

Province of the

**EASTERN CAPE**

EDUCATION

**SENIOR FASE**

**GRAAD 9**

**JUNIE 2010**

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| **WISKUNDE**  **MEMORANDUM** |

**PUNTE: 100**

**TYD: 2 uur**

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| Hierdie memorandum bestaan uit 05 bladsye. |

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| **AFDELING A** | | |  | |
|  |  |  |  | |
| 1. | D √ | |  | |
| 2. | C √ | |  | |
| 3. | B √ | |  | |
| 4. | C √√ | |  | |
| 5. | A √√ | |  | |
| 6. | A √ | |  | |
| 7. | C √ | |  | |
| 8. | B √ | |  | |
| 9. | A √√ | |  | |
| 10 | A √ | |  | |
| 11. | D √ | |  | |
| 12. | A √√ | |  | |
| 13. | C √ | |  | |
| 14. | D √√ | |  | |
| 15. | B √ | |  | |
| 16. | C √ | |  | |
| 17. | C √ | |  | |
| 18. | D √√ | |  | |
| 19 | D √√ | | **[26]** | |
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| **AFDELING B** | | |  | |
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| |  |  |  |  | | --- | --- | --- | --- | | **VRAAG** | **Nr** | **OPLOSSING** | **PUNTE** | | **1** | 1.1.1 | = 3k3m-4 √√ | 2  1 punt spesifiek vir negatiewe indeks | | 1.1.2 | =-[(a2-4a+4) +(a2+a-6)] +8√  = -[2 a2 – 3a – 2]+8√  =-2 a2+3a+2+8√  ==-2a2 + 3a + 10√ | 4 | | 1.2 | 4(a + b) – *x*2(a+ b)  = (a+b)(4 – *x2)* √  =(a+b) (2 – *x*)(2+ *x)* √√ | 3 | | 1.3 | 1112-992  = (111 – 99)(111 + 99) √  =12 x 210  = 2 520 √ | 2 | | 1.4.1 | 3*x* + 15 – 6 = -*2x* – 2√  5*x* = ­-11√  *x* = -11/5√ | 3 | | 1.4.2 | 3*x* + 1 = 27  3*x* + 1 = 33√  *x* + 1 = 3√  *x* = 2 √ | 3 | | | | | |
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| |  |  |  |  | | --- | --- | --- | --- | | **2** | 2.1.1 | Patroon 5 =32 aangesien die gemene verskil 7 is√ | 1 | | 2.1.2 | 7x1–3 =7-3=4 of enige logiese metode  7x2–3 = 14–3 =11  7x3–3 = 21–3 =18√  7xn -3= 7n-3√√ | 3  1 punt vir eksplorasie  1 punt vir 7n en 1 punt vir -3 | | 2.1.3 | 7x200 -3 =1397 | 1 | | 2.2.1 | √ | 1 | | 2.2.2 | √√ omdat ewewydige lyne dieselfde gradiënt het | 2  Gee volle punte al is daar geen rede nie | | 2.2.3 | By die x-afsnit is y=0..  √  √  √ | 3 | | 2.2.4 | √√ | 2 | | **3** | 3.1.1 | Som van die hoeke van ŉ Seshoek =4x 180º  = 720º | 1 | | 3.1.2 | Aantal driehoeke in enige veelhoek = n-2√  Dit wil sê die som van die binne hoeke van die veelhoek =n–2 x 180º√ | 2 | | 3.1.3 | 1080= 180º x 6√  =180º x (8–2)  So dit is ŉ oktagoon is √ | 2 | | | | | |
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| |  |  |  |  | | --- | --- | --- | --- | |  | 3.2.1 |  | 2  1ste Kwadrant  Beeld | | | | | |
| |  |  |  |  | | --- | --- | --- | --- | | **3.** | 3.2.2 | Sien 3.1.1 4de kwadrant √  A′ ′ (2;-1), B′ ′ (3;0), C′ ′ (2;0), D′ ′ (1;-1) √√ | 3  1 punt vir korrekte beeld  2 punte vir korrekte koördinate | | **4** | 4.1 | S = d/ t  20 km/h = 1√  t  t = 0,05 h√  = 3 min√  Agterkant van die trein sal om 1:06 nm of 13:06 uit tonnel vaar√ | 4 | | 4.2 | 8 - 5 =135ℓ√  11 8  64-55 =135ℓ  88  9 = 135*ℓ*√  88  So volle kapasiteit =135*ℓ* x88√  9  =1320*ℓ*√ | 4 | | 4.3 | Volume van die silinder = πr2h√  =22x 64cm2x17cm√√  7  = 3 419,43 cm3√ | 4  1 punt vir korrekte hoogte | | | | | |
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| |  |  |  |  | | --- | --- | --- | --- | | **5** | 5.1.1 | 72º =1/5 √  360º | 1 | | 5.1.2 | Aantal leerders vir Engels = 126º x 120 = 42 leerders √√  360º | 2 | | 5.1.3 | 180º -72º =108º ( hoeke op reguitlyn) √  Aantal leerders vir Wiskunde =108º x120  360º  = 36√  Persentasie vir Wiskunde =36 x100 = 30%√  120 | 3 | | 5.2.1 | Rangskik data van klein tot groot :  15; 18; 20; 20; 23; 23; 25√  Mediaan is 20√ | 2 | | 5.2.3 | Omvang is 25-15=10√ | 1 | | 5.2.4 | Gemiddelde = 15+18+20+20+23+23+25√  7  = 20,57√ | 2 | | 5.2.5 | 1 5 8√  2 0 0 3 3 5√ | 2 | | | | | |
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| |  |  |  |  | | --- | --- | --- | --- | |  | 5.3.1 |  | 4  1 punt vir korrekte skaal  1 punt byskrifte vir beide asse  2 punte vir korrekte skets | | 5.3.2 | Dit toon ŉ swak korrelasie tussen die punte vir Wiskunde en Taal aangesien die punte versprei is √√ | 2  1punt vir korrekte  gevolgtrekking  1 punt vir rede | | | | | |
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