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# basic education

Department:  
Basic Education  
**REPUBLIC OF SOUTH AFRICA**

## **NATIONAL SENIOR CERTIFICATE/ NASIONALE SENIOR SERTIFIKAAT**

**GRADE/GRAAD 12**

**MATHEMATICAL LITERACY P1/  
WISKUNDIGE GELETTERDHEID V1**

**NOVEMBER 2022**

**MARKING GUIDELINES/NASIENRIGLYNE**

**MARKS/PUNTE: 150**

Symbol/Kode	Explanation/Verduideliking
<b>M</b>	Method/Metode
<b>MA</b>	Method with accuracy/Metode met akkuraatheid
<b>MCA</b>	Method with consistent accuracy/Metode met volgehoue akkuraatheid
<b>CA</b>	Consistent accuracy/Volgehoue akkuraatheid
<b>A</b>	Accuracy/Akkuraatheid
<b>C</b>	Conversion/Herleiding
<b>S</b>	Simplification/Vereenvoudiging
<b>RT</b>	Reading from a table/graph/document/diagram/Lees vanaf tabel/grafiek/dokument/diagram
<b>SF</b>	Correct substitution in a formula/Korrekte vervanging in 'n formule
<b>O</b>	Opinion/Explanation/Opinie/Verduideliking
<b>P</b>	Penalty, e.g. for no units, incorrect rounding off, etc./Penalisasie, bv. vir geen eenhede, verkeerde afronding, ens.
<b>NPR</b>	No penalty for correct rounding/Geen penalisasie vir korrekte afronding nie
<b>NPU</b>	No penalty for omitting unit, but wrong unit is penalised/Geen penalisasie indien die eenheid uitgelos is, maar wel indien 'n verkeerde eenheid gebruik word.
<b>AO</b>	Answer only/Slegs antwoord

**These marking guidelines consist of 20 pages and 2 pages of notes.  
Hierdie nasienriglyne bestaan uit 20 bladsye en 2 bladsye met notas.**

**NOTE:**

- If a candidate answers a question TWICE, only mark the FIRST attempt.
- If a candidate has crossed out (cancelled) an attempt to a question and NOT redone the solution, mark the crossed out (cancelled) version.
- Consistent accuracy (CA) applies in ALL aspects of the marking guidelines; however it stops at the second calculation error.
- If the candidate presents any extra solution when reading from a graph, table, layout plan and map, then penalise for every extra item presented.
- Rounding is an independent mark.
- General principle of marking, if the candidate makes one mistake he loses one mark.
- A conclusion mark can only be given if relevant calculations precedes it.

**LET WEL:**

- As 'n kandidaat 'n vraag TWEE KEER beantwoord, sien slegs die EERSTE poging na.
- As 'n kandidaat 'n antwoord van 'n vraag doodtrek (kanselleer) en nie oordoen nie, sien die doodgetrekte (gekanselleerde) poging na.
- Volgehoue akkuraatheid (CA) word in ALLE aspekte van die nasienriglyne toegepas; dit hou egter op by die tweede berekeningsfout.
- Wanneer 'n kandidaat aflesings vanaf 'n grafiek, tabel, uitlegplan en kaart geneem en ekstra antwoorde gee, penaliseer vir elke ekstra item.
- Afronding tel as 'n afsonderlike punt.
- Die algemene beginsel van merk as 'n leerder een fout maak verloor hy een punt.
- 'n Gevolgtrekkingspunt kan slegs gegee word indien relevante berekeninge dit voorgaan.

<b>QUESTION/VRAAG 1 [30 MARKS/PUNTE] ANSWER ONLY FULL MARKS</b>			
<b>Q/V</b>	<b>Solution/Oplossing</b>	<b>Explanation/Verduideliking</b>	<b>T&amp;L</b>
1.1.1	Numerical / Numeriese ✓✓A	2A correct classification (2)	D L1 E
1.1.2	✓RT R11,99; R18,99; R39,99; R44,99; R54,99; R159,99 ; R169,99 ✓A	1RT all correct values 1A ascending order (2)	D L1 E
1.1.3	B ✓✓RT	2RT correct store (2)	D L1 E
1.1.4	White socks/Wit kouse = $\frac{R85,99}{5}$ ✓MA = R17,198 ✓A = R17,20 ✓R	1MA dividing by 5 1A price per pair 1R 2 decimal places (3)	F L1 E
1.1.5	Total cost / Totale koste ✓RT P = R110,00 + R163,00 + R186,00 + R40,50 + R85,00 + R349,00 + R318,00 = R1 251,50 ✓A	1RT correct values 1A simplification (2)	F L1 E
1.1.6 (a)	✓A The chance/likelihood of selecting Store C. ✓A Die kans/waarskynlikheid om Winkel C te kies.	1A chance/likelihood 1A store C (2)	P L1 E

Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
1.1.6 (b)	$0,3333333333 \times 100\%$ ✓MA $= 33,33333333\%$ $= 33\%$ ✓A	1MA calculating percentage  1A rounded percentage (2)	P L1 E
1.2.1	✓A An investment is any form of saving that you put into a financial scheme, bank or stokvel that will result in interest. ✓A <i>'n Belegging is 'n vorm van spaar waar jy geld in 'n finansiële skema, bank of stokvel sit wat sal lei na rente.</i>	1A form of savings 1A interest (2)	F L1 E
1.2.2	Total contributions/Totale bydrae  $R2\ 500 \times 24$ ✓MA $= R60\ 000$ ✓A	1MA multiply by months 1A simplification (2)	F L1 E
1.2.3	Interest earned/Rente verdien ✓MA $R92\ 065,71 - R60\ 000$ $= R32\ 065,71$ ✓A	1MA subtract correct values  1A simplification (2)	F L1 E
1.2.4	More interest/Meer rente ✓MA $R92\ 065,71 - R74\ 286,84$ $= R17\ 778,87$ ✓A	1MA subtracting correct values  1A simplification (2)	F L1 E
1.3.1	✓A Compound / Triple / Grouped / Multiple / Clustered bar graph ✓A <i>Saamgestelde/ Drievoudige/ Gegroepeerde / Veelvoudige staafgrafiek</i>	1A type 1A bar graph (2)	D L1 E
1.3.2	95 ULP / Unleaded petrol / ULP / 95 <i>95 ULP / Loodvrye petrol / ULP / 95</i> ✓✓A	2A correct product (2)	D L1 M
1.3.3	In rand /In rand  $1\ 955,28 \text{ c/ℓ} \div 100$ ✓MA $= R19,55/\text{ℓ}$ ✓A $= R19,50/\text{ℓ}$ ✓R	1MA dividing by 100 1A rand per litre 1R rounding (3)	F L1 M
		[30]	

<b>QUESTION/VRAAG 2 [34 MARKS/PUNTE]</b>			
<b>Q/V</b>	<b>Solution/Oplossing</b>	<b>Explanation/Verduideliking</b>	<b>T&amp;L</b>
2.1.1	Policy number / <i>Polisnommer</i> = 23388350 ✓✓RT	2RT correct number (2)	F L1 E
2.1.2	<p>Table values excluding A and discount / <i>Tabel waardes uitsluitend A en die afslag</i></p> <p><math>R7,16 + R200,41 + R520,41 + R133,16 + R201,79 + R23,30 + R9,07</math> ✓MA = R1 095,30</p> <p>Value of A / <i>Waarde van A</i></p> <p>✓MCA <math>R2\ 184,21 - R1\ 095,30 + R266,15</math> ✓MA = R1 355,06 ✓CA</p> <p><b>OR/OF</b></p> <p>✓MA <math>R1\ 095,30 + A + (-R266,15) = R2\ 184,21</math> ✓MA ✓MCA <math>A = R2\ 184,21 + R266,15 - R1\ 095,30</math> = R1 355,06 ✓CA</p> <p><b>OR/OF</b></p> <p>Table values – A = / <i>Tabel waarde – A =</i> ✓MA <math>(R7,16 + R200,41 + R520,41 + R133,16 + R201,79 + R23,30 + R9,07) - R266,15</math> ✓MA = R829,15</p> <p><math>A = R2\ 184,21 - R829,15</math> ✓MCA = R1 355,06 ✓CA</p>	<p>1MA adding all premiums</p> <p>1MCA subtracting from total premium 1MA adding the discount 1CA simplification</p> <p><b>OR/OF</b></p> <p>1MA adding all premiums 1MCA subtracting from total premium 1MA adding the discount 1CA simplification</p> <p><b>OR/OF</b></p> <p>1MA adding all premiums 1MA subtracting the discount 1MCA subtracting from total premium 1CA simplification (4)</p>	F L3 D
2.1.3	<p>Percentage discount / <i>Persentasie afslag</i></p> <p>✓RT <math>\frac{R266,15}{R2\ 450,36} \times 100\%</math> ✓MA = 10,86% ✓CA</p>	<p>1RT correct amount 1MA correct %-calculation</p> <p>1CA simplification</p>	F L3 M

Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
2.1.3	<p style="text-align: center;"><b>OR/OF</b> ✓RT</p> $\% \text{ discount} = \frac{\text{R2 450,36} - \text{R2 184,21}}{\text{R 2 450,36}} \times 100\% \quad \checkmark \text{MA}$ $= 10,86\% \quad \checkmark \text{CA}$ <p style="text-align: center;"><b>OR/OF</b>    ✓RT</p> $\text{Percentage discount} = 100\% - \left( \frac{\text{R2 184,21}}{\text{R2 450,36}} \times 100\% \right)$ $= 100\% - 89,14\% \quad \checkmark \text{MA}$ $= 10,86\% \quad \checkmark \text{CA}$	<p style="text-align: center;"><b>OR/OF</b></p> <p>1RT correct amount 1MA correct %-calculation</p> <p>1CA simplification</p> <p style="text-align: center;"><b>OR/OF</b></p> <p>1RT correct amount</p> <p>1MA correct %-calculation 1CA simplification</p> <p><b>NPR</b></p> <p style="text-align: right;">(3)</p>	
2.1.4	<p>Claim amount / <i>Eisbedrag</i> ✓RT</p> $\text{R43 520} - \text{R7 000}$ $= \text{R36 520} \quad \checkmark \text{A}$	<p>1RT identifying R7 000</p> <p>1A claim amount</p> <p style="text-align: right;">(2)</p>	F L1 M
2.1.5	<p>Amount VAT / <i>BTW-bedrag</i> ✓A</p> $\frac{15}{115} \times \frac{\text{R2 184,21}}{1}$ <p style="text-align: center;">✓MA</p> $= \text{R284,90} \quad \checkmark \text{A}$ <p style="text-align: center;"><b>OR/OF</b></p> $\text{Amount before VAT} = \frac{\text{R2 184,21}}{1,15} \quad \checkmark \text{MA}$ $= \text{R1 899,31} \quad \checkmark \text{A}$ $\text{VAT amount} = \text{R2 184,21} - \text{R1 899,31}$ $= \text{R284,90} \quad \checkmark \text{A}$	<p>1A correct VAT calculation</p> <p>1MA multiplying by <math>\frac{15}{115}</math></p> <p>1A simplification</p> <p style="text-align: center;"><b>OR/OF</b></p> <p>1MA dividing by 1,15</p> <p>1A VAT excluded amount</p> <p>1A simplification</p> <p style="text-align: right;">(3)</p>	F L2 M

Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
2.1.6	<p>The VW Polo costs more than the Toyota Corolla. / <i>Die VW Polo is duurder as die Toyota Corolla.</i> ✓✓O</p> <p><b>OR/OF</b></p> <p>The Toyota is an older model. / <i>Die Toyota is 'n ouer model.</i> (The VW is a newer model. / <i>Die VW is 'n nuuter model.</i>) ✓✓O</p> <p><b>OR/OF</b></p> <p>The retail value of the VW Polo is higher, therefore replacement value is higher. / <i>Die herverkoopwaarde van die VW Polo is hoër, daarom is die vervangingswaarde duurder.</i> ✓✓O</p> <p><b>OR/OF</b></p> <p>The VW is a high risk vehicle. / <i>Die VW is 'n hoë risiko voertuig.</i> ✓✓O</p> <p><b>OR/OF</b></p> <p>The primary driver of the VW is a younger driver who is inexperienced as a driver. <i>Die primêre bestuurder van die VW is 'n jonger bestuurder wat 'n onervare bestuurder is.</i> ✓✓O</p>	<p>20 correct explanation</p> <p>(2)</p>	F L4 M
2.1.7	<p>His premium will increase as his household content value will increase to more than R200 000. / <i>Sy premie sal verhoog aangesien sy huishoudelike inhoudswaarde gevolglik na meer as R200 000 sal verhoog.</i> ✓✓O</p>	<p>20 valid conclusion</p> <p>(2)</p>	F L4 M
2.2.1	<p>Cost of sanitation / <i>Koste van sanitasie</i></p> <p>= R228,06 ✓RT = R228,10 ✓R</p>	<p><b>AO</b></p> <p>1RT correct amount 1R correct rounding</p> <p>(2)</p>	F L2 M
2.2.2	<p>Tariff before increase / <i>Tarief voor verhoging</i> ✓RT R16,03 – R0,66 = R15,37 ✓A</p> <p>Cost of sanitation / <i>Koste vir sanitasie</i></p> <p>4,1 kℓ × R15,37 ✓MCA = R63,02 ✓CA</p>	<p>1RT reading from table</p> <p>1A simplification</p> <p>1MCA multiply by tariff 1CA simplification</p>	F L3 M

Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
2.2.2	<p style="text-align: center;"><b>OR/OF</b></p> <p>Amount after increase / <i>Bedrag na verhoging</i>  <math>= R16,03 \times 4,1 \text{ k\ell}</math>  <math>= R65,723 \checkmark A</math></p> <p>Increase / <i>Verhoging</i>  <math>\checkmark RT</math>  <math>= R0,66 \times 4,1 \text{ k\ell}</math>  <math>= R2,706</math></p> <p>Amount before increase / <i>Bedrag voor verhoging</i>  <math>= R65,723 - R2,706 \checkmark MCA</math>  <math>= R63,02 \checkmark CA</math></p>	<p style="text-align: center;"><b>OR/OF</b></p> <p>1A simplification</p> <p>1RT reading from table</p> <p>1MCA multiply by tariff 1CA simplification</p> <p style="text-align: right;">(4)</p>	
2.2.3	<p>Sanitation Bill – Cape Town: Ms Brown  <i>Sanitasierekening – Kaapstad: Me Brown</i>  <math>\checkmark MA \quad \checkmark RT</math>  <math>4,2 \text{ k\ell} \times R16,03 = R 67,33</math>  <math>3,15 \text{ k\ell} \times R22,02 = R 69,36</math>  <math>14,65 \text{ k\ell} \times R30,92 = \underline{R452,98}</math>  <math>= R589,67 \checkmark CA</math></p> <p>Sanitation Bill – Johannesburg: Mr Jones  <i>Sanitasierekening – Johannesburg: Mnr Jones</i></p> <p>VAT / BTW:  <math>\checkmark RT</math>  <math>= R443,96 \times \frac{15}{100}</math>  <math>= R66,59</math></p> <p>Total amount / Totale bedrag  <math>= R443,96 + R66,59 \checkmark MCA</math>  <math>= R510,55 \checkmark CA</math></p> <div style="border: 1px solid black; padding: 5px; display: inline-block;"> <math>= R443,96 \times \frac{115}{100}</math> </div> <p>Difference in Sanitation Bill / <i>Verskil in Sanitasierekening</i>  <math>R589,67 - R510,55 \checkmark MCA</math>  <math>= R79,12 \checkmark CA</math></p>	<p>1MA all (3) correct kℓ 1RT 3 tariffs</p> <p>1CA finding total water bill</p> <p>1RT correct amount</p> <p>1MCA adding values 1CA simplification</p> <p>1MCA subtracting values 1CA simplification</p> <p style="text-align: right;">(8)</p>	F L3 D

Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
2.2.4	<p>The fixed rate allows you to use as much as you can for the same amount. / <i>Die vaste koers laat jou toe om soveel as wat jy kan vir dieselfde bedrag te gebruik.</i> ✓✓○</p> <p style="text-align: center;"><b>OR/OF</b></p> <p>It benefits home owners with smaller properties who pay less. / <i>Dit bevoordeel eienaars van kleiner huise wat minder gaan betaal.</i> ✓✓○</p> <p style="text-align: center;"><b>OR/OF</b></p> <p>Even if the usage of water varies /differs from month to month, the cost/bill remains the same amount. / <i>Selfs as die water gebruik verskil van maand tot maand bly die koste/rekening dieselfde.</i> ✓✓○</p>	<p>2O correct explanation</p> <p style="text-align: right;">(2)</p>	F L4 M
		<b>[34]</b>	

QUESTION/VRAAG 3 [24 MARKS/PUNTE]			
Q/V	Solution/Oplissing	Explanation/Verduideliking	T&L
3.1.1	<p>Total value / <i>Totale waarde</i>  <math>\checkmark</math>RT  <math>= 18,4 + 5,6 + 0,5 + 2,9 + 9,5 + 3,1 + 33,1 + 5,7 + 4,7</math> <math>\checkmark</math>MA  <math>= 83,5</math></p> <p style="text-align: center;"><b>OR/OF</b></p> <p>Total value / <i>Totale waarde</i>  <math>\checkmark</math>RT  <math>= 1\ 199,5 - 1\ 116</math> <math>\checkmark</math>MA  <math>= 83,5</math></p>	<p>1RT correct values  1MA adding</p> <p style="text-align: center;"><b>OR/OF</b></p> <p>1RT both correct values  1MA subtracting</p> <p style="text-align: right;">(2)</p>	D L1 E
3.1.2	<p>The table value is given in ten thousands. <math>\checkmark\checkmark</math>O  <i>Die tabelwaarde is gegee in tien duisende.</i></p> <p style="text-align: center;"><b>OR/OF</b></p> <p>Rounding issues / <i>Probleme met afronding</i> <math>\checkmark\checkmark</math>O</p>	<p>2O difference in table value from actual value</p> <p style="text-align: center;"><b>OR/OF</b></p> <p>2O rounding</p> <p style="text-align: right;">(2)</p>	D L4 M
3.1.3	<p>Number of people / <i>aantal mense</i>  <math>\checkmark</math>RT  <math>= 365,9 \times 10\ 000</math>  <math>= 3\ 659\ 000</math> <b>OR/OF</b> 365,9 ten thousand / <i>tien duisend</i> <math>\checkmark</math>A</p>	<p>1RT reading from table</p> <p>1A correct value</p> <p style="text-align: right;">(2)</p>	D L1 E
3.1.4	<p>Medical sector e.g. doctor/ nurse  Security sector e.g. police / security guards  Essential services e.g. cashier  Construction sector e.g. plumbing / electrician / builder  Agricultural sector e.g. farming  <i>Mediese sektor bv. dokter / verpleegster</i> <math>\checkmark\checkmark</math>A  <i>Sekuriteit sektor bv. polisie / sekuriteitswag</i>  <i>Essensiële dienste bv. kasier</i>  <i>Konstruksie sektor bv. loodgieter / elektrisiën / bouer</i>  <i>Landbou sektor bv. boerdery</i></p>	<p>2A correct job</p> <p style="text-align: right;">(2)</p>	D L1 E

Q/V	Solution/Oplissing	Explanation/Verduideliking	T&L
3.1.5	<p>Mean in ten thousand / <i>Gemiddeld in tien duisend</i></p> <p>✓RT</p> $= \frac{21,7 + 7,2 + 0,5 + 3,2 + 9,4 + 2,4 + 36,6 + 5,8 + 6,3}{9}$ <p>9 ✓MA</p> $= \frac{93,1}{9}$ <p>✓S</p> $= 10,34444$ <p>Mean = 103 444,4 <b>OR/OF</b> 103 444 ✓CA</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <math display="block">= \frac{1\,168,1 - 1\,075}{9}</math> </div>	<p>1RT adding correct values</p> <p>1MA concept of mean</p> <p>1S simplification</p> <p>1CA correct mean <b>NPR</b></p> <p>(4)</p>	D L2 M
3.2.1	<p>Quarter / <i>Kwartaal</i> 3</p> <p>3<sup>rd</sup> / <i>3de</i></p> <p>Third / <i>Derde</i></p> <p>✓✓RT</p>	<p>2RT correct quarter</p> <p>(2)</p>	D L1 E
3.2.2	<p>Number of unemployed / <i>Aantal werkloos</i></p> <p>✓RT</p> <p>7,6 million + 183 000</p> <p>✓C</p> <p>7 600 000 + 183 000</p> <p>= 7 783 000 ✓CA</p> <p><b>OR/OF</b></p> <p>✓RT</p> <p>7,6 million + 0,183 million ✓C</p> <p>= 7,783 million / <i>miljoen</i> ✓CA</p>	<p>1RT correct values</p> <p>1C correct conversion</p> <p>1CA simplification</p> <p><b>OR/OF</b></p> <p>1RT correct values</p> <p>1C correct conversion</p> <p>1CA simplification</p> <p>(3)</p>	D L2 M

Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
3.2.3	<p>✓RT      ✓RT  <math>Q1 = 34\%</math> ; <math>Q3 = 37,4\%</math></p> <p>Increase % / <i>Toename %</i>  <math>= 37,4\% - 34\%</math>  <math>= 3,4\%</math> ✓CA</p>	<p>1RT quarter 1  1RT quarter 3  <div style="border: 1px solid black; padding: 2px;">Accept quarter 3:  <math>37,3\% - 37,5\%</math></div></p> <p>1CA increase  <div style="border: 1px solid black; padding: 2px;">Accept:  <math>3,3\% - 3,5\%</math></div></p> <p style="text-align: right;">(3)</p>	D L2 M
3.2.4	<p>Total number of people / <i>Totale aantal mense</i></p> <p><math>\frac{100}{34,4} \times 7,6</math> million  ✓RT</p> <p><math>= 22\ 093\ 023,26</math>  <math>= 22\ 093\ 023</math> ✓A</p> <p style="text-align: right;">✓MCA</p> <p>Number of employed people <math>= 22\ 093\ 023 - 7\ 600\ 000</math>  <math>= 14\ 493\ 023</math> ✓CA</p> <p style="text-align: center;"><b>OR/OF</b></p> <p style="text-align: right;">✓RT</p> <p>Employed <math>= 100\% - 34,4\% = 65,6\%</math> ✓A</p> <p style="text-align: right;">✓MCA</p> <p>Number of employed people <math>= \frac{65,6}{34,4} \times 7\ 600\ 000</math>  <math>= 14\ 493\ 023</math> ✓CA</p>	<p>1RT correct percentage</p> <p>1A simplification  1MCA subtracting values</p> <p>1CA total number of people</p> <p style="text-align: center;"><b>OR/OF</b></p> <p>1RT correct percentage  1A simplification  1MCA ratio calculation</p> <p>1CA total number of people  <b>NPR</b></p> <p style="text-align: right;">(4)</p>	D L2 M
		[24]	

<b>QUESTION/VRAAG 4 [33 MARKS/PUNTE]</b>			
<b>Q/V</b>	<b>Solution/Oplossing</b>	<b>Explanation/Verduideliking</b>	<b>T&amp;L</b>
4.1.1	<p>Tax Payable (before rebates)  <math>= R115\,762 + [36\% \times (\text{annual taxable income} - 488\,700)]</math></p> <p><i>Belasting betaalbaar (voor korting)</i>  <math>= R115\,762 + [36\% \times (\text{jaarlikse belasbare inkomste} - 488\,700)]</math> ✓SF</p> <p>Tax payable <math>= R115\,762 + [\frac{36}{100} \times (495\,602 - 488\,700)]</math> ✓MA  <math>= R115\,762 + 2\,484,72</math> ✓CA  <math>= R118\,246,72</math> ✓CA</p>	<p><b>AO</b></p> <p>1SF substituting value</p> <p>1MA adding values</p> <p>1CA simplification</p> <p><b>NPR</b></p> <p>(3)</p>	F L2 E
4.1.2	<p>Monthly tax (before rebate) /  <i>Maandelikse belasting (voor belastingkorting)</i></p> <p><math>= R118\,246,72 \div 12</math> ✓MA  <math>= R9\,853,89</math> ✓A</p> <p>After rebate / <i>Na belastingkorting</i></p> <p>✓MA  <math>= R9\,853,89 - R1\,368,75</math>  <math>= R8\,485,14</math> ✓MCA</p> <p>Monthly taxable income (before rebate) /  <i>Maandelikse belasting (voor belastingkorting)</i></p> <p><math>= R495\,602 \div 12</math>  <math>= R41\,300,17</math> ✓A</p> <p>Tax payable (according to table) / <i>Belasting (volgens tabel)</i></p> <p><math>= R8\,491</math></p> <p>He is incorrect / <i>Hy is verkeerd</i> ✓O</p> <p><b>OR/OF</b></p>	<p><b>CA from Question 4.1.1</b></p> <p>1MA dividing by 12</p> <p>1A monthly tax</p> <p>1MA subtracting rebate</p> <p>1MCA finding tax after rebate</p> <p>1A monthly income</p> <p>1O conclusion</p> <p><b>OR/OF</b></p>	F L4 D

Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
4.1.2	<p>Annual rebate / <i>Jaarlikse korting</i></p> <p><math>= R1\,368,75 \times 12 \checkmark \text{MA}</math>  <math>= R16\,425 \checkmark \text{A}</math></p> <p>Annual tax (after rebate) /  <i>Jaarlikse belasting (na belastingkorting)</i></p> <p><math>= R118\,246,72 - R16\,425</math>  <math>= R101\,821,72 \checkmark \text{A}</math></p> <p>Monthly income / <i>Maandelikse inkomste</i></p> <p><math>= R495\,602 \div 12</math>  <math>= R41\,300,17 \checkmark \text{A}</math></p> <p>Annual tax / <i>Jaarlikse belasting</i></p> <p><math>= R8\,491 \times 12</math>  <math>= R101\,892 \checkmark \text{MCA}</math></p> <p>He is incorrect / <i>Hy is verkeerd.</i> <math>\checkmark \text{O}</math></p> <p style="text-align: center;"><b>OR/OF</b></p> <p>Monthly tax before rebate /  <i>Maandelikse belasting voor korting</i></p> <p><math>= R118\,246,72 \div 12 \checkmark \text{MA}</math>  <math>= R9\,853,89 \checkmark \text{A}</math></p> <p>Monthly taxable income / <i>Maandelikse belasbare inkomste</i></p> <p><math>= R495\,602 \div 12</math>  <math>= R41\,300,17 \checkmark \text{A}</math></p> <p>Before rebate / <i>Voor korting</i></p> <p><math>= R8\,491 + R1\,368,75 \checkmark \text{MA}</math>  <math>= R9\,859,75 \checkmark \text{MCA}</math></p> <p>He is incorrect / <i>Hy is verkeerd.</i> <math>\checkmark \text{O}</math></p>	<p>1MA multiplying by 12  1A correct annual rebate</p> <p>1A annual tax</p> <p>1A monthly income</p> <p>1MCA annual tax</p> <p>1O conclusion</p> <p style="text-align: center;"><b>OR/OF</b></p> <p>1MA dividing by 12  1A correct answer</p> <p>1A correct answer</p> <p>1MA adding rebate  1MCA finding tax after rebate  1O conclusion</p>	<p>F L4 D</p> <p style="text-align: right;">(6)</p>

Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
4.1.3	Probability / <i>waarskynlikheid</i>  0 ; 0% ; impossible / <i>onmoontlik</i> / zero / <i>nul</i> ✓✓A	2A probability (2)	P L2 M
4.2.1	Two million five hundred and eighty four thousand one hundred and seventy six. <i>Twee miljoen vyf honderd vier en tagtig duisend een honderd ses en sewentig.</i> ✓✓A	2A correct words (2)	D L1 E
4.2.2	✓RT 407 739 : 61 934 : 36 085 ✓MA	1RT correct values 1MA correct order (2)	D L2 M
4.2.3	16 426; 18 235; 19 077; 21 887; 36 085 ✓A  Median / <i>mediaan</i> = 19 077 ✓A	AO 1A arranging values  1A correct median (2)	D L2 E

Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
4.2.4	Number of Ford F-Series / <i>Aantal Ford F-Reeks</i> $= 357\,243 - (53\,757 + 51\,684 + 73\,467 + 61\,934)$ $= 357\,243 - 240\,842$ $= 116\,401$	<b>AO</b> 1RT correct values from graph 1MA subtracting from total 1CA simplification (3)	D L2 E
4.2.5	Interquartile range / <i>Interkwartielomvang</i> $IQR = Q3 - Q1$ $7\,669 = Q3 - 11\,408$ $Q3 = 7\,669 + 11\,408$ $= 19\,077$	<b>AO</b> 1A correct formula 1SF substituting into formula 1MA changing the subject of the formula 1CA simplification (4)	D L3 M
4.2.6	2020 Price of Ford F-Series / <i>2020 prys van Ford F-reeks</i> $\$32\,332 \times \frac{100}{107}$ $= \$30\,216,82$ 2019 Price of Ford F-Series / <i>2019 prys van Ford F-reeks</i> $\$30\,216,82 \times \frac{100}{101,4}$ $= \$29\,799,63$ The statement is not valid / <i>Die bewering is nie geldig nie.</i>  <b>OR/OF</b>  2019 Price of Ford F-Series / <i>2019 prys van Ford F-reeks</i> $\$32\,332 \times \frac{100}{107} \times \frac{100}{101,4}$ $= \$29\,799,63$ The statement is not valid / <i>Die bewering is nie geldig nie.</i>	1RT numerator 1RT denominator 1A 2020 price  1MA concept of % decrease 1CA simplification 1O not valid  <b>OR/OF</b>  1RT numerator 1RT denominator 1RT numerator 1RT denominator 1CA simplification 1O not valid (6)	F L4 D

Q/V	Solution/Opllossing	Explanation/Verduideliking	T&L
4.2.7	Probability / Waarskynlikheid ✓RT $\frac{569\,388}{2\,584\,176} \times 100\%$ ✓RT = 22,03% ✓CA	1RT correct numerator 1RT correct denominator  1CA simplification <b>NPR</b>  (3)	P L2 M
		(3)	
		<b>[33]</b>	

QUESTION/VRAAG 5 [29 MARKS/PUNTE]			
Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
5.1.1	Western Cape / <i>Wes-Kaap</i> ✓✓RT	2RT correct province (2)	D2 L2
5.1.2	<p>✓RT  <math>3\% + 4\% + 4\%</math>  <math>= 11\%</math> ✓A</p> <p><math>= \frac{4}{11} \times R8\,300\,000\,000</math> ✓MCA</p> <p><math>= R3\,018\,181\,818 / R3,018181818 \text{ billion} / \text{miljard}</math> ✓CA</p> <p style="text-align: center;"><b>OR/OF</b></p> <p>Total contribution / <i>Totale bydrae</i></p> <p>✓RT  <math>= \frac{100}{11} \times R8\,300\,000\,000</math>  <math>= R75\,454\,545\,454</math> ✓A</p> <p>WC contribution / <i>WK bydrae</i></p> <p><math>= \frac{4}{100} \times R75\,454\,545\,454</math> ✓MCA  <math>= R3\,018\,181\,818</math> ✓CA</p>	<p>1RT all 3 values</p> <p>1A simplification</p> <p>1MCA calculating ratio</p> <p>1CA simplification</p> <p style="text-align: center;"><b>OR/OF</b></p> <p>1RT correct values</p> <p>1A simplification</p> <p>1MCA calculating ratio</p> <p>1CA simplification</p> <p><b>NPR</b></p> <p>(4)</p>	F L3
5.1.3	Transport / <i>Vervoer</i> ✓✓RT	2RT correct sector (2)	D2 L2
5.1.4	Finance / <i>Finansies</i> ✓✓RT	2RT correct sector (2)	D2 L3
5.1.5	Western Cape / <i>Wes-Kaap</i> ✓✓RT	2RT correct province (2)	D2 L2
5.2.1	Japanese yen / <i>Japanese yen</i> ✓✓RT	2RT correct currency (2)	F L1 M
5.2.2	<p>Russian Rouble = <math>\frac{1}{6,97481}</math> ✓A  <math>= 0,143373</math> ✓A</p>	<p>1A numerator</p> <p>1A denominator</p> <p>(2)</p>	F L1 E

Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
5.2.3	$\begin{aligned} & \checkmark A \\ & = \frac{R1\ 230\ 000}{R1} \times CAD0,084845 \checkmark MA \\ & = CAD\ 104\ 359,35 \checkmark A \end{aligned}$ <p style="text-align: center;"><b>OR/OF</b></p> $\begin{aligned} & \checkmark A \\ & = \frac{R1\ 230\ 000}{R11,785} \times CAD1 \checkmark MA \\ & = CAD\ 104\ 369,9618 \\ & = CAD\ 104\ 369,96 \checkmark A \end{aligned}$	<p>1A correct exchange rate 1MA multiply with exchange rate 1A simplification</p> <p style="text-align: center;"><b>OR/OF</b></p> <p>1A correct exchange rate 1MA dividing by exchange rate 1A simplification <b>NPR</b></p> <p style="text-align: right;">(3)</p>	F L3 D
5.2.4	<p>Diversify his income / <i>Diversifiseer sy inkomste.</i> <math>\checkmark\checkmark O</math></p> <p style="text-align: center;"><b>OR/OF</b></p> <p>The Canadian currency is stronger / <i>Die Kanadese geldeenheid is sterker as die rand.</i> <math>\checkmark\checkmark O</math></p> <p style="text-align: center;"><b>OR/OF</b></p> <p>He will get a better return on his investment / <i>Hy sal 'n beter opbrengs kry op sy belegging.</i> <math>\checkmark\checkmark O</math></p>	<p>2O reason</p> <p style="text-align: right;">(2)</p>	F L4 M

Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
5.2.5	<p>Amount interest / <i>Bedrag rente</i></p> <p>Year / <i>jaar</i> 1</p> $R1\ 230\ 000 \times \frac{8,1}{100} \quad \checkmark \text{MA}$ $= R99\ 630 \quad \checkmark \text{A}$ <p>Total after year 1 / <i>Totaal na jaar 1</i></p> $R1\ 230\ 000 + R99\ 630$ $= R1\ 329\ 630 \quad \checkmark \text{A}$ <p>Year / <i>jaar</i> 2</p> $R1\ 329\ 630 \times \frac{8,1}{100}$ $= R107\ 700,03$ <p>Total after year 2 / <i>Totaal na jaar 2</i></p> $R1\ 329\ 630 + R107\ 700,03$ $= R1\ 437\ 330,03 \quad \checkmark \text{CA}$ <p>8 months / <i>maande</i></p> $R1\ 437\ 330,03 \times \frac{8,1}{100} \times \frac{8}{12} \quad \checkmark \text{MA}$ $= R77\ 615,82162$ <p>Final amount / <i>Finale bedrag</i></p> $= R1\ 437\ 330,03 + R77\ 615,82162$ $= R1\ 514\ 945,852 \quad \checkmark \text{CA}$ $R1\ 529\ 360 - R1\ 514\ 945,852$ $= R14\ 414,15 \quad \checkmark \text{CA}$ <p>His statement is valid. / <i>Sy bewering is geldig.</i> ✓O</p>	<p>MA calculating 8,1%</p> <p>1A interest year 1</p> <p>1A amount end year 1</p> <p>1CA amount year 2</p> <p>1MA calculating 8 months</p> <p>1CA final amount</p> <p>1CA difference</p> <p>1O conclusion</p>	F L4 D

Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
	<b>OR/OF</b>	<b>OR/OF</b>	
5.2.5	<p>Total year 1 / <i>Totaal jaar 1</i>  <math>\checkmark A</math>  <math>R1\ 230\ 000 \times 1,081 \checkmark MCA</math>  <math>= R1\ 329\ 630 \checkmark A</math></p> <p>Total year 2 / <i>Totaal jaar 2</i>  <math>R1\ 329\ 639 \times 1,081</math>  <math>= R14\ 373\ 30,03 \checkmark CA</math></p> <p>Interest rate for 8 months / <i>Rentekoers vir 8 maande</i>  <math>8,1\% \times 8 \div 12</math>  <math>= 5,4\% \checkmark A</math></p> <p>Total after 2 years 8 months / <i>Totaal na 2 jaar en 8 maande</i>  <math>R1\ 437\ 330,03 \times 1,054</math>  <math>= R151\ 4\ 945,85 \checkmark CA</math></p> <p>Difference in interest earned / <i>Verskil in rente verdien</i>  <math>R1\ 529\ 360 - R1\ 514\ 945,85</math>  <math>= R14\ 414,15 \checkmark CA</math></p> <p>The statement is valid / <i>Bewering is geldig.</i> <math>\checkmark O</math></p>	<p>1A calculating 1,081  1MCA multiplying with 1,081  1A amount end year 1</p> <p>1CA amount end year 2</p> <p>1A calculating 5,4%</p> <p>1CA final amount</p> <p>1CA difference</p> <p>1O conclusion  <b>NPR</b></p>	
		(8)	
		<b>[29]</b>	
		<b>TOTAL/TOTAAL: 150</b>	