:1  A:1 | (2) |
|  |  |  |  |
|  |  |  |  |
| 2.3.1 | Donderdag ✓en Vrydag ✓ | A:1, A:1 | (2) |
|  |  |  |  |
| 2.3.2 | Woensdag ✓en Donderdag ✓ | A:1, A:1 | (2) |
|  |  |  |  |
| 2.3.3 | Woensdag ✓ | A:1 | (1) |
|  |  |  |  |
| 2.4 | 46 ÷ 6 ✓  = 7,67 ure ✓  = 7 ure en 40 minute ✓  ***(Aanvaar 7 ure en 40,2 minute)*** | M:1  A:1  C:1 | (3) |
|  |  |  | **[14]** |
| **VRAAG 3** | |  |  |
|  | |  |  |
| 3.1.1 | ✓✓  = 9 onderwysers ✓ | RG:1 **(vi*r 25 en 36*)**  M: 1  A:1 | (3) |
|  |  |  |  |
| 3.1.2 | 100% – 84% ✓  = 16% ✓ | RG: 1 **(vi*r 84%*)**  A: 1 | (2) |
|  |  |  |  |
| 3.1.3 | 25 – 23 ✓  = 2 onderwysers ✓ | RG: 1  A: 1 | (2) |
|  |  |  |  |
| 3.2 | 36 : 28 ✓  9 **:** 7 ✓ | A: 1  CA: 1 | (2) |
|  |  |  |  |
| 3.3 | 25 **:** 950 ✓  1 **:** 38 ✓ | M: 1  A: 1 | (2) |
|  |  |  |  |
| 3.4.1 | R5 000 **÷** 25 ✓  = R200 ✓ | M: 1  A: 1 | (2) |
|  |  |  |  |
| 3.4.2 | ✓ ✓  = 4 % ✓ | M: 1 (*vir 200 en 5 000*)  M:1  A: 1 | (3) |
|  |  |  | **[16]** |

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| **VRAAG 4** | |  |  |
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| 4.1 | R230 000 – R50 000 – R40 000 ✓  R140 000 ✓ | M:1  A: 1 | (2) |
|  |  |  |  |
|  |  |  |  |
| 4.2.1 | Bedrag = ✓✓  = R244 861 ✓  Rente = R244 861 – R140 000 ✓  = R104 861 ✓ | SF: 1 (vi*r R140 000*)  SF: 1 (vi*r 15 en 4*)  A: 1  M:1  A: 1 | (5) |
|  |  |  |  |
| 4.2.2 | Rente = ✓✓  = R100 800 ✓ | SF: 1 (vi*r R140 000*)  SF: 1 (vi*r 18 en 4*)  A: 1 | (3) |
|  |  |  |  |
| 4.2.3 | Opsie 2 ✓  Minder rente of enige geldige antwoord. ✓ | A: 1  A: 1 | (2) |
|  |  |  |  |
|  |  |  | **[12]** |
| **VRAAG 5** | |  |  |
|  | |  |  |
| 5.1 | 323 **÷**  25 ✓✓  = 12,92 ✓ | M:1 (vi*r 323*)  M:1  A: 1 | (3) |
|  |  |  |  |
| 5.2 | 3; 4; 5; 6; 7; 8; 9; 9; 10; 11; 12; 13; 14; 14 ✓  15; 15; 15; 16; 17; 18; 18; 19; 20; 21; 24 ✓ | M: 1  M:1 | (2) |
|  |  |  |  |
| 5.3 | Mediaan is 14 ✓ | A: 1 | (1) |
|  |  |  |  |
| 5.4 | Modus is 15 ✓ | A: 1 | (1) |
|  |  |  |  |
| 5.5 | |  |  |  |  | | --- | --- | --- | --- | | **Interval** | **Telling** | **Frekwensie** |  | | 0 – 5 | lll | 3 | ✓ | | 6 – 10 | l | 6 | ✓ | | 11 – 15 | lll | 8 | ✓ | | 16 – 20 | l | 6 | ✓ | | 21 – 25 | ll | 2 | ✓ | | ***Elke ry een punt*** | (5) |

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| 5.6  *frekwensie* | *Punte interval* | *Elke staaf een punt* | (5) |
|  |  |  | **[17]** |
|  |  |  |  |
| **VRAAG 6** | |  |  |
|  |  |  |  |
| 6.1 | C4 | RG: 1 | (1) |
|  |  |  |  |
| 6.2 | Afstand = 20 km/h x 12 **÷** 60  = 4 km | SF: 1  M: 1 (*deling deur 60*)  A: 1 | (3) |
|  |  |  |  |
| 6.3 | Begin vanaf Azaleastraat tot in Frederickstraat  Gaan voort deur Connaught Rylaan  Gaan Amalindaweg in en draai regs  Draai links na Union Rylaan  Draai regs na Dawsonweg  Draai regs na Selborne Kollege | RG: 1  RG: 1  RG: 1  RG: 1  RG: 1 | (5) |
|  |  |  | **[9]** |
|  |  |  |  |
|  | **TOTAAL:** | | **100** |