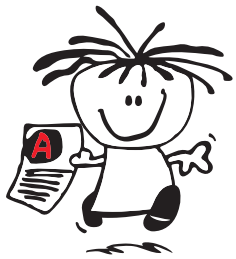


TAS-AMESA MATHS LITERACY REVIEW

NSC 2022 - PAPER 1



THE
ANSWER
SERIES *Your Key to Exam Success*



COLLECTIVE RESPONSE



Hosted by Gretel Lampe

Presented by Susan Nicol

AMESA guest Bronwyn Adonis-Maarman

QUESTION-BY-QUESTION REVIEW

Detailed Analysis

- Look at each question with a proposed memo
- Analyse each question in terms of 5 categories:
 - ✓ Context
 - ✓ Layout
 - ✓ Taxonomy levels
 - ✓ Language
 - ✓ General comments



QUESTION 1

Finance & Data Handling (Short, mixed q's)

QUESTION 1.1

Martha needs to buy school uniforms for her son and daughter. She compares the prices of three different stores as shown in TABLE 1 below.

TABLE 1: COST OF SCHOOL UNIFORMS AT THREE DIFFERENT STORES

ITEMS	STORE A	STORE B	STORE C
White shirt	R110,00 for 2	R44,99 each	R110,00 for 2
Grey skirt	R163,00 for 2	R54,99 each	R130,00
Grey shorts	R186,00	R39,99	R99,95
Grey school socks	R40,50 for 2 packs	R18,99 per pack	R89,99 for 3 packs
White school socks	R85,00 for 5 packs	R11,99 per pack	R85,99 for 5 packs
School shoes (girls)	R349,00	R159,99	R170,00
School shoes (boys)	R318,00	R169,99	R275,00
TOTAL	P	–	–

[Adapted from www.news24.com/fin24/money/education]

NOTE: There are two pairs of socks in each pack.

Use TABLE 1 above to answer the questions that follow.

CONTEXT		LAYOUT OF DIAGRAMS, TABLES, IMAGES		GENERAL COMMENTS
X	Familiar	X	Accessible	
	Unfamiliar		Unaccessible	
X	Authentic & realistic	Comments:		
	Unauthentic & unrealistic			
Comments:				

1.1.1 Identify whether the prices given in TABLE 1 are numerical or categorical data. (2)

PROPOSED MEMO	
Numerical data	

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
X	1: Knowing	X	Accessible	
	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments:				

1.1.2 Arrange, in ascending order, all the prices given for Store B. (2)

PROPOSED MEMO	
R11,99; R18,99; R39,99; R44,99; R54,99; R159,99; R169,99	

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
X	1: Knowing	X	Accessible	
	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments:				

1.1.3 Name the store that sells the cheapest grey shorts. (2)

PROPOSED MEMO	
Store B	

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
X	1: Knowing	X	Accessible	
	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments:				

1.1.4 Calculate the price for a pack of white school socks at Store C. (3)

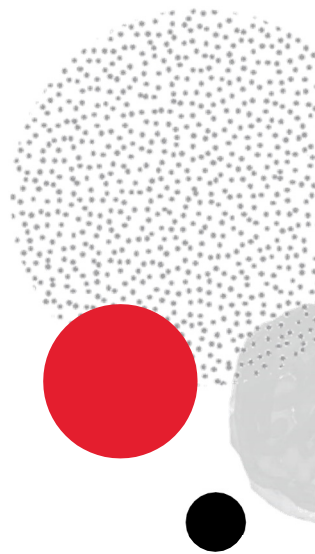
PROPOSED MEMO	
1 pack white school socks = $R85,99 \div 5$ packs = 17,198 $\approx R17,20$	

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
	1: Knowing	X	Accessible	Many learners will us grey vs white socks
X	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments:				

1.1.5 Determine the missing value P, if Martha bought all the school items as advertised at Store A. (2)

PROPOSED MEMO	
$P = R110,00 + R163,00 + R186,00 + R40,50 + R85,00 + R349,00 + R318,00$ $= R1\ 251,50$	

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
X	1: Knowing	X	Accessible	
	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments:				



1.1.6 The probability of selecting Store C to buy all the school items is 0,3333333333.

(a) Define the term *probability* in the given context. (2)

PROPOSED MEMO	
<i>Probability</i> is the chance or likelihood of <u>selecting Store C to buy all the school items</u> .	

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
X	1: Knowing	X	Accessible	Many learners will not apply the definition to the context
	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting	Define the term <i>probability</i> <u>in the given context</u>		
Comments: Some reviewers believe that since the definition is asked to be given in context: * Level 1 taxonomy level is not quite appropriate anymore, since learners need to first recall the definition - and then reflect and reason on the application to the context. Which would then possibly move the definition in context to a Taxonomy Level 4 question. * The mark allocation should also be higher (perhaps 3 or 4 marks), since they are now applying the definition in context				

1.1.6 The probability of selecting Store C to buy all the school items is 0,3333333333.

(b) Write down this probability as a percentage rounded to the nearest whole number. (2)

PROPOSED MEMO
Probability as % = $0,3333333333 \times 100\%$ = 33,333333% ≈ 33%

TAXONOMY LEVEL	LANGUAGE	GENERAL COMMENTS
1: Knowing	X Accessible	
X 2: Applying routine procedures in familiar contexts	Unaccessible	
3: Applying multi-step procedures in a variety of contexts	Comments:	
4: Reasoning & reflecting		
Comments: Basic calculation, but requires a conversion and rounding off		








QUESTION 1

Finance & Data Handling (Short, mixed q's)

QUESTION 1.2

One of the many investment options in South Africa is the stokvel option. TABLE 2 below shows two stokvel plans (Plan A and Plan B) over a 24-month period.

TABLE 2: TWO STOKVEL PLANS

	
PLAN A (MONTHLY FIXED TERM PLAN)	PLAN B (ONCE-OFF SAVING PLAN)
Choose how long you want to save for.  Saving period: 24 months	Choose how long you want to save for.  Saving period: 24 months
How much do you want to save monthly ? 	How much do you want to save once-off ? 
Monthly contributions: R2 500 Total amount at the end of 24 months: R74 286,84	Once-off amount: R60 000 Total amount at the end of 24 months: R92 065,71

[Adapted from <https://uasv.co.za>]

Use TABLE 2 above to answer the questions that follow.

CONTEXT		LAYOUT OF DIAGRAMS, TABLES, IMAGES		GENERAL COMMENTS
X	Familiar	X	Accessible	
	Unfamiliar		Unaccessible	
X	Authentic & realistic	Comments:		
	Unauthentic & unrealistic			
Comments:				

1.2.1 Define investment in the given context. (2)

PROPOSED MEMO	
A <i>stokvel investment</i> is a pooled fund, whereby members contribute money with the aim of providing rotating credit to a different member each month.	

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
X	1: Knowing	X	Accessible	<p>Many learners will not apply the definition to the context</p> <p>Q1.2.1 and Q1.1.6(a) are the same type of question - asking for a definition in context ... so questioning style is repetitive.</p> <p>There needs to be clarification as to the % of questions/marks that can be asked on definitions.</p>
	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting	<u>Define the term <i>investment</i> in the given context</u>		
<p>Comments:</p> <p>Some reviewers believe that since the definition is asked to be given in context:</p> <ul style="list-style-type: none"> * Level 1 taxonomy level is not quite appropriate anymore, since learners need to first recall the definition – and then reflect and reason on the application to the context. Which would then possibly move the definition in context to a Taxonomy Level 4 question. * The mark allocation should also be higher (perhaps 3 or 4 marks), since they are now applying the definition in context 				

1.2.2 Calculate the total contributions for Plan A over the 24-month period. (2)

PROPOSED MEMO	
Total contributions for Plan A = $R2\,500 \times 24$ months = R60 000	

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
X	1: Knowing	X	Accessible	
	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments:				

1.2.3 Calculate the interest earned if a person invests in Plan B over the 24-month period. (2)

PROPOSED MEMO	
Interest earned for Plan B = $R92\,065,71 - R60\,000,00$ = R32 065,71	

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
X	1: Knowing	X	Accessible	
	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments:				

1.2.4 Determine how much more interest a person will earn investing in Plan B compared to investing in Plan A over the same 24-month period. (2)

PROPOSED MEMO	
Interest earned for Plan A = R74 286,84 – R60 000 (Q1.2.2) = R14 286,84	OR Interest (B) = R92 065,71 – R74 286,84 = R17 778,87
∴ Plan B yields more interest than Plan A = R32 065,71 (Q1.2.3) – R14 286,84 = R17 778,87	

TAXONOMY LEVEL	LANGUAGE	GENERAL COMMENTS
1: Knowing	X Accessible	
X 2: Applying routine procedures in familiar contexts	Unaccessible	
3: Applying multi-step procedures in a variety of contexts	Comments:	
4: Reasoning & reflecting		
Comments:		

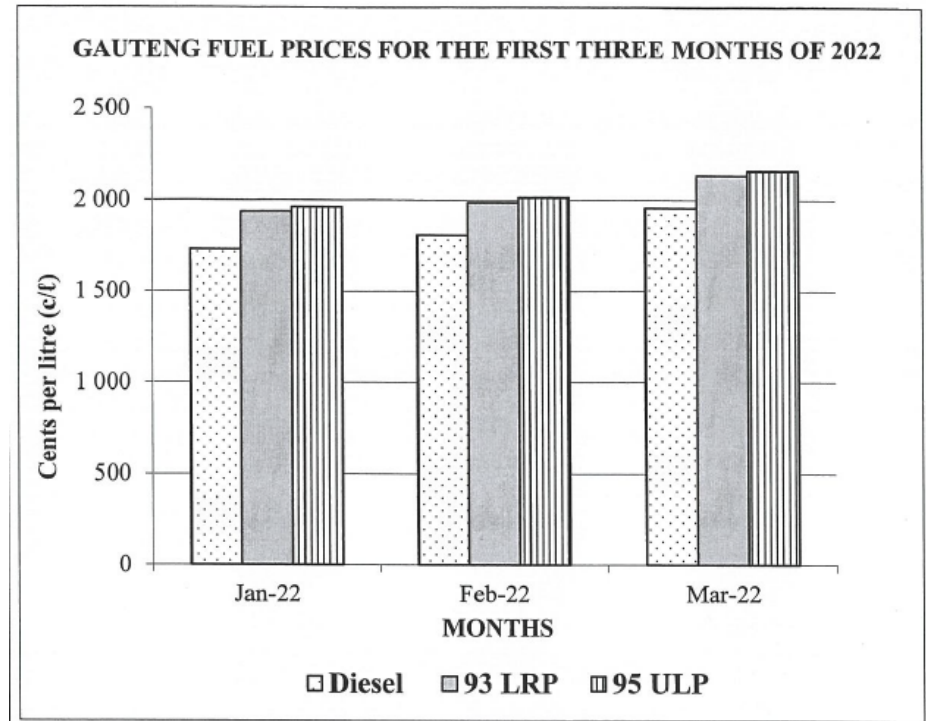


QUESTION 1

Finance & Data Handling (Short, mixed q's)

QUESTION 1.3

The graph shows (in cents/litre) the prices of three types of fuel in Gauteng for the first three months of 2022.



NOTE: 93 LRP = Lead Replacement Petrol 95 ULP = Unleaded Petrol

[Adapted from www.sapia.org.za]

Use the graph above to answer the questions that follow.

CONTEXT		LAYOUT OF DIAGRAMS, TABLES, IMAGES		GENERAL COMMENTS
<input checked="" type="checkbox"/>	Familiar	<input checked="" type="checkbox"/>	Accessible	
	Unfamiliar		Unaccessible	
<input checked="" type="checkbox"/>	Authentic & realistic	Comments:		
	Unauthentic & unrealistic	The key for 'Diesel' could be more visible (very few dots in the key block)		
Comments:				

1.3.1 Name the type of graph drawn above. (2)

PROPOSED MEMO	
Compound/multiple/triple bar graph	

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
X	1: Knowing	X	Accessible	
	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments:				

1.3.2 Identify the type of fuel that cost the most in February 2022. (2)

PROPOSED MEMO	
95 ULP (Unleaded Petrol)	

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
X	1: Knowing	X	Accessible	
	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments:				

1.3.3 The price of diesel in March 2022 was 1 955,28 c/l.

Write this price in rand per litre. Round off your answer to the nearest R0,50. (3)

PROPOSED MEMO
$1\ 955,28\ \text{c} \div 100 = 19,5528$ $= \text{R}19,55$ $\approx \text{R}19,50$ $\therefore \text{R}19,50/\ell$

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
	1: Knowing	X	Accessible	Many candidates will struggle to round off to the nearest R0,50
X	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments: Basic calculation, but requires a conversion and rounding off				



QUESTION 2

Finance

QUESTION 2.1

The information below shows a summary of Bomvana's Vehicle and Household Insurance Policy.



SUMMARY OF CAR AND HOUSEHOLD INSURANCE POLICY

Use the information to answer the questions that follow.

CONTEXT	
	Familiar
X	Unfamiliar
X	Authentic & realistic
	Unauthentic & unrealistic
Comments: Most RSA citizens don't have 4 cars Bias question to rural learners – they would not be able to relate to the insurance context	
LAYOUT OF DIAGRAMS, TABLES, IMAGES	
	Accessible
	Unaccessible
Comments:	
GENERAL COMMENTS	
Insurance is not explicitly defined as a topic in the CAPS curriculum. Yes, it does form part of financial documents, but it might be a bit unfair to have a whole question based on insurance if many learners have no point of reference or exposure to how insurance, premiums and excess work.	
Clarity is needed as to the depth that insurance needs to be taught in the classroom?	

Car & Household Insurance		BiWay .co.za	
Client Number	22506623	Commencement Date	1 September 2013
Policy Number	23388350	Statement Date	30 August 2022
<input checked="" type="checkbox"/> Policyholder		It's all about you!	
Name	BOMVANA	ID number	780801*****
Physical address	2* Patr*** S*r*et; R*s**l,Bl**d*w**	Work number	021***8***
E-mail address	we*****@gmail.com		
Mobile number	083***118*		
Summary of Cover			
Insured Items			Premium
MiPersonal Accident	R25 000		R7,16
MiWheels – Car 1	KIA PICANTO 1.1 LX -2004		R200,41
– Car 2	TOYOTA COROLLA 1.6 -2013		R520,41
– Car 3	FORD IKON 1.6i -2005		R133,16
– Car 4	VW POLO 1.0 TSI -2019		A
MiHome Content	BOMVANA'S RESIDENTIAL ADDRESS		R201,79
MiMovables			R23,30
RoadCover			R9,07
Total Discount	For having the above noted multiple insured items on cover		–R266,15
Total Monthly Premium (including 15% VAT)			R2 184,21
Excess Value:			
<i>The excess is the amount payable by YOU to the service provider whenever you make a claim.</i>			
<i>The values below show the excess amount that you will have to pay in case of a specific claim event.</i>			
• Accident and Intentional Damage			R7 000,00
• Theft and Hijacking			R7 000,00
• Window glass only claim (not glass forming part of roof)			R1 490,00
• Earthquake, Storm, Hail, Flood and Snow			R7 000,00
• Fire and Explosion			R7 000,00

[Adapted from miway.co.za]

2.1.1 Write down the policy number of Bomvana's insurance policy. (2)

PROPOSED MEMO	
Policy number: 23388350	

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
X	1: Knowing	X	Accessible	Some learners may confuse the client number with the policy number.
	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments:				





2.1.2 Determine the missing value A, the monthly premium for the VW Polo. (4)

PROPOSED MEMO
$R7,16 + R200,41 + R520,41 + R133,16 + A + R201,79 + R23,30 + R9,07 - R266,15 = R2\ 184,21$ $R1\ 095,30 + A - R266,15 = R2\ 184,21$ $R829,15 + A = R2\ 184,21$ $A = R2\ 184,21 - R829,15$ $\therefore A = R1\ 355,06$

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
	1: Knowing	X	Accessible	
X	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments:				

2.1.3 Bomvana qualifies for a discount on his insurance premiums as he has insured many items. Calculate the percentage discount that he receives if the total monthly premium before the discount was R2 450,36. (3)

PROPOSED MEMO	
$\% \text{ discount} = \frac{R266,15}{R2\ 450,36} \times 100\%$ $= 10,86\%$	

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
	1: Knowing	X	Accessible	Learners may struggle to remember the % discount formula as it wasn't given.
X	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments:				



2.1.4 Bomvana was involved in a motor vehicle accident during July 2022. The quotation for damages from the panel beaters was R43 520,00.

Determine the amount the insurance company will pay the panel beaters. (2)

PROPOSED MEMO
Amount paid = R43 520,00 – R7 000,00 = R36 520

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
	1: Knowing		Accessible	Since this context is unfamiliar to so many learners, many would not know what the excess is and how to work with it.
X	2: Applying routine procedures in familiar contexts	X	Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments: Wording should read perhaps: ‘Determine how much money the insurance company will pay out for the repairs to the car.’		
	4: Reasoning & reflecting			
Comments:				

2.1.5 Calculate the amount of VAT included in the total monthly premium. (3)

PROPOSED MEMO	
Total monthly premium excl. VAT =	$\frac{R2\ 184,21}{1,15}$
	= R1 899,31
∴ Amount of VAT =	$R2\ 184,21 - R1\ 899,31$
	= R284,90

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
	1: Knowing	X	Accessible	
X	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments:				

**2.1.6 The premium for the Toyota Corolla is much lower than that of the VW Polo.
Give ONE possible reason for this big difference in the premium amount. (2)**

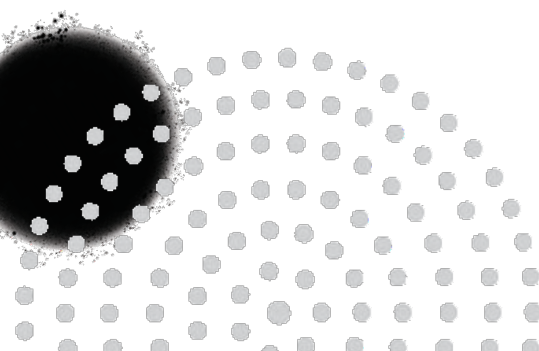
PROPOSED MEMO
<p>The Toyota Corolla is an older car. OR</p> <p>VW Polo is a popular car for young adults, so it is very likely to be involved in an accident. OR</p> <p>Polo TSI is more expensive than Toyota. OR</p> <p>Toyota Corolla is less likely to be stolen. Research has suggested the VW Polo's are targets for theft.</p> <p>(Any reasonable explanation)</p>

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
	1: Knowing	X	Accessible	
	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
X	4: Reasoning & reflecting			
Comments:				

2.1.7 Bomvana pays a MiHome premium for household content cover to the value of R200 000. After the household contents were evaluated for insurance purposes, he bought an additional lounge suite. Explain how the purchase of this new item will affect his MiHome content premium. (2)

PROPOSED MEMO
The value of his household contents has increased with the purchase of the new lounge suite, so his MiHome content premium will increase.

TAXONOMY LEVEL	LANGUAGE	GENERAL COMMENTS
1: Knowing	X Accessible	Do learners actually understand the concept of insurance premiums? Is it in the scope of the curriculum? More clarity is needed as to whether insurance must be taught as a 'common' concept in the classroom.
2: Applying routine procedures in familiar contexts	Unaccessible	
3: Applying multi-step procedures in a variety of contexts	Comments:	
X 4: Reasoning & reflecting		
Comments:		



QUESTION 2


QUESTION 2.2


The sanitation tariffs for Johannesburg and Cape Town are presented in TABLE 3.

Johannesburg uses the area of a property to determine the sanitation bill. Cape Town uses a percentage of the total water usage to determine the sanitation bill (the same way as they calculate the water bill).

TABLE 3 shows the tariffs of Johannesburg (excluding VAT) and Cape Town (including VAT).

TABLE 3: SANITATION TARIFFS FOR JOHANNESBURG AND CAPE TOWN


JOHANNESBURG: SANITATION TARIFFS – DOMESTIC (VAT excl.)			
	●	Up to and including 300 m ²	R228,06
	●	Larger than 300 m ² to 1 000 m ²	R443,96
	●	Larger than 1 000 m ² to 2 000 m ²	R671,63
	●	Larger than 2 000 m ²	R967,71


CAPE TOWN: SANITATION TARIFFS – DOMESTIC (VAT incl.)				
		USAGE	TARIFF	INCREASE FROM PREVIOUS
	●	0 – 4,2 kℓ	R16,03 per kℓ	R0,66 increase per kℓ
	●	4,2 – 7,35 kℓ	R22,02 per kℓ	R0,91 increase per kℓ
	●	7,35 – 24,5 kℓ	R30,92 per kℓ	R1,28 increase per kℓ
	●	24,5 – 35 kℓ	R48,65 per kℓ	R2,01 increase per kℓ

[Adapted from www.pikitup.co.za and www.capetown.gov.za]

NOTE: Sanitation refers to waste water that is drained from a household.

TABLE 3: SANITATION TARIFFS FOR JOHANNESBURG AND CAPE TOWN

JOHANNESBURG: SANITATION TARIFFS – DOMESTIC (VAT excl.)			
	●	Up to and including 300 m ²	R228,06
	●	Larger than 300 m ² to 1 000 m ²	R443,96
	●	Larger than 1 000 m ² to 2 000 m ²	R671,63
	●	Larger than 2 000 m ²	R967,71

CAPE TOWN: SANITATION TARIFFS – DOMESTIC (VAT incl.)				
		USAGE	TARIFF	INCREASE FROM PREVIOUS
	●	0 – 4,2 kℓ	R16,03 per kℓ	R0,66 increase per kℓ
	●	4,2 – 7,35 kℓ	R22,02 per kℓ	R0,91 increase per kℓ
	●	7,35 – 24,5 kℓ	R30,92 per kℓ	R1,28 increase per kℓ
	●	24,5 – 35 kℓ	R48,65 per kℓ	R2,01 increase per kℓ

[Adapted from www.pikitup.co.za and www.capetown.gov.za]

NOTE: Sanitation refers to waste water that is drained from a household.

Use the information above to answer the questions that follow.

CONTEXT		LAYOUT OF DIAGRAMS, TABLES, IMAGES		GENERAL COMMENTS
	Familiar		Accessible	<p>Stepped tariffs are a challenge for many learners – now added additional complications e.g. property size vs range of kℓ usage VAT excl. vs VAT incl. Current vs increased tariffs</p> <p>Learners lost time due to confusion.</p> <p>Too many layers of information and complexity for learners to work through in an exam situation.</p>
X	Unfamiliar	X	Unaccessible	
X	Authentic & realistic	Comments:		
	Unauthentic & unrealistic	The wording information and the tables should be split between Johannesburg and Cape Town.		
Comments: Sanitation vs Water usage would confuse learners (especially since many don't have toilets).		The range of 'Usage' for Cape Town did not clearly show including vs excluding kℓ values.		

2.2.1 Write down, to the nearest ten cents and excluding VAT, the cost for sanitation in Johannesburg if a property is 175 m². (2)

PROPOSED MEMO	
Johannesburg sanitation for 175m ² property = R228,06 excl. VAT ≈ R228,10 excl. VAT	

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
X	1: Knowing		Accessible	Square meter context confused many learners .
	2: Applying routine procedures in familiar contexts	X	Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting	First state the question and then instruct on rounding-off.		
Comments:				



2.2.2 Calculate the cost for 4,1 kℓ sanitation in Cape Town before the increase. (4)

PROPOSED MEMO
Price per kℓ before increase = $R16,03 - R0,66 = R15,37$ Price for 4,1 kℓ = $R15,37 \times 4,1 = R63,02$

TAXONOMY LEVEL	LANGUAGE	GENERAL COMMENTS
1: Knowing	Accessible	<p>Since the table didn't clearly state whether the 'tariff' was current, increased, old or new - learners did not know which values to use.</p> <p>Also, there was confusion as to whether the values given as the tariff were already including the increase?</p> <p>Not many learners will get the full 4 marks.</p>
2: Applying routine procedures in familiar contexts	X Unaccessible	
X 3: Applying multi-step procedures in a variety of contexts	<p>Comments:</p> <p>Wording could perhaps have been:</p> <p>Calculate the tariff cost before the increase</p> <p>Question & table unclear.</p>	
4: Reasoning & reflecting		
Comments:		

2.2.3 Mr Jones lives in Johannesburg and Ms Brown lives in Cape Town. They both own a property with an area of 550 m² and each was billed 22 kℓ sanitation.

Use the table above to determine the difference in the cost of sanitation for the two properties. (8)

PROPOSED MEMO																	
<p><u>Mr Jones – Johannesburg: 550 m²</u></p> <p>Cost in sanitation = R443,96 excl. VAT</p> <p>VAT on cost = 15% × R443,96 = R66,59</p> <p>Total cost incl. VAT = R443,96 + R66,59 = R510,55</p>	<p><u>Ms Brown – Cape Town: 22 kℓ</u></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Usage</th> <th>Tariff</th> <th>Range</th> <th>Cost</th> </tr> </thead> <tbody> <tr> <td>0 – 4,2 kℓ</td> <td>R16,03 / kℓ</td> <td>4,2 – 0 = 4,2 kℓ</td> <td>4,2 kℓ × R16,03 = R67,326</td> </tr> <tr> <td>4,2 – 7,35 kℓ</td> <td>R22,02 / kℓ</td> <td>7,35 – 4,2 = 3,15 kℓ</td> <td>3,15 kℓ × R22,02 = R69,363</td> </tr> <tr> <td>7,35 – 24,5 kℓ</td> <td>R30,92 / kℓ</td> <td>24,5 – 7,35 = 17,15 kℓ</td> <td>(22 – 4,2 – 3,15) kℓ × R30,92 = 14,65 kℓ × R30,92 = R452,978</td> </tr> </tbody> </table> <p>Total cost incl. VAT = R67,326 + R69,363 + R452,978 = R589,667 ≈ R589,67</p>	Usage	Tariff	Range	Cost	0 – 4,2 kℓ	R16,03 / kℓ	4,2 – 0 = 4,2 kℓ	4,2 kℓ × R16,03 = R67,326	4,2 – 7,35 kℓ	R22,02 / kℓ	7,35 – 4,2 = 3,15 kℓ	3,15 kℓ × R22,02 = R69,363	7,35 – 24,5 kℓ	R30,92 / kℓ	24,5 – 7,35 = 17,15 kℓ	(22 – 4,2 – 3,15) kℓ × R30,92 = 14,65 kℓ × R30,92 = R452,978
Usage	Tariff	Range	Cost														
0 – 4,2 kℓ	R16,03 / kℓ	4,2 – 0 = 4,2 kℓ	4,2 kℓ × R16,03 = R67,326														
4,2 – 7,35 kℓ	R22,02 / kℓ	7,35 – 4,2 = 3,15 kℓ	3,15 kℓ × R22,02 = R69,363														
7,35 – 24,5 kℓ	R30,92 / kℓ	24,5 – 7,35 = 17,15 kℓ	(22 – 4,2 – 3,15) kℓ × R30,92 = 14,65 kℓ × R30,92 = R452,978														
<p>∴ Difference in sanitation costs (incl. VAT) = R589,67 – R510,55 = R79,12</p>																	
OR ...																	

OR

Mr Jones – Johannesburg: 550 m²

Cost in sanitation = R443,96 excl. VAT

Ms Brown – Cape Town: 22 kl

Usage	Tariff	Range	Cost
0 – 4,2 kl	R16,03 / kl	4,2 – 0 = 4,2 kl	4,2 kl × R16,03 = R67,326
4,2 – 7,35 kl	R22,02 / kl	7,35 – 4,2 = 3,15 kl	3,15 kl × R22,02 = R69,363
7,35 – 24,5 kl	R30,92 / kl	24,5 – 7,35 = 17,15 kl	(22 – 4,2 – 3,15) kl × R30,92 = 14,65 kl × R30,92 = R452,978

Total cost incl. VAT = R67,326 + R69,363 + R452,978
= R589,667
≈ R589,67

Total cost excl. VAT = $\frac{R589,67}{1,15}$
= R512,76

∴ Difference in sanitation costs (excl. VAT) = R512,76 – R443,96
= R68,80

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
	1: Knowing		Accessible	Learners did not know whether to calculate using the VAT inclusive or VAT exclusive values?
	2: Applying routine procedures in familiar contexts	X	Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
X	4: Reasoning & reflecting	The is not clear as to whether to use the current tariff or the increased tariff.		Marking will be tricky as learners will easily confuse VAT incl. vs VAT excl. values.
Comments:				

2.2.4 Explain how the tariff system used in Johannesburg is beneficial to home owners in terms of water usage. (2)

PROPOSED MEMO
<p>A large range of sizes of properties fit within a category or bracket and are charged a fixed rate, irrespective of the number of kl used for sanitation. This is to the advantage of those who own properties that are close to the top end of each category/bracket.</p> <p>The cost of water is fixed therefore people will have a fixed budget for water sanitation.</p> <p>(Any reasonable explanation)</p>

TAXONOMY LEVEL		LANGUAGE	GENERAL COMMENTS
	1: Knowing	X Accessible	<p>How can you make a clear deduction when there is so much confusion?!</p>
	2: Applying routine procedures in familiar contexts	Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:	
X	4: Reasoning & reflecting		
Comments:			



QUESTION 3

QUESTION 3.1

TABLE 4 below shows the number of people per province working in TWO workplaces, namely Usual Workplace (UWP) and Work From Home (WFH) for the last quarter of 2020 and the first quarter of 2021.

TABLE 4: PEOPLE PER WORKPLACE BY PROVINCE

PROVINCES	LAST QUARTER 2020 (IN TEN THOUSANDS)			FIRST QUARTER 2021 (IN TEN THOUSANDS)		
	UWP	WFH	Total	UWP	WFH	Total
Western Cape	147,7	21,7	169,3	150,8	18,4	169,2
Eastern Cape	72,3	7,2	79,6	84,9	5,6	90,5
Northern Cape	24,2	0,5	24,7	23	0,5	23,5
Free State	56,9	3,2	60,1	53,4	2,9	56,3
KwaZulu-Natal	199,9	9,4	209,3	193,1	9,5	202,6
North West	46,4	2,4	48,8	51,3	3,1	54,4
Gauteng	342,4	36,6	379	365,9	33,1	399,0
Mpumalanga	93,8	5,8	99,6	98	5,7	103,7
Limpopo	91,4	6,3	97,7	95,6	4,7	100,3
TOTAL	1 075	---	1 168,1	1 116	83,5	1 199,5

[Adapted from www.statssa.gov.za]

Use TABLE 4 above to answer the questions that follow.

CONTEXT		LAYOUT OF DIAGRAMS, TABLES, IMAGES		GENERAL COMMENTS
	Familiar	X	Accessible	<p>General error in the table – but doesn't affect the questions:</p> <p>WC 2020 = 147,7 + 21,7 = 169,4 (Question paper says = 169,3)</p> <p>EC 202 = 72,3 + 7,2 = 79,5 (Question paper says = 79,6)</p>
X	Unfamiliar		Unaccessible	
X	Authentic & realistic	Comments:		
	Unauthentic & unrealistic			
Comments:				

3.1.1 Show how the total value of 83,5 for South Africa was calculated. (2)

PROPOSED MEMO
WFH total = $18,4 + 5,6 + 0,5 + 2,9 + 9,5 + 3,1 + 33,1 + 5,7 + 4,7$ = 83,5

TAXONOMY LEVEL	LANGUAGE	GENERAL COMMENTS
X 1: Knowing	Accessible	
2: Applying routine procedures in familiar contexts	X Unaccessible	
3: Applying multi-step procedures in a variety of contexts	Comments: Question should be clearer i.e. Show how the total value of 83,5 for <u>WFH in First Quarter 2021</u> was calculated. Wording 'for South Africa' confusing, as there was no RSA in table.	
4: Reasoning & reflecting		
Comments: Many reviewers felt it was a straight-forward, Level 1 taxonomy question, as the values were given in the table and the final answer as to what the total was. However, in the CAPs document, using the words 'Show how' indicates Level 4 taxonomy. So perhaps the wording used indicated more complexity that it actually was?		

3.1.2 Give ONE reason why the values in the table will differ from the actual workplace values. (2)

PROPOSED MEMO
<p>It is possible that some people had a “blended” working situation, working from home some days of the week and at the office other days.</p> <p>People could be hired and fired after these values were collected.</p> <p>Covid restrictions</p> <p>Some people may work by moving from one place to another (mobile)</p> <p>Values in the table were given 'in ten thousands' – so there might be rounding off of the actual values</p> <p>(Any reasonable explanation)</p>

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
	1: Knowing	X	Accessible	
	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
X	4: Reasoning & reflecting			
Comments:				

3.1.3 Write down the number of people who worked at their usual workplaces (UWP) in Gauteng during the first quarter of 2021. (2)

PROPOSED MEMO	
Gauteng – UWP – First Quarter 2021 = 365,9 (in ten thousands) = $365,9 \times 10\,000$ = 3 659 000	

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
	1: Knowing	X	Accessible	Since the question asks for 'the number of people', one must convert 'in ten thousands' Learners expected to convert Mark allocation = 3 marks?
X	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments:				



3.1.4 Give ONE example of a job that cannot be done working from home. (2)

PROPOSED MEMO
Farm worker Factory worker / manufacturing workers Teacher Doctor / nurses / medical staff / emergency staff / health worker Police force / defence force / firefighters Drivers Bank officials Engineering (Any reasonable answer)

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
	1: Knowing	X	Accessible	
	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
X	4: Reasoning & reflecting			
Comments:				

3.1.5 Calculate the mean number of people in the WFH category for South Africa in the last quarter of 2020. (4)

PROPOSED MEMO	
$\begin{aligned} \text{Mean - WFH - Last quarter 2020} &= \frac{(21,7 + 7,2 + 0,5 + 3,2 + 9,4 + 2,4 + 36,6 + 5,8 + 6,3)}{9} \\ &= \frac{93,10}{9} \\ &= 10,34444444 \text{ (in ten thousands)} \end{aligned}$ <p>∴ Mean number of people = $10,34444444 \times 10\,000$ = 103 444,444 ≈ 103 444</p>	<p style="text-align: center;">OR</p> $\begin{aligned} \text{Mean - WFH - Last quarter 2020} &= \frac{1\,168,10 - 1\,075}{9} \\ &= \frac{93,10}{9} \\ &= 10,34 \end{aligned}$ <p>∴ Mean number of people = $10,34444444 \times 10\,000$ = 103 444,444 ≈ 103 444</p>

TAXONOMY LEVEL	LANGUAGE	GENERAL COMMENTS
1: Knowing	X Accessible	<p>Since the question asks for ‘the number of people’, one must convert ‘in ten thousands’</p> <p>Discrete data – so must round off to the nearest whole number</p>
2: Applying routine procedures in familiar contexts	Unaccessible	
X 3: Applying multi-step procedures in a variety of contexts	Comments:	
4: Reasoning & reflecting		
Comments:		

QUESTION 3

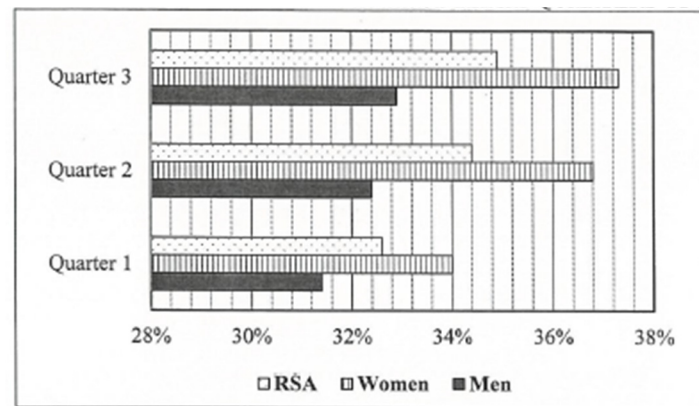
QUESTION 3.2

South Africa's unemployment rate increased from 34,4% in Quarter 2 to 34,9% in Quarter 3 of 2021.

The number of unemployed people in Quarter 2 was 7,6 million, which is 183 000 less than in Quarter 3.

The graph below indicates the unemployment rate for the different genders and the total for South Africa for the first three quarters of 2021.

UNEMPLOYMENT RATE FOR THE FIRST THREE QUARTERS OF 2021



[Adapted from Statistics South Africa]

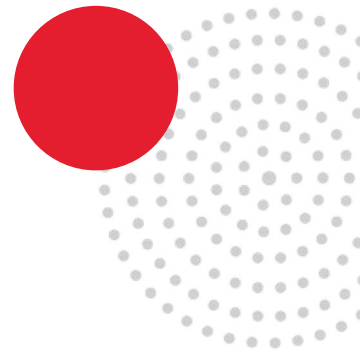
Use the information above to answer the questions that follow.

CONTEXT		LAYOUT OF DIAGRAMS, TABLES, IMAGES		GENERAL COMMENTS
X	Familiar	X	Accessible	
	Unfamiliar		Unaccessible	
X	Authentic & realistic	Comments:		
	Unauthentic & unrealistic	The key for 'RSA' could be more visible (very few dots in the block).		
Comments:				

3.2.1 Write down the quarter which showed the highest rate of unemployed men. (2)

PROPOSED MEMO	
Highest rate of unemployed men = Quarter 3	

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
X	1: Knowing	X	Accessible	Learners may write the % and not the quarter.
	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments:				



3.2.2 Calculate the number of unemployed people in Quarter 3. (3)

PROPOSED MEMO	
Unemployed people in Quarter 3 = 7,6 million + 183 000 = 7 600 000 + 183 000 = 7 783 000	

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
	1: Knowing	X	Accessible	
	2: Applying routine procedures in familiar contexts		Unaccessible	
X	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments:				



3.2.3 Determine the increase in percentage of unemployed women from Quarter 1 to Quarter 3 in 2021. (3)

PROPOSED MEMO		
Increase in % unemployed women Q1 to Q3 $\approx 37,6\% - 34\%$ $\approx 3,6\%$	OR	Increase $\approx 37,3\% - 34\%$ $\approx 3,3\%$

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
	1: Knowing		Accessible	Women's % Q3 should align with dotted lines for more accurate reading.
	2: Applying routine procedures in familiar contexts	X	Unaccessible	
X	3: Applying multi-step procedures in a variety of contexts	Comments: Second language speakers may easily confuse this wording to mean % increase, instead of calculating the difference between the percentages.		Range of answers will need to be awarded.
	4: Reasoning & reflecting			
Comments:				

3.2.4 The unemployment rate for Quarter 2 was 34,4%.

Determine the number of people employed in South Africa during Quarter 2. (4)

PROPOSED MEMO	
Unemployment rate (%) : Unemployed people (million) $34,4 : 7,6$ $\frac{34,4}{34,4} : \frac{7,6}{34,4}$ $1 : 0,2209302326$ Employment rate (%) = 100% - 34,4% = 65,6% \therefore Number of employed people (million) = $65,6 \times 0,2209302326$ = 14,49302326 $\approx 14,49$ million	OR % : People $34,4\% : 7\ 600\ 000$ $65,6\% : ?$ Number of employed people = $\frac{65,6}{34,4} \times 100$ = 14 993 023,26 $\approx 14\ 493\ 023$

TAXONOMY LEVEL	LANGUAGE	GENERAL COMMENTS
1: Knowing	X Accessible	This is a 'heavy' question for only 4 marks - so mark allocation should be higher. Added complexity due to working in millions of people - so discrete data needs to be considered too. Also a repetitive type of question in terms of working with discrete data. Will learners be penalized twice if they ignore that fact?
2: Applying routine procedures in familiar contexts	Unaccessible	
X 3: Applying multi-step procedures in a variety of contexts	Comments: Wording given requires a lot of thought.	
X 4: Reasoning & reflecting		
Comments: Complex, multi-step question – Level 3 Reasoning and no scaffolding – Level 4 Perhaps the scope or breadth of the Level 4 Taxonomy Level should be widened to encompass higher cognitive level type questions (as above), that are not necessarily reasoning and reflecting, but those that require a fair amount of cognitive demand considering there is no scaffolding?		

QUESTION 4

Finance & Data Handling (Integrated q's)

QUESTION 4.1

Mr Louw, aged 53, earned an annual taxable income of R495 602 for the year ending 28 February 2022. He does not contribute to any medical aid.

Use the above information to answer the questions that follow.

CONTEXT		LAYOUT OF DIAGRAMS, TABLES, IMAGES		GENERAL COMMENTS
X	Familiar		Accessible	
X	Unfamiliar	X	Unaccessible	
X	Authentic & realistic	Comments: Rebate wording should not be under the table – misleading. Clarify if rebate is included in table values. In the table, the 'monthly income' wording should be changed to 'monthly taxable income'.		
	Unauthentic & unrealistic			
Comments: Tax is familiar, but presented in a very unfamiliar way				

4.1.1 The following formula can be used to calculate annual tax payable before the rebate:

Annual Tax Payable before the rebate

$$= R115\ 762 + [36\% \times (\text{annual taxable income} - 488\ 700)]$$

Use this formula to calculate Mr Louw's annual tax payable before the rebate. (3)

PROPOSED MEMO	
Annual tax payable before the rebate	= R115 762 + [36% × (annual taxable income – 488 700)] = R115 762 + [36% × (495 602 – 488 700)] = R115 762 + [36% × 6 902] = R115 762 + R2 484,72 = R118 246,72

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
	1: Knowing	X	Accessible	Candidates are used to be given the tax table
X	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments:				

4.1.2 Mr Louw feels that the monthly tax table is an easier option for him to calculate his monthly tax payable.

TABLE 5 below shows the monthly deductions for three income categories for the year ending 28 February 2022.

TABLE 5: MONTHLY DEDUCTION TAX TABLE FOR THREE INCOME CATEGORIES FOR THE YEAR ENDING 28 FEBRUARY 2022

Monthly income	Tax payable per age group		
	Under 65	65 – 74	Over 75
R41 241 – R41 291	R8 473	R7 723	R7 473
R41 291 – R41 342	R8 491	R7 741	R7 491
R41 342 – R41 393	R8 510	R7 760	R7 510

The monthly rebate for a person younger than 65 years old is R1 368,75.

Verify, showing ALL calculations, whether his monthly tax will be correct according to the monthly deduction table. (6)

PROPOSED MEMO	
<u>Annual Tax Formula</u>	<u>Monthly Tax Deduction Table</u>
Monthly tax payable before rebate = R118 246,72 (Q4.1.1) ÷ 12 = R9 853,89	Monthly taxable income = R495 602 ÷ 12 = R41 300,17
Monthly tax payable AFTER rebate = R9 853,89 – R1 368,75 = R8 485,14	Monthly Deduction Tax Table bracket: R41 292 – R41 342 Monthly tax for Under 65 years = R8 491
∴ Monthly tax will NOT be correct according to the monthly deduction tax table. OR ...	

<p><u>Annual Tax</u></p> <p>Annual Rebate = $12 \times R1\ 368,75$ = R16 455</p> <p>Annual Tax Payable = $R118\ 246,72 - R16\ 425$ = R101 821,72</p> <p>∴ No, the monthly tax payable will be incorrect</p>	<p><u>Monthly Tax</u></p> <p>Monthly Tax Payable = $R101\ 821,72 \div 12$ = R8 485,14</p> <p>Monthly Taxable Income = $R495\ 602 \div 12$ R41 300,17 falls into (R41 292 – R41 342)</p> <p>∴ Monthly Tax Payable = R8 491</p> <p>OR</p>
<p><u>Monthly Tax</u></p> <p>Monthly Income Before Rebate = $R495\ 602 \div 12$ = R41 300,17</p> <p>Monthly Tax Before Rebate = $R8\ 491 + R1\ 368,75$ = R9 859,75</p>	<p>From 4.1.1 Monthly Tax Before Rebate = $R118\ 246,72 \div 12$ = R9 853,89</p> <p>∴ His monthly tax using the deduction table is incorrect.</p>

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
	1: Knowing		Accessible	<p>Tax already difficult – then add another level of complexity.</p> <p>So many variations to compare will make marking very tricky.</p>
	2: Applying routine procedures in familiar contexts	X	Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	<p>Comments:</p> <p>Tax question was asked in an unusual way.</p> <p>Learners not sure if they must work with monthly or annual tax.</p> <p>The question refers to taxable income, but the table doesn't indicate that the monthly income given is actually 'monthly taxable income'.</p>		
X	4: Reasoning & reflecting			
Comments:				

4.1.3 Write down the probability of selecting a monthly tax amount of R8 473 for a person over 75 years from this monthly tax table. (2)

PROPOSED MEMO	
Probability of monthly tax = R8 473 for over 75 years = 0% OR Impossible	

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
X	1: Knowing	X	Accessible	
	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments:				

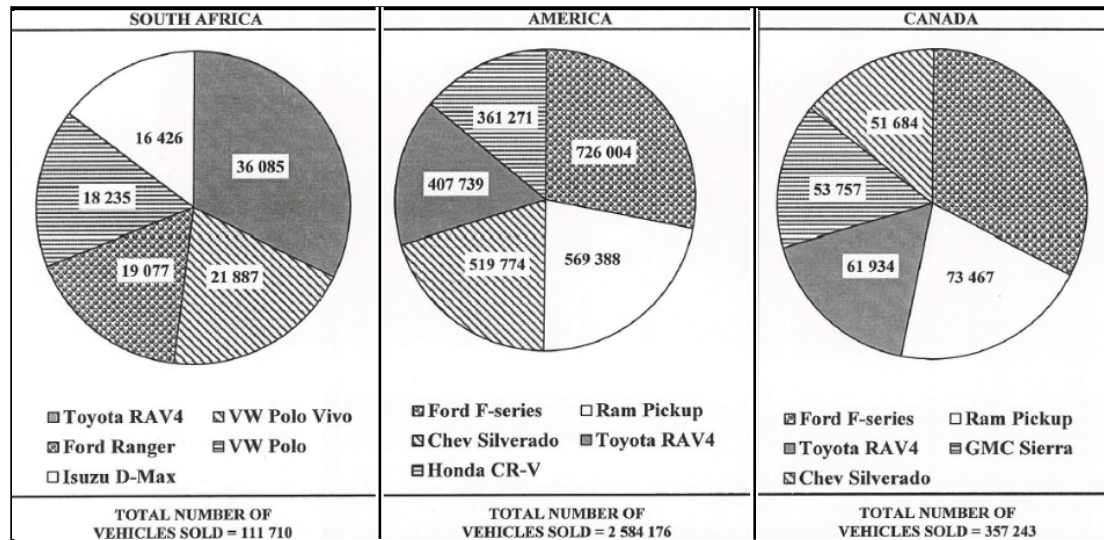
QUESTION 4

Finance & Data Handling (Integrated q's)

QUESTION 4.2

The pie charts below compare the five best-selling vehicles in South Africa, America and Canada for 2021.

COMPARISON OF THE FIVE BEST-SELLING VEHICLES IN SOUTH AFRICA, AMERICA AND CANADA FOR 2021



[Adapted from www.driving.ca, www.forbes.com and www.businesslive.co.za]

Use the information above to answer the questions that follow.

CONTEXT		LAYOUT OF DIAGRAMS, TABLES, IMAGES		GENERAL COMMENTS
	Familiar	X	Accessible	
X	Unfamiliar		Unaccessible	
X	Authentic & realistic	Comments: The key should only use stripes for one segment		
	Unauthentic & unrealistic			
Comments:				



4.2.1 Write down, in words, the total number of vehicles sold in America. (2)

PROPOSED MEMO	
Vehicles sold in America = 2 584 176	
∴ Two million, five hundred and eight-four thousand, one hundred and seventy-six	

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
X	1: Knowing	X	Accessible	
	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments:				

4.2.2 Express as a ratio in the form ___ : ___ : ___ , the number of Toyota RAV4s sold in America, Canada and South Africa respectively. (2)

PROPOSED MEMO	
<u>Toyota Rav4's</u> America : Canada : South Africa 407 739 : 61 934 : 36 085	Simplified $\frac{40\ 739}{36\ 085} : \frac{61\ 934}{36\ 085} : \frac{36\ 085}{36\ 085}$ $= 11,3 : 1,72 : 1$

TAXONOMY LEVEL		LANGUAGE	GENERAL COMMENTS
X	1: Knowing	Accessible	Mark allocation incorrect as learners need to read 3 things from the graph – so it should have been 3 marks (and not 2). Learners are taught to simplify ratios, so many would have tried and lost a lot of time.
	2: Applying routine procedures in familiar contexts	X Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments: The question should have indicated that there is no need to simplify e.g. 'express as a ratio in unsimplified form ...'	
	4: Reasoning & reflecting		
Comments:			

4.2.3 Write down the median number of the best-selling vehicles in South Africa. (2)

PROPOSED MEMO
<p><u>South Africa</u> 16 426; 18 235; 19 077; 21 887; 36 085 ∴ Median = 19 077</p>

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
X	1: Knowing	X	Accessible	
	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments:				

4.2.4 Determine the number of Ford F-series vehicles sold in Canada. (3)

PROPOSED MEMO
Ford F-series in Canada = $357\,243 - (51\,684 + 53\,757 + 61\,934 + 73\,467)$ = $357\,243 - 240\,842$ = 116 401

TAXONOMY LEVEL	LANGUAGE	GENERAL COMMENTS
1: Knowing	X Accessible	
X 2: Applying routine procedures in familiar contexts	Unaccessible	
3: Applying multi-step procedures in a variety of contexts	Comments:	
4: Reasoning & reflecting		
Comments:		

4.2.5 The interquartile range for the top 10 vehicles sold in South Africa is 7 669 and the value of Quartile 1 is 11 408.

Calculate the value of Quartile 3. (4)

PROPOSED MEMO
$\text{IQR} = \mathbf{Q3} - \mathbf{Q1}$ $7\ 669 = \mathbf{Q3} - 11\ 408$ $7\ 669 + 11\ 408 = \mathbf{Q3}$ $\therefore \mathbf{Q3} = 19\ 077$

TAXONOMY LEVEL	LANGUAGE	GENERAL COMMENTS
1: Knowing	X Accessible	Making Upper Quartile the subject will be a challenge for candidates
2: Applying routine procedures in familiar contexts	Unaccessible	
X 3: Applying multi-step procedures in a variety of contexts	Comments:	
4: Reasoning & reflecting		
Comments: Students need to know the formula, substitute, then perform opposite operations		

4.2.6 The inflation rate in America for 2021 was 7% and in 2020 it was 1,4%. The price of a Ford F-series vehicle in 2022 is \$32 332.

It is stated that the price of the Ford F-series vehicle in 2019 was more than \$29 800.

Verify, showing ALL calculations, whether this statement is valid. (6)

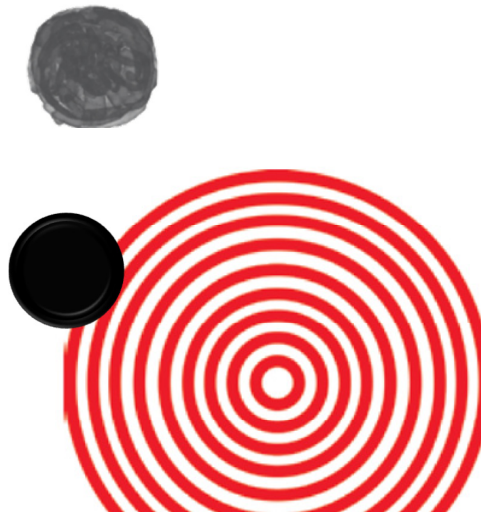
PROPOSED MEMO			
	2019	2020	2021
	Price > \$29 800	Inflation rate = 1,4%	Inflation rate = 7%
			2022
			Price = \$32 332
Price in 2021 = $\frac{\$32\,332}{1,07}$ = \$30 216,82243		Price in 2020 = $\frac{\$30\,216,82243}{1,014}$ = \$29 799,62764	
∴ The statement is NOT valid as the Price in 2020 was NOT more than \$29 800 OR			
Yr ₁ = 29 800 + (29 800 × 0,014) = 29 800 + 417,2 = \$30 217, 20		Yr ₂ = 30 217,20 + (30 217,20 × 0,07) = 30 217,20 + 2 115,20 = \$32 332,40	
This is slightly more than \$32 332. ∴ The statement is invalid.			

TAXONOMY LEVEL	LANGUAGE	GENERAL COMMENTS
1: Knowing	Accessible	Aimed at top candidates as learners need to work backwards and learners had to make a lot of sense of the question.
2: Applying routine procedures in familiar contexts	X Unaccessible	
3: Applying multi-step procedures in a variety of contexts	Comments:	
X 4: Reasoning & reflecting	The question could be clearer for the 2nd language learners, by giving the background information and then making the statement question more evident.	
Comments: Complicated for learners to work with multiple inflation rates over 2 years.	Wording should indicate whether the calculations should validate the year or the price?	

4.2.7 Determine, as a percentage, the probability of purchasing a Ram Pickup in America. (3)

PROPOSED MEMO	
$\text{Probability (Ram Pickup in America)} = \frac{569\,388}{2\,584\,176} \times 100\%$ $= 22,03\%$	

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
	1: Knowing	X	Accessible	
X	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments:				



QUESTION 5

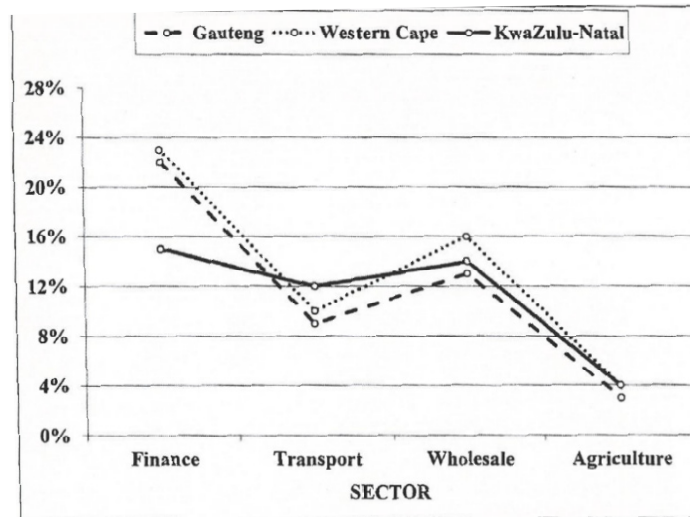
Finance & Data Handling (Integrated q's)

QUESTION 5.1

During the 2008 – 2012 period, South Africa recorded an average growth rate of just over 2%, largely due to the global economic recession.

Gauteng, KwaZulu-Natal and the Western Cape collectively contributed a significant portion of the country's growth. The graph below shows the contributions of these three provinces towards the different sectors.

CONTRIBUTIONS OF THREE PROVINCES TO THE COUNTRY'S GROWTH



[Adapted from www.statssa.gov.za]

NOTE: A global economic recession leads to a drop in a country's economy.

Use the above information to answer the questions that follow.

CONTEXT		LAYOUT OF DIAGRAMS, TABLES, IMAGES		GENERAL COMMENTS
X	Familiar		Accessible	<p>The chart gives the impression that there is a trend being studied instead of comparing province performance per sector.</p> <p>The line graph is not the most appropriate chart to compare different provinces per category, the multiple bar graphs should have been used instead.</p>
	Unfamiliar	X	Unaccessible	
X	Authentic & realistic	Comments:		
	Unauthentic & unrealistic	The key for Gauteng could be clearer.		
Comments:		Need to have finer grid lines in order to more accurately read off the values.		

5.1.1 Write down the province that contributed the most to the wholesale sector. (2)

PROPOSED MEMO	
Western Cape	

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
X	1: Knowing	X	Accessible	
	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments:				

**5.1.2 The total amount contributed by the three provinces to agriculture was R8,3 billion.
Determine which part of this amount Western Cape contributed. (4)**

PROPOSED MEMO	
$3 : 4 : 4$ $3 + 4 + 4 = 11$ Western Cape = $\frac{4}{11} \times R8\ 300\ 000\ 000$ = R3 018 181 818	Majority of learners would have written: Western Cape contribution = $4\% \times R8,3\ \text{billion}$ = R0,332 billion

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
	1: Knowing		Accessible	The application of ratio to solve this problem is not clear If a ratio question off a graph – then is it authentic? How will this be marked? Is this representative as to how we teach graphs - i.e. it is a summary of data given for readers to quickly ascertain knowledge - now we are asking readers to calculate off a graph? Most reviewers thought this was a very unfair question.
X	2: Applying routine procedures in familiar contexts	X	Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments: Wording is unclear ... ‘which part of this amount’ – are they asking for the % or Rand value?		
X	4: Reasoning & reflecting	Instructions regarding the form of the answer should have been given, to avoid confusion as to whether the word billion was permissible in the answer.		
Comments: Reading off the graph and working with % - Level 2 Ratio off a graph & then converting billions – Level 4				

5.1.3 Identify the sector in which KwaZulu-Natal made a 12% contribution. (2)

PROPOSED MEMO	
Transport sector	

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
X	1: Knowing	X	Accessible	
	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments:				

5.1.4 Name the sector that has the largest range. (2)

PROPOSED MEMO			
Finance sector OR			
Finance = 23 – 15 = 8%	Transport = 12 – 9 = 3%	Wholesale = 16 – 13 = 3%	Agriculture = 4 – 3 = 1%
∴ Finance has the largest range.			

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
X	1: Knowing	X	Accessible	
	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments: Level depends on whether the student did some working out, or just read off the graph.				

5.1.5 Name ONE province that made the most significant contribution towards the growth of most of the sectors. (2)

PROPOSED MEMO	
Western Cape	

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
X	1: Knowing	X	Accessible	
	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments:				

QUESTION 5

Finance & Data Handling (Integrated q's)

QUESTION 5.2

Ryan is a South African citizen who owns a company in South Africa and wants to buy shares in a company in Canada.

TABLE 6 shows the exchange rate for five countries on 17 March 2022.

TABLE 6: EXCHANGE RATE FOR FIVE COUNTRIES ON 17 MARCH 2022

CURRENCY	UNITS PER ZAR	ZAR PER UNIT
Euro	0,060673	16,480
British pound	0,050862	19,662
Japanese yen	7,9596	0,12565
Canadian dollar	0,084845	11,785
Russian rouble	6,97481	0,143373

[Adapted from www.xe.com/currencyconverter]

NOTE: a share is a unit of ownership of a company.

Use TABLE 6 to answer the questions that follow.

CONTEXT		LAYOUT OF DIAGRAMS, TABLES, IMAGES		GENERAL COMMENTS
	Familiar	X	Accessible	Not a common type of question for Exchange Rates
X	Unfamiliar		Unaccessible	
X	Authentic & realistic	Comments:		
	Unauthentic & unrealistic			
Comments:				

5.2.1 Identify the currency which is the weakest against the rand. (2)

PROPOSED MEMO
Japanese Yen

TAXONOMY LEVEL	LANGUAGE	GENERAL COMMENTS
1: Knowing	X Accessible	<p>'Units per ZAR' and 'ZAR per unit' are unusual ways of representing exchange rate currencies – many learners may struggled with the format.</p> <p>Learners used to exchange rates being given as ratios, so they battled with the table.</p>
2: Applying routine procedures in familiar contexts	Unaccessible	
3: Applying multi-step procedures in a variety of contexts	Comments:	
X 4: Reasoning & reflecting		
Comments:		



5.2.2 Show how the Russian rouble of 0,143373 ZAR per unit was determined. (2)

PROPOSED MEMO	
$\text{ZAR per unit} = \frac{1 \text{ ZAR}}{6,97481 \text{ Russian rouble}}$ $= 0,143373$	

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
	1: Knowing	X	Accessible	
X	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments:				

5.2.3 Ryan decides to invest R1 230 000 in shares in a Canadian company.

Convert R1 230 000 into Canadian dollar (CAD).

PROPOSED MEMO	
Canadian dollars = $\frac{R1\ 230\ 000}{11,785\ \text{CAD}}$ = 104 369,96 CAD	OR Canadian dollars (CAD) = $R1\ 230\ 000 \times 0,084845$ = R104 359,35

TAXONOMY LEVEL		LANGUAGE		GENERAL COMMENTS
	1: Knowing	X	Accessible	Rounding-off discrepancy depending on which way you are converting, i.e. 104 369,96 vs 104 359,35 is a big difference in answers.
X	2: Applying routine procedures in familiar contexts		Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:		
	4: Reasoning & reflecting			
Comments:				

5.2.4 Give ONE reason why you would motivate Ryan to invest in a Canadian company. (2)

PROPOSED MEMO
<p>The return on his investment would be profitable.</p> <p>Canada is a well-developed country, with a good infrastructure and strong economy.</p> <p>The Canadian economy is stable</p> <p>Ryan may benefit from buying shares at low price and selling them for a higher price later.</p>

TAXONOMY LEVEL	LANGUAGE	GENERAL COMMENTS
1: Knowing	X Accessible	<p>Strange question as the exchange rate doesn't initially point to investment, since the ZAR is quite weak against the CAD.</p>
2: Applying routine procedures in familiar contexts	Unaccessible	
3: Applying multi-step procedures in a variety of contexts	Comments:	
X 4: Reasoning & reflecting		
Comments:		

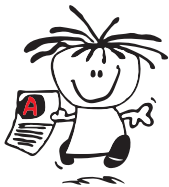
5.2.5 After 2 years and 8 months, Ryan sold his shares and received a final amount of R1 529 360. In South Africa Ryan would have received an interest rate of 8,1%, compounded annually, for 2 years and 8 months. Ryan stated that he earned more than R14 000 return on his foreign investment compared to a potential South African investment. Verify, showing ALL calculations, whether Ryan's statement is valid. (8)

PROPOSED MEMO		
<p><u>Foreign investment</u> Original investment = R1 230 000 Matured investment = R1 529 360 after 2 years and 8 months</p> <p><u>Local investment</u> Interest after year 1 = $8,1\% \times R1\ 230\ 000$ = R99 630 Total after year 1 = R1 230 000 + R99 630 = R1 329 630 Interest after year 2 = $8,1\% \times R1\ 329\ 630$ = R107 700,03 Total after year 2 = R1 329 630 + R107 700,03 = R1 437 330,03 Interest after 8 months = $\frac{8}{12} \times 8,1\% \times R1\ 437\ 330,03$ = R77 615,82 Total after 2 years and 8 months = R1 437 330,03 + R77 615,82 = R1 514 945,85 Difference in totals between foreign and local investment = R1 529 360 – R1 514 945,85 = R14 414,15 ∴ Ryan did earn more than R14 000 on his foreign investment</p>	<p>OR</p>	<p><u>Foreign investment</u> Original investment = R1 230 000 Matured investment = R1 529 360 after 2 years and 8 months ∴ Interest earned = R1 529 360 – R1 230 000 = R299 360</p> <p><u>Local investment</u> Interest after year 1 = $8,1\% \times R1\ 230\ 000$ = R99 630 Total after year 1 = R1 230 000 + R99 630 = R1 329 630 Interest after year 2 = $8,1\% \times R1\ 329\ 630$ = R107 700,03 Total after year 2 = R1 329 630 + R107 700,03 = R1 437 330,03 Interest after 8 months = $\frac{8}{12} \times 8,1\% \times R1\ 437\ 330,03$ = R77 615,82 Total interest = R99 630 + R107 700,03 + R77 615,82 = R284 945,85 Difference in interest between foreign and local investment = R299 360 – R284 945,85 = R14 414,15 ∴ Ryan did earn more than R14 000 on his foreign investment</p>

TAXONOMY LEVEL		LANGUAGE	GENERAL COMMENTS
	1: Knowing	X Accessible	<p>Difficult for average learners to answer a question like this at the end. It needs time to read and think.</p> <p>Mark allocation scares learners – break it down.</p> <p>There will be a difference in answers for Q5.2.5 between the English vs Afrikaans question paper.</p> <p>Learners need more exposure to complex interest questions involving months (that might not necessarily convert to easy fractions).</p> <p>Perhaps clarification is needed in the CAPS document as to the level of complexity that is allowed for interest?</p>
	2: Applying routine procedures in familiar contexts	Unaccessible	
	3: Applying multi-step procedures in a variety of contexts	Comments:	
X	4: Reasoning & reflecting	<p>Wording ambiguous ... ‘Ryan earned more than R14 000 on foreign investment ...’</p> <p>Perhaps it could have read:</p> <p>‘Show how this difference of more than R14 000 is found between investing in Canada and South Africa.’</p>	
Comments:			

THANK YOU

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