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| **NATIONAL**  **SENIOR CERTIFICATE/**  ***NASIONALE***  ***SENIOR SERTIFIKAAT*** | | | | | |
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|  | | | **GRADE/*GRAAD* 11** |  | |
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| **NOVEMBER 2019** | | | | | |
|  | | | | | |
|  | **MATHEMATICS P1/*WISKUNDE V1***  **MARKING GUIDELINE/*NASIENRIGLYN***  **EXEMPLAR/*EKSEMPLAAR*** | | | |  |
|  | | | | | |
| **MARKS/*PUNTE*:** | | **150** | | | |
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|  | | This marking guideline consists of 13 pages./  *Hierdie nasienriglyn bestaan uit 13**bladsye*. | |  | |

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| **NOTE/*LET WEL*:**   * If a candidate answers a question TWICE, mark the FIRST attempt ONLY.   *Indien ŉ kandidaat ŉ vraag TWEE keer beantwoord, merk SLEGS die EERSTE poging.*   * Consistent accuracy applies in ALL aspects of the marking guideline.   *Volgehoue akkuraatheid is in ALLE aspekte van die nasienriglyn van toepassing.*   * If a candidate crossed out an attempt of a question and did not redo the question, mark the crossed-out attempt.   *Indien ŉ kandidaat ŉ poging vir ŉ vraag deurgetrek het en nie die vraag weer beantwoord het nie, merk die poging wat deurgetrek is.*   * The mark for substitution is awarded for substitution into the correct formula.   *Die punt vir substitusie word toegeken vir substitusie in die korrekte formule.* | | |  |
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| **QUESTION 1/*VRAAG 1*** | | |  |
|  | | |  |
| 1.1.1 |  | 🗸method / *metode*  🗸 🗸answers / *antwoorde*  (3) | |
| 1.1.2 |  | 🗸 standard form / *standaardvorm*  🗸 substitution / *vervanging*  🗸 🗸 answers / *antwoorde*  (4) | |
| 1.1.3 |  | 🗸 squaring both sides  *kwadreer beide kante*  🗸 standard form / *standaardvorm*  🗸 factors / *faktore*  🗸 both *x* values / *beide x-waardes*  🗸 selection / keuse  (5) | |

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| 1.1.4 | -5 | 🗸 standard form / *standaardvorm*  🗸 factors / *faktore*  🗸  🗸  (4) |
| 1.2 |  | 🗸  🗸 substitution / *vervanging*  🗸 standard form / *standaardvorm*  🗸 method/factors : *metode/faktore*  🗸 both *x*-values / *beide x-waardes*  🗸 both *y*-values / *beide y-waardes*  (6)  🗸  🗸 substitution / *vervanging*  🗸 standard form / *standaardvorm*  🗸 factors / *faktore*  🗸 both *y*-values / *beide y-waardes*  🗸 both *x*-values / *beide x-waardes*  (6) |

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| 1.3 | |  | | | 🗸 equation / *vergelyking*  🗸 difference of 2 squares  *verskil tussen 2 kwadrate*  🗸 expanding / *uitbreiding*  🗸  🗸  (5) | |
|  | |  | | | **[27]** | |
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| **QUESTION 2/*VRAAG 2*** | | | | | | |
|  | | | | | | |
| 2.1 | |  | | | 🗸  🗸  🗸  🗸 simplification / *vereenvoudiging*  🗸 answer / *antwoord*  (5) | |
| 2.2.1 | |  | | **OR / *OF*** | 🗸 method / *metode*  🗸  or/*of*  🗸 answer / *antwoord*  (3) | |
| 2.2.2 | |  | | | 🗸  🗸  🗸  🗸  (4) | |

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| 2.3.1 | *g* is undefined when: *g is ongedefinieerd wanneer* | 🗸🗸 answer / *antwoord*  (2) |
| 2.3.2 | *Vir g om gelyk aan 0 te wees moet die teller gelyk aan 0 wees, maar die minimumwaarde vir die teller is 1.*  ∴ *g sal nooit gelyk aan nul wees nie.*  **OR/*OF*** | 🗸 completing the square  *voltooiing van kwadraat*  🗸  *Vir g om gelyk aan 0 te wees moet die teller gelyk aan 0 wees*  🗸 minimum value of numerator = 1  *minimumwaarde van teller* = 1  (3)  🗸    🗸  🗸 no solution / *geen oplossing*  (3) |
|  |  | **[17]** |

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| **QUESTION 3/*VRAAG 3*** | | | | |
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| 3.1.1 | 10 ; 7 ; 4 ; 1 ; | | 🗸  🗸  (2) | |
| 3.1.2 |  | | 🗸 13 🗸  (2) | |
| 3.1.3 |  | | 🗸 equating to 13 *–* 3*n*  *stel –179 gelyk aan 13 – 3n*  🗸 simplifying / *vereenvoudiging*  🗸 answer / *antwoord*  (3) | |
| 3.2 |  | | 🗸 substitution / *vervanging*  🗸 simplifying / *vereenvoudiging*  🗸 *x* = 5  (3) | |
|  |  | | **[10]** | |
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| **QUESTION 4/*VRAAG 4*** | | | |  |
|  |  | | |  |
| 4.1 | -128 ; - 84 ; - 48 ; -20  44 36 28  -8 -8 | 🗸  🗸  (2) | | |
| 4.2 |  | 🗸  🗸  🗸  🗸  (4) | | |

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| 4.3 | **OR / *OF*** | 🗸 common factor / *gemene faktor*  🗸 completing the square  *voltooiing van vierkant*  🗸  🗸  🗸 identifying the biggest value  *identifiseer die grootste Tn waarde*  (5)  🗸  🗸 substitution / *vervanging*  🗸  🗸 substituting *n* = 7 into  *vervang n = 7 in Tn*  🗸 answer / *antwoord*  (5) |
| 4.4 |  | 🗸 🗸 answer / *antwoord*  (1 mark if/*punt as*  (2) |
|  |  | **[13]** |

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| **QUESTION 5/*VRAAG 5*** | | | |  |
|  |  | | |  |
| 5.1 |  | 🗸 substituting  and 1  *vervang –3 en 1*  🗸 answer / *antwoord* (2) | | |
| 5.2 | and / *en* | 🗸  🗸  (2) | | |
| 5.3 |  | 🗸 answer / *antwoord* (1) | | |
| 5.4 |  | 🗸 substituting  *vervang* *y* = 0  🗸  🗸  (3) | | |
| 5.5 |  | | *f:*🗸 *x* and *y*-intercepts  *x- en y-afsnitte*  🗸 asymptotes / *asimptote*  🗸 shape / *vorm*  *g*: 🗸 *y*-intercept / *y-afsnit*  🗸 asymptote / *asimptoot*  🗸 shape / *vorm*  (6) | |
| 5.6 | **OR / *OF*** | 🗸 substituting  *vervang* (*–3 ; –1*)  🗸(2)  🗸substituting  *vervang* (*–3 ; –1*)  🗸  (2) | | |
| 5.7 |  | 🗸🗸 answer / *antwoord* (2) | | |
|  |  | **[18]** | | |

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| **QUESTION 6/*VRAAG 6*** | | |  |
|  |  | |  |
| 6.1 |  | 🗸 substitution / *vervanging*  🗸 answer / *antwoord* (2) | |
| 6.2 | Q | 🗸🗸 answer / *antwoord* (2) | |
| 6.3 |  | 🗸 substitution / *vervanging*  🗸 answer / *antwoord* (2) | |
| 6.4 | **OR / *OF*** | 🗸 substituting  and 2  *vervanging van* – 4 *en* 2  🗸 substituting / *vervang*  🗸  🗸 substituting and expanding  *vervang* – 1 *en uitbreiding*  🗸  🗸  (6)  🗸 substituting / *vervang*  🗸 substituting / *vervang*  or/*of*  🗸  🗸 substituting and expanding  *vervang* – 1 *en uitbreiding*  🗸  🗸  (6) | |

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| 6.5 |  | 🗸  🗸 standard form / *standaardvorm*  🗸 factors / *faktore*  🗸 choosing / *kies*  🗸  (5) |
| 6.6 | **OR / *OF*** | 🗸  🗸 factoring out  /  *gemene faktor* – 1  🗸 completing the square  *voltooiing van vierkant*  🗸  🗸 answer / *antwoord*  (5)  🗸  🗸  🗸  🗸 substitution / *vervanging*  🗸 answer / *antwoord*  (5) |
| 6.7 | **OR / *OF*** | 🗸🗸 🗸  🗸  🗸🗸  (Accuracy / *Akkuraatheid*)  (3) |
|  |  | **[25]** |

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| **QUESTION 7/*VRAAG 7*** | | |  |
|  |  | |  |
| 7.1 |  | 🗸 formula / *formule*  🗸  🗸 substitution into correct formula  *vervanging in korrekte formule*  🗸 answer / *antwoord*  (4) | |
| 7.2 |  | 🗸  🗸 substitution/*vervanging*  🗸 answer / *antwoord*  (3) | |
| 7.3.1 |  | 🗸 and/*en* 🗸  🗸 substitution into correct formula  *vervanging in korrekte formule*  🗸 answer / *antwoord*  (4) | |
| 7.3.2 | Let the money that he withdrew be *x /*  *Laat die geld wat hy onttrek het x wees*  Balance at start of 2nd year / *Balans aan die begin van 2de jaar* | 🗸  🗸  🗸 subtracting *x / trek x af*  🗸  🗸 equating to / *stel gelyk aan*  R 30 183,64  🗸 answer / *antwoord*  (6) | |
|  |  | **[17]** | |

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| **QUESTION 8/*VRAAG 8*** | | |  |
|  |  | |  |
| 8.1.1 | Let Red balls be R and Yellow be Y  *Laat Rooi balle R en Geel balle Y wees* | 🗸 first branch / *eerste tak*  🗸 probabilities of first branch  *waarskynlikhede van eerste tak*  🗸 second branches / *tweede takke*  🗸 probabilities of second branches  *waarskynlikhede van tweede takke*    🗸 outcomes / *uitkomste*  (5) | |
| 8.1.2 | **OR / *OF*** | 🗸  🗸  🗸  🗸 answer / *antwoord*  (4)  🗸  🗸  🗸  🗸 answer / *antwoord*  (4) | |
|  |  |  | |
| 8.2.1 |  | 🗸 0,06  🗸  🗸  (3) | |
| 8.2.2 |  | 🗸 equation/*vergelyking*  🗸 answer/*antwoord*  (2) | |
|  |  | **[14]** | |

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| **QUESTION 9/*VRAAG 9*** | | |  | |
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| 9.1 |  | 🗸🗸  (2) | | |
| 9.2 |  | 🗸 correct rule / *korrekte reël*  🗸 P(M) P(F)  🗸  🗸 P(M and/*en* F)    and conclusion /  *en gevolgtrekking*  (4) | | |
| 9.3 |  | 🗸 correct rule / *korrekte reël*  🗸  🗸 answer / *antwoord*  (3) | | |
|  |  | **[9]** | | |
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|  | **TOTAL/*TOTAAL*:** | | | **150** |