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**JAARLIKSE NASIONALE ASSESSERING 2012**

**GRAAD 9**

**WISKUNDE**

**MODELTOETS 2012**

**MEMORUNDAM**

**VRAAG 1**

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| 1. | 1.1 | **C** | 1.2 | **C** | 1.3 | **D** | 1.4 | **A** | 1.5 | **B** | Gee 1 punt vir elke korrekte antwoord. | **[10]** |
| 1.6 | **D** | 1.7 | **B** | 1.8 | **C** | 1.9 | **A** | 1.10 | **A** |

**VRAAG 2**

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| 2.1 | | **✓✓** | : 1 punt  : 1 punt | (2 ) | **B** |
| 2.2. | | **✓✓✓✓** | Vervanging: 1 punt  Vereenvouding: 2 punte  Antwoord: 1 punt | (4) | **G** |
| 2.3 | | **✓✓✓** | : 1 punt  : 1 punt  :1 punt | (3) | **G** |
| 2.4.1 | | **✓✓** | : 1 punt  : 1 punt | (2 ) | **G** |
| 2.4.2 | | **✓✓** | Antwoord: 2 punte | (2 ) | **G** |
| 2.4.3 | | **✓✓**  **✓** | Vereenvouding: 2 punte  Antwoord:1 punt | (3) | **M** |
| 2.4.4 | | = **✓✓**  = **✓**  = **✓**  = **✓** | Vereenvouding: 3punte  Antwoord: 1 punt | (5 ) | **G** |
| 2.4.5 | | = **✓✓** | Vereenvoudiging: 1 punt Antwoord: 1 punt | (2) | **B** |
| 2.4.6 | | **✓✓**  **✓** | Verskil tussen 2 kwadrate: 1 punt  Gemenefaktor: 1 punt  Antwoord: 1 punt | (3 ) | **G** |
| 2.5.1 | | **✓✓** | Gemenefaktor =: 1 punt  : 1 punt | (2 ) | **G** |
| 2.5.2 | | )**✓✓**  = **✓✓** | Gemenefaktor: 2 punte  Verskil tussen 2 kwadrate: 2 punte | (4 ) | **M** |
| 2.6.1 | | **✓**  **✓** | Vereenvoudiging: 1 punt Antwoord: 1 punt | (2) | **B** |
| 2.6.2 | | **✓**  **✓**  **✓** | Vermenigvuldig met 2:1punt  Vereenvoudiging: 1 punt  Antwoord: 1 punt | (3 ) | **G** |
| 2.6.3 | | = **✓**  **✓**  **✓** | Toepassing van eksponent wet: 2 punte Antwoord: 1 punt | (3 ) | **G** |
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**VRAAG 3**

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| 3.1 |  | Antwoord: 2punte | (2) | **G** |

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| 3.2 | Bedrag**✓✓**  **✓** | Berekening:  2 punte  Antwoord: 1 punt | (3) | **M** |
| 3.3 | **✓**  **✓** **✓** or  **✓**  **✓**  1    **✓** | Formule: 1 punt  Vervanging: 1 punt  Antwoord: 1 punt | (3) | **M** |

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| 3.4. | **✓**  = R13 310,00**✓** | Formule: 1 punt  Vervanging: 1 punt  Antwoord: 1 punt | (3) | **G** |
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**VRAAG 4**

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| 4.1 | |  |  |  |  | | --- | --- | --- | --- | | 1 | 2 | 3 |  | | 6 | 9 | 12 |  |   15 vuurhoutjies**✓✓** | Antwoord: 2 punte | (2) | **B** |
| 4.2 | Tn = 3n + 3**✓✓** | 3n: 1 punt  3:1 punt  (1 punt per term) | (2) | **M** |
| 4.3 | **✓✓** | Vervanging: 1 punt  Antwoord: 1 punt | (2) | **G** |
|  |  |  |  | **[6]** |

**VRAAG 5**

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| 5.1 | **✓** | Antwoord: 1 punt | (1) | **B** |
| 5.2 | **✓✓**  **✓✓** | : 1 mark  :1 mark  : 1 mark  :1 mark | (4) | **G** |
| 5.3 | AD || BC **✓**  (Omdat Gradint van AD = Gradint van BC**)✓** | AD || BC : 1 mark  Reason :1 mark | (2) | **B** |
|  |  |  |  | **[7]** |

**VRAAG 6**

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| 6.1 | In AEW :  110°  (som van <e van = 180)**✓**  but  (hoeke teenoorgelyke sye van )**✓**  = 55° (verw<e ; CS || HW)**✓** | Korrekte bewering en rede: 1 punt  Korrekte bewering en rede: 1 punt  Korrekte bewering en rede: 1 punt | (3) | **G** |

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| 6.2.1 | In ∆ ABD and ∆ ACD  AB AC (gegee) **✓**  BD CD (gegee)**✓**  AD = AD (gemeenskaplikesy)**✓**  ∆ ABD ≡ ∆ AC (s,s,s)**✓** | | Korrekte bewering en rede: 1 punt  Korrekte bewering en rede: 1 punt  Korrekte bewering en rede: 1 punt  Korrekte afleding en rede: 1 punt | (4) | **G** |
| 6.2.2 | | (ooreenk<e van kongruentee)**✓**  DA halveer BC**✓** | Korrekte bewering en rede: 1 punt  Gevolgtrekking: 1 punt | (2) | **G** |

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| 6. 3 | (ko-binne<e; AB || CD)**✓**      (ko-binne<e; AC || BD)**✓**  **✓** | Korrekte bewering en rede: 1 punt  Korrekte bewering en rede: 1 punt  Antwoord: 1 punt | (3) | **G** |

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| 6. 4.1 | In PQR andSTR  (ooreenk. <e; ST || PQ)**✓**  (ooreenk. <e; ST || PQ)**✓**  (gemeenskaplike)**✓**  PQR STR ()**✓** | Korrekte bewering en rede: 1 punt  Korrekte bewering en rede: 1 punt  Korrekte bewering en rede: 1 punt  Korrekte afleding en rede: 1 punt | (4) | **M** |
| 6.4.2 | 2  (ewer. sye van gelykvormige)**✓**  PQ **✓**  **✓** | Korrekte bewering en rede: 1 punt  Vervanging&berekining: 1 punt  Gevolgtrekking: 1 punt  Antwoord: 1 punt | (3) | **G** |
|  |  |  |  | **[21]** |

**VRAAG 7**

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| 7.1 | **✓**  **✓**  **✓** | Formule/Vervanging: 1 punt  Berekening: 1 punt Antwoord: 1 punt | (3) | **G** |

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| 7.2 | Volume = 5000 | | Formule: 1 punt  Vervanging: 1 punt  Antwoord: 1 punt | (3) | **B** |
| 7.3.1 | **✓**  25 **✓**  & 25 **✓**  ABC is reghoekig by | | Korrekte : 1 punt  Berekining: 2 punte  Gevolgtrekking: 1 punt | (4) | **G** |
| 7.3.2 | B-oppervlakte  = 2 area ABC + (AB + AC + BC).h**✓✓**  + (12)(12) **✓**  = 12 + 144  **✓** | | Formule: 2punte  Vervanging: 1 punt  Antwoord: 1 punt | (4) | **M** |
|  |  |  | | **[14]** | |

**VRAAG 8**

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| 8.1.1 | A(-2;2) **✓**  B (-5;-4)**✓**  C(1;-7)**✓**  D(4;-1)**✓** | Antwoord: 1 punt virelkepaarkoördinaat | (4) | **B** |

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| 8.1.2 | A'(0;0)**✓**  B'(-3;-6)**✓**  C'(3;-9)**✓**  D'(6;-3)**✓** | Antwoord: 1 punt virelkepaarkoördinaat | (4) | **G** |
| 8.1.3 | C''(1;7)**✓✓** | Korrekteantwoord: 2punte | (2) | **G** |
| 8.1.4 | B''(5;-4)**✓✓** | Korrekteantwoord: 2 punte | (2) | **G** |

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**VRAAG 9**

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| 9.1. | |  |  |  | | --- | --- | --- | | Klasinterval | Telmerkies | Frekwensie | | 140-144 | ||||**✓** | 4**✓** | | 145-149 | |||**✓** | 3 **✓** | | 150-154 | |||| ||||**✓** | 9**✓** | | 155-159 | |||| |**✓** | 6**✓** | | 160-164 | |||| ||||**✓** | 10**✓** | | 165-169 | ||||**✓** | 5**✓** | | 170-174 | |||**✓** | 3**✓** | | 2 punte per interval | (14) | **B** |
| 9.2.1 | Omvang  **✓** | Korrekte antwoord: 2punte | (2) | **B** |
| 9.2.2 | **✓✓** | Korrekte antwoord: 2punte | (2) | **B** |
| 9.2.3 | Klasinterval155 - 159**✓✓** | Korrekteantwoord: 2 punte | (2) | **B** |

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| **TOTAAL** | **[140]** |