NATIONAL SENIOR CERTIFICATE EXAMINATION
MAY 2024

MATHEMATICAL LITERACY: PAPER I

MARKING GUIDELINES

Time: 3 hours 150 marks

These marking guidelines are prepared for use by examiners and sub-examiners, all of whom are required to attend a standardisation meeting to ensure that the guidelines are consistently interpreted and applied in the marking of candidates' scripts.

The IEB will not enter into any discussions or correspondence about any marking guidelines. It is acknowledged that there may be different views about some matters of emphasis or detail in the guidelines. It is also recognised that, without the benefit of attendance at a standardisation meeting, there may be different interpretations of the application of the marking guidelines.

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Q1	Marking guideline	Marks	Skills assessed	Topic	Level
KEY	**a** accuracy **m** method **mca** method continued accuracy		**ca** continued accuracy **ma** method accuracy **r** rounding	**F** Finance **D** Data handling **P** Probability	**1** KN **2** RP **3** MSP **4** R&R
1.1.1	Thabana Ntlenyana ✓✓a		✓✓ Thabana Ntlenyana	D	1
1.1.2	Mont-aux-Sources ✓a Cleft Peak ✓a		✓ Mont-aux-Sources ✓ Cleft Peak	D	1
1.1.3	Thabana Ntlenyana 3 482 m Mafadi 3 450 m Makoaneng 3 416 m Injasuthi Doom 3 408 m Champagne Castle 3 377 m Giant's Castle 3 315 m Cleft Peak 3 282 m Mont-aux-Sources 3 282 m Monks Cowl 3 234 m Sentinel 3 165 m		✓ Descending order ✓ All correct ✓a Ascending order all correct 1 mark only	D	1
1.1.4	Bar graph or line graph ✓✓a		✓✓ Bar graph	D	1
1.2.1	April ✓a 11% ✓a		✓ April ✓ 11%	D	1
1.2.2	June ✓a 3,70% ✓a		✓ June ✓ 3,70%	D	1
1.2.3	$\text{Sum} = 10 + 7{,}75 + 10{,}25 + 11 + 7 + 6{,}75 + 7{,}5 + 6{,}75 + 8 + 8{,}25 + 7{,}75 + 9$ ✓m $\text{Sum} = 100\%$ ✓a		✓ Adding values ✓ 100%	D	1
1.2.4	$\text{Nov} = 100 - \left(\begin{matrix}10 + 13{,}85 + 11{,}8 + 8{,}5 + 3{,}75 + 3{,}7 + 4{,}25 + 7{,}15 + 5 \\ + 11 + 8{,}75\end{matrix}\right)$ ✓m $\text{Nov} = 12{,}25\%$ ✓a Or If read off graph must be 12,25% ✓✓a		✓ Subtracting values ✓ 12,25%	D	1
1.3.1	Invoice or quote ✓a✓a		✓✓ Pro-forma Invoice	F	1

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1.3.2	2 Adults ✓a 2 Children ✓a Or 4 People ✓a✓a		✓ 2 Adults ✓ 2 Children Or ✓✓ 4 People	F	1
1.3.3 (a)	5 nights ✓a✓a		✓✓ 5 Nights	F	1
1.3.3 (b)	R4 310 ✓a✓a		✓✓ R4 310	F	1
1.3.3 (c)	Total cost $= R4\,310 \times 5$ ✓m $= R21\,550$ ✓ca Or Total cost $= R4\,310 + R4\,310 + R4\,310 + R4\,310 + R4\,310$ ✓m $= R21\,550$ ✓ca		✓ multiply R4 130 by 5 ✓ R21 550 Or ✓ Adding R4 130 ✓ R21 550	F	1
1.3.4	KZN Permit ✓a Tourism Levy ✓a		✓ KZN Permit ✓ Tourism Levy	F	1
1.3.5	Balance $= R22\,264{,}50 - R450$ ✓ma $= R21\,814{,}50$ ✓ca		✓ Subtract R450 ✓ from R22 264,50	F	1
1.3.6	VAT $= R21\,814{,}50 - R18\,969{,}13$ ✓ma $= R2\,845{,}37$ ✓ca		✓ Subtracting R18 969,13 from R21 814,50 ✓ R2 845,37	F	1
				MARKS	**[32]**

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<table>
<tr><th>Q2</th><th>Marking guideline</th><th>Marks</th><th>Skills assessed</th><th>Topic</th><th>Level</th></tr>
<tr><td>KEY</td><td>a accuracy
m method
mca method continued accuracy</td><td></td><td>ca continued accuracy
ma method accuracy
r rounding</td><td>F Finance
D Data handling
P Probability</td><td>1 KN
2 RP
3 MSP
4 R&R</td></tr>
<tr><td>2.1.1</td><td>Cost per person per night $= R10\,854 \div 2$ ✓ma $\div 3$ ✓ma
$= R1\,809$ ✓a</td><td></td><td>✓ Divide R10 854 by 2
✓ Divide by 3
✓ R1 809</td><td>F</td><td>2</td></tr>
<tr><td>2.1.2</td><td>Price excl. VAT $= R10\,854 \div 1{,}15 = R9\,438{,}26$ ✓a
VAT $= R10\,854 - 9\,438{,}26$
VAT $= R1\,415{,}74$ ✓a</td><td></td><td>✓ Divide R10 854 by 115%
✓ R1 415,74</td><td>F</td><td>2</td></tr>
<tr><td>2.1.3</td><td>Full price $= \dfrac{R10\,854\ \checkmark a}{100\% - 35\%\ \checkmark ma}$
Full price $= \dfrac{R10\,854}{65\%\ \checkmark a}$
Full price $= R16\,698{,}46$ ✓ma</td><td></td><td>✓ R10 854
✓ Subtract 100% – 35%
✓ 65%
✓ R16 698,46</td><td>F</td><td>2</td></tr>
<tr><td>2.1.4 (a)</td><td>Total in Rands $= R10\,854 + R5\,000 = R15\,854$ ✓a
Total in Dollars $= R15\,854 \div$ ✓ma $14{,}212394$ ✓ca
Total in Dollars $= \$1115{,}51$ ✓ca</td><td></td><td>✓ Adding values
✓ R15 854
✓ Dividing
✓ 14,212394
✓ $1115,51</td><td>F</td><td>3</td></tr>
<tr><td>2.1.4 (b)</td><td>
<table>
<tr><th></th><th>Opening balance</th><th>Interest</th><th>Closing Balance</th></tr>
<tr><td>Year 1</td><td>R3 000</td><td>$= R3\,000 \times 4{,}5\%$
$= R135$ ✓a</td><td>R135 + R3 000
R3 135 ✓ca</td></tr>
<tr><td>Year 2</td><td>R3 135</td><td>$= R3\,135 \times 4{,}5\%$
$= R141{,}08$</td><td>R3 276,08 ✓ca</td></tr>
<tr><td>Year 3</td><td>R3 276,08</td><td>$= R3\,276{,}08 \times 4{,}5\%$
$= R147{,}42$</td><td>R3 423,50 ✓ca
or
R3 423,49</td></tr>
</table>
</td><td></td><td>✓ R135
✓ R3 135
✓ R3 276,08
✓ R3 423,50</td><td>F</td><td>3</td></tr>
<tr><td>2.2.1</td><td>2 370 000 ✓✓a</td><td></td><td>✓✓ 2 370 000</td><td>D</td><td>1</td></tr>
</table>

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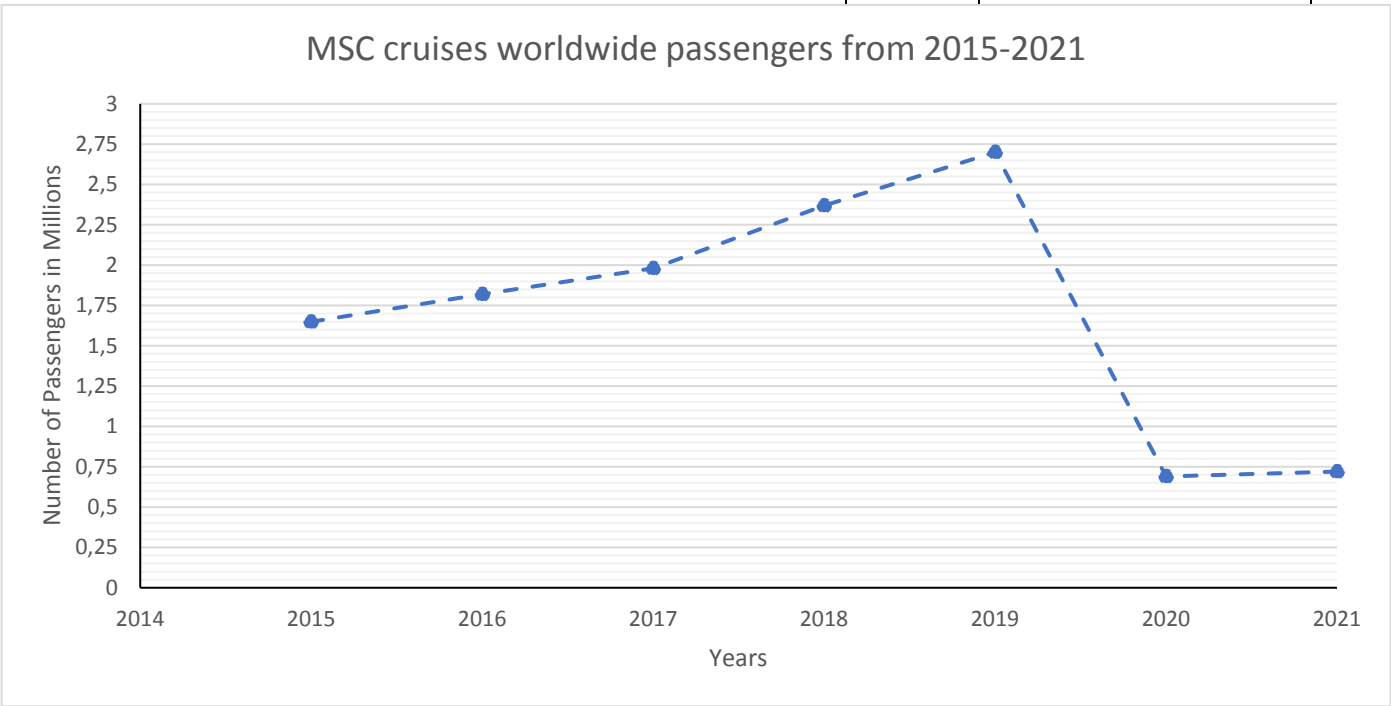
Q1	Marking guideline	Marks	Skills assessed	Topic	Level
KEY	**a** accuracy **m** method **mca** method continued accuracy		**ca** continued accuracy **ma** method accuracy **r** rounding	**F** Finance **D** Data handling **P** Probability	**1** KN **2** RP **3** MSP **4** R&R
2.2.2	Seven hundred and twenty thousand ✓✓		✓✓ Seven hundred and twenty thousand	D	1
2.2.3	 ✓a Headings and labels for axes. ✓a Plotting ✓a Plotting ✓a Plotting ✓a Dotted line	5		D	2
				MARKS	**[26]**

Q3	Marking guideline	Marks	Skills assessed	Topic	Level
KEY	**a** accuracy **m** method **mca** method continued accuracy		**ca** continued accuracy **ma** method accuracy **r** rounding	**F** Finance **D** Data handling **P** Probability	**1** KN **2** RP **3** MSP **4** R&R
3.1.1 (a)	$\%\ \text{Deposit} = \frac{\text{R50 000 ✓m}}{\text{R419 900 ✓ma}} \times 100$ $\%\ \text{Deposit} = 11{,}91\%$ ✓a		✓ R50 000 ✓ divided by R419 900 ✓ 11,91%	F	2
3.1.1 (b)	$\text{Cost of instalments} = \text{R6 400} \times 12$ ✓m $\times 6$ ✓ma $\text{Cost of instalments} = \text{R6 400} \times 72$ $\text{Cost of instalments} = \text{R460 800}$ ✓a		✓ multiply R6 400 by 12 ✓ multiply 6 ✓ R460 800	F	2
3.1.1 (c)	$\text{Total cost of instalments} = \text{R460 800} + \text{R50 000}$ ✓mca $\text{Total cost of instalments} = \text{R510 800}$ ✓mca		✓ adding correct deposit to R460 800 ✓ R510 800	F	1
3.1.1 (d)	Hire-purchase agreement ✓✓a Or Credit agreement ✓✓a		✓✓ Hire-Purchase	F	1
3.1.1 (e)	Advantage: Can purchase car without having full asking price in cash. ✓✓a Disadvantage: You pay interest to the bank ✓✓a or Cost you more than the cash price. ✓✓a		✓ Advantage credit ✓ Disadvantage interest	F	4
3.1.2	$\text{Total cost of Trend Model} = \text{R40 000} + \text{R5 600} \times 6 \times 12$ $\text{Total cost of Trend Model} = \text{R403 200}$ ✓a $+ \text{R40 000}$ ✓ma $\text{Total cost of Trend Model} = \text{R443 200}$ ✓ca $\text{Total cost of Trend Model} = \frac{\text{R443 200} - \text{R389 900}\ \text{✓mca}}{\text{R389 900 ✓a}} \times 100$ Percentage increase $= 13{,}67\%$ ✓		✓ R403 200 ✓ adding correct deposit R40 000 ✓ R443 200 ✓ substitution top ✓ substitution bottom	F	3
3.2.1	4; 15; 19; 23; 23; 34; 109; 123 ✓ma Median = 23 ✓a		✓ data ordered ✓ 23	D	2

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Q3	Marking guideline	Marks	Skills assessed	Topic	Level
KEY	**a** accuracy **m** method **mca** method continued accuracy		**ca** continued accuracy **ma** method accuracy **r** rounding	**F** Finance **D** Data handling **P** Probability	**1** KN **2** RP **3** MSP **4** R&R
3.2.2	Amaze ✓a✓a		highest frequency ✓ Amaze	D	2
3.2.3	Range $= 123 - 4$ ✓ma $= 119$ ✓a		✓ highest – lowest ✓ 119	D	2
3.2.4	Sum of all values $= 43,75 \times 8$ ✓ma $= 350$ ✓a Sum of given values $= 123 + 34 + 23 + 19 + 4 + 15 + 23 = 241$ ✓ Honda Ballade $= 350 - 241 = 109$ ✓ca Or $43,75 = \frac{123 + 34 + 23 + 19 + 4 + 15 + 23 + 109}{8} = 43,75$ $350 = x + 241$ ∴ True $350 + 241 = x$ $109 = x$		✓ 43,75 × 8 ✓ 350 ✓ 241 ✓ 209	D	3
3.2.5 (a)	Probability $= \frac{123}{350}$ ✓a $\times 100 = 35,14\%$ ✓ca		✓ 123 ✓ 350 ✓ 35,14%	P	2
3.2.5 (b)	Probability $= \left(\frac{23}{350} + \frac{19}{350}\right)$ ✓a ✓m $= 0,12$ ✓ OR $\frac{42}{350} = 0,12$		✓ correct fractions ✓ adding fractions ✓ 0,12	P	2
3.2.6 (a)	The negative sign shows that it was a percentage decrease ✓✓a		✓✓ % decrease	D	4
3.2.6 (b)	$-0,7519$ ✓a $= \frac{350 - x}{x}$ ✓ma $-0,7519x = 350 - x$ $0,2481x = 350$ ✓mca Number of units 2015 $= 1410,72$ ✓ca Number of units 2015 $= 1411$ ✓rounding		✓ –0,7519 ✓ substitution fraction ✓ $0,2481x = 350$ ✓ 1 410,72 ✓ rounding whole unit	D	3

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				MARKS	[40]
Q4	**Marking guideline**	**Marks**	**Skills assessed**	**Topic**	**Level**
KEY	**a** accuracy **m** method **mca** method continued accuracy		**ca** continued accuracy **ma** method accuracy **r** rounding	**F** Finance **D** Data handling **P** Probability	**1** KN **2** RP **3** MSP **4** R&R
4.1.1 (a)	Inflation is the increase ✓a in the cost of goods/services over time. ✓a		✓ increase ✓ over time	D	1
4.1.1 (b)	Band 2 = R20,28 × 1,055. ✓ma = R21,39 ✓a Band 3 = R22,33 Band 4 = R31,31 Band 5 = R43,27 Band 6 = R47,33 Band 7 = R59,70 Increase band 8 = R60,65 × 1,055 = R63,99 ✓a Increases were higher than 5,5% ✓a Or % increase Band 2 = $\frac{R22,26 - R20,28}{R20,28}$ ✓ma = 9,76% ✓a % increase Band 3 = 9,73% % increase Band 4 = 9,73% % increase Band 5 = 9,75% % increase Band 6 = 9,74% % increase Band 7 = 9,75% % increase Band 8 = $\frac{R66,56 - R60,65}{R60,65}$ ✓ma = 9,75% ✓a Increases were higher than 5,5% ✓a Or		✓ multiply by 1,055 or 105,5% ✓ new price ✓ new price ✓ Price have increased more than inflation	D	4

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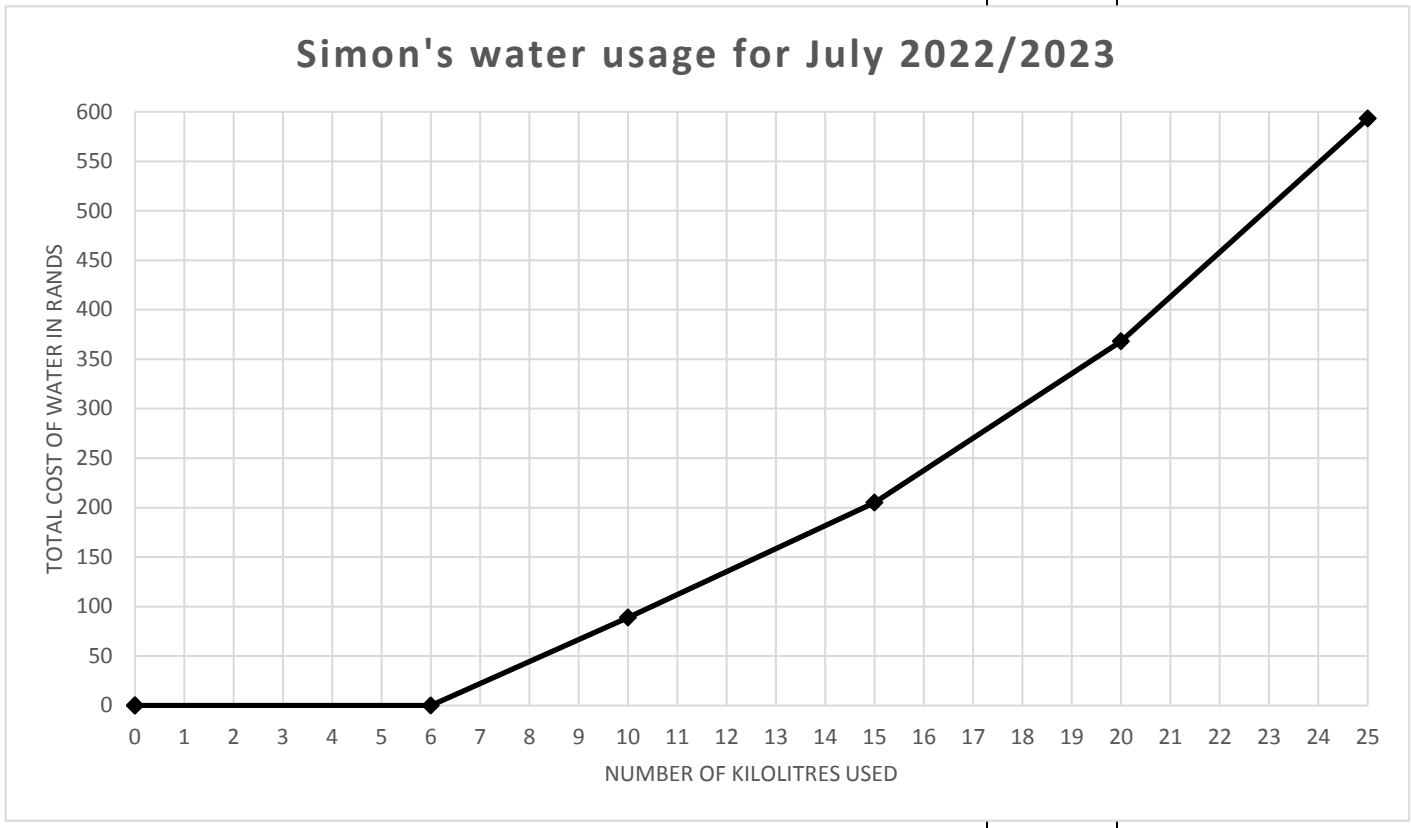
	All bands have increased by approximately $\pm 10\%$ ✓a Increase Band 2 $= R20,28 \times 1,10.$ ✓ma $= R22,31.$ ✓a Increase Band 8 $= R60,65 \times 1,10 = R66,72.$ ✓a				

Q4	Marking guideline	Marks	Skills assessed	Topic	Level
KEY	**a** accuracy **m** method **mca** method continued accuracy		**ca** continued accuracy **ma** method accuracy **r** rounding	**F** Finance **D** Data handling **P** Probability	**1** KN **2** RP **3** MSP **4** R&R
4.1.2			✓ R0 ✓ R89,04 ✓ R116,15 ✓ R162,85 ✓ R225,05 ✓ R593,09	D	3

Band	Rate	Amount per band	Cumulative Total
0–6	-	$R0 \times 6 = R0$ ✓a	R0
> 6–10	R22,26	$R22,26 \times 4 = R89,04$ ✓a	R89,04
> 10–15	R23,23	$R23,23 \times 5 = R116,15$ ✓a	R205,19
> 15–20	R32,57	$R32,57 \times 5 = R162,85$ ✓a	R368,04
> 20–30	R45,01	$R45 \times 5 = R225,05$ ✓a	R593,09
> 30–40	R49,23		
> 40–50	R62,11		
> 50	R66,56		
Total Cost			R593,09 ✓ca

Q4	Marking guideline	Mark	Skills assessed	Topic	Level
KEY	**a** accuracy **m** method **mca** method continued accuracy		**ca** continued accuracy **ma** method accuracy **r** rounding	**F** Finance **D** Data handling **P** Probability	**1** KN **2** RP **3** MSP **4** R&R
4.1.3	 ✓a Plotting ✓a Plotting ✓a Plotting ✓a Plotting ✓a Plotting			D	3

Q4	Marking guideline	Marks	Skills assessed	Topic	Level
KEY	**a** accuracy **m** method **mca** method continued accuracy		**ca** continued accuracy **ma** method accuracy **r** rounding	**F** Finance **D** Data handling **P** Probability	**1** KN **2** RP **3** MSP **4** R&R
4.2.1 (a)	100 ✓✓a		✓ 100	D	1
4.2.1 (b)	They have the same starting point, so percentage increase ✓a of each one can be compared. ✓a		✓ percentage increases ✓ can be compared	D	4
4.2.2	$\text{Factor} = \frac{1\,270\% \checkmark a}{296\% \checkmark ca} = 4{,}29 \checkmark$ Therefore, did not increase by exactly 4,3 times ✓ca OR 4,3(296%) = 1 272,8% Therefore, did not increase by exactly 4,3 times ✓ca		✓ 1 270% ✓ divide by 296% ✓ 4,29% ✓ increase incorrect	D	4
4.2.3	$\%\ \text{increase} = \frac{1\,220 - 100}{100} \checkmark m \checkmark a \times 100$ % increase = 1120% ✓ca Yes so 1 120% is correct. ✓		✓ Method correct. ✓ values correct. ✓ 1 120% ✓ yes, is correct	D	4
				MARKS	**[29]**

Q5	Marking guideline	Marks	Skills assessed	Topic	Level
KEY	**a** accuracy **m** method **mca** method continued accuracy		**ca** continued accuracy **ma** method accuracy **r** rounding	**F** Finance **D** Data handling **P** Probability	**1** KN **2** RP **3** MSP **4** R&R
5.1	Mike Brown = R43 600 000 ÷ 365 ✓ma = R119 452,0548 ✓ca Mike Brown = R119 452 rounded down ✓a		✓ 365 ✓ R119 452,06 ✓ R119 452 rounding	F	2
5.2	£7 500 000 : R177 600 000 ✓m ratio Divide by both values by 7 500 000✓a £1 : R23,68000 ✓a✓unit		✓ £7 500 000 ✓ Divide R177 600 000 ✓ 23,68 ✓ Rand unit	F	2
5.3	$P(CEOs) = \frac{3\ \checkmark a}{5\ \checkmark a}$		✓ 3 ✓ 5	P	2
5.4.1	R17 235 ✓✓a		✓ R17 235	F	1
5.4.2	65 ✓a and older ✓a		✓ 65 ✓ older	F	2
5.4.3 (a)	Tax bracket 7 ✓a		✓ Tax Bracket	F	2
5.4.3 (b)	Tax = R644 489+45% × (R43 600 000 – R1817 000) ✓m – rebate Tax = R644 489 + R18 802 350 ✓a – rebate Tax = R19 446 839 ✓ca – R17 235 ✓a Tax = R19 429 604 ÷ 365 ✓ma Tax per day = R53 231,79 ✓ca		✓ Finding difference ✓ R18 802 350 ✓ R19 446 839 ✓ subtract rebate ✓ divide by 365 ✓ R53 231,79	F	4
				MARKS	**[21]**

Total: 150 marks

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