education

Department:
Education
PROVINCE OF KWAZULU-NATAL

NATIONAL SENIOR CERTIFICATE

GRADE 12

MATHEMATICAL LITERACY P2

PREPARATORY EXAMINATION

SEPTEMBER 2020

MARKS: 150

TIME: 3 hours

This question paper consists of 10 pages and an Addendum with 3 Annexures.

Copyright Reserved

INSTRUCTIONS AND INFORMATION

1. This question paper consists of FOUR questions. Answer ALL the questions.

2 Use the ANNEXURES in the ADDENDUM to answer the following questions.

- ANNEXURE A for QUESTION 1.1
- ANNEXURE B for QUESTION 1.3
- ANNEXURE C for QUESTION 4.1 and 4.2

3. Number the answers correctly according to the numbering system used in this question paper.

4. Start EACH question on a NEW page.

5. You my use an approved calculator (non-programmable and non-graphical), unless stated otherwise.

6. Show ALL calculations clearly.

7. Round off ALL final answers appropriately according to the given context, unless stated otherwise.

8. Indicate units of measurement, where applicable.

9. Diagrams are NOT necessarily drawn to scale, unless state otherwise.

10. Write neatly and legibly.

Copyright Reserved

QUESTION 1

1.1

Sbu is a 56-year-old minibus taxi owner who lives in Johannesburg. He earns a basic salary of R42 750 per month and contributes 7,5% of his basic salary to a pension fund. He is married to Amahle and he pays for both their medical aid. ANNEXURE A shows the individual tax rates for 2019/2020.

Use information above and ANNEXURE A to answer the following questions.

1.1.1 Determine Sbu's monthly taxable income. (4)

1.1.2 Calculate his annual tax payable. (8)

1.2

In South Africa a Big Mac meal costs R60,00. TABLE 2 below shows the cost of a Big Mac meal in London and in New York.

TABLE 2: COST OF BIG MAC MEAL OVERSEAS

Country	Big Mac Meal
London/UK	£5,93 R110,19
New York/USA	$10,00 R141,57

[Adapted source: www.busstech.co.za

Use the information in TABLE 2 above to answer the following questions.

1.2.1 (a) Calculate the Rand/Dollar and Rand/Pound exchange rates. (3)

(b) Hence, calculate how much more it cost to purchase one unit of the stronger currency. (2)

1.2.2 Sbu's cousin, Xolani, earns a basic salary of £2 450 per month in London. Use Sbu's basic salary from Question 1.1 to determine who has more buying power between Sbu and Xolani, when buying a Big Mac Meal in their respective countries.

N.B: Definition of buying power - cost of things in a country in relation to what a person earns in the same country. (5)

Copyright Reserved

1.3

Xolani went to Nambia on holiday and used the map of Namibia that is given in ANNEXURE B.

Use ANNEXURE B to answer the following questions.

1.3.1 Determine the general direction of Kalahari Desert from Vloosdrift. (2)

1.3.2 Use the distant chart to determine the distance between Swartkopmund and Walvis Bay. (2)

1.3.3 Consider the actual distance from Keetmanskoop to Windhoek. Measure the distance between the two places on the map. Hence calculate the number scale used to draw the map. (6)

1.3.4 Determine the actual distance from Gobabis to Grootfontain on the map. (3)

1.3.5 Xolani leaves Gobabis at 7:45and travels at an average speed of 90 km/hour. He states that he will arrive in Grootfontein at 12 noon, if he travels at the same speed.

Verify, using calculations if his timing is CORRECT.

You may use the formula:

$$\textbf{Time} = \frac{distance}{speed}$$ (6)

1.3.6 Calculate the cost of petrol to travel from Gobabis to Grootfontein, if the petrol consumption is 8 litres per 100 km and petrol cost R16,45 per litre. (4)

[45]

Copyright Reserved

QUESTION 2

2.1

Sbu wants to buy a minibus taxi from a Nissan Dealership. TABLE 3 below shows 2 different payment options that Sbu can choose from.

NOTE: The balloon/residual is a final payment made at the end of the loan.

TABLE 3: DIFFERENT PAYMENT METHODS FOR MINIBUS TAXI

	Model	**Specifications**	**Cash Price**	**Instalments price per month**	**Term (months)**	**Cash Deposit %**	
Option 1	NV350	2.5 LWB W/B HR Panel Van	R439 800	R5 699,90	72	20%	Balloon/ residual payment 30% of the cash price
Option 2	NV350	2.5 LWB W/B HR Panel Van	R439 800	R6 788,93	72	20%	

[Adapted Source: Nissan Group.co.za]

Use information in table 3 above to answer the following questions.

2.1.1 Calculate the cash deposit. (3)

2.1.2 Determine the balloon payment for Option 1. (3)

2.1.3 Determine the total cost of the minibus taxi for Option 1.

You may use the formula:

Total cost = Deposit + (Instalment price × 72 months) + Balloon payment (3)

2.1.4 Sbu stated he could save R53 000 if he chooses the cheaper option.

Verify Sbu's statement using a calculation. (5)

2.1.5 Sbu has an investment of R125 000. The money is invested as follows:

- First year at 6,95% interest compounded annually
- Second year at 7,25% interest compounded annually

Show that the total investment received at the end of two years will cover the residual amount due at the end of the 72nd month. (6)

Copyright Reserved

2.2

In South Africa there is a thought that minibus taxis contribute to road accidents. TABLE 4 below shows the number of fatalities per province in 2016 and 2017 due to road accidents

TABLE 4: NUMBER OF FATALIITES PER PROVINCE IN 2016/2017

YEAR	EC	FS	GP	KZN	LI	MP	NC	NW	WC	RSA
2016	1 705	992	2 700	2 715	1 644	1 562	409	1 084	1 260	14 071
2017	1 613	922	2 800	2 734	1 705	1 577	434	1 029	1 236	14 050

[Source: www.arrivealive.co.za]

Use information in TABLE 4 above to answer the following questions.

2.2.1 Determine the percentage change in the number of fatalities for RSA. (3)

2.2.2 Determine the probability (as a percentage) that a fatality selected randomly from RSA is from the WC of randomly selecting a fatality from the WC in 2017. (3)

2.2.3 Which province had the largest decrease in the number of fatalities? (2)

2.2.4 Even though GP had the highest number of fatalities in 2017 and a percentage change of 3,7%, give a reason why the percentage change for NC was higher. (2)

2.2.5 Determine by calculation which province had the largest percentage decrease in the number of fatalities. (3)

[33]

Copyright Reserved

QUESTION 3

3.1

Sbu's minibus taxi route is from Soweto to Johannesburg. The single trip covers a distance of 23 km.

TABLE 5: COST OF TRIP FROM SOWETO TO JOHANNESBURG

	Minibus Taxi	Train	Bus	Bus Rapid Transport	Uber
2017	R14,00	R9,50	R14,80	R13,80	**A**
Increase	14%	0%	20%	11%	8%
2018	R16,00	R9,50	R17,80	R15,00	R280

[Adapted source: www.busstech.co.za]

Use information in TABLE 5 above to answer the following questions.

3.1.1 Calculate **A**, the price for an Uber taxi in 2017. Round up your answer to the nearest whole number. (3)

3.1.2 Sbu stated that the price per km for the highest fare in 2018 is almost 30 times more than the price per km for the lowest fare in 2018.

Verify, with calculations if his statement is CORRECT. (5)

3.1.3 Explain why a person might take an Uber taxi even though it is the most expensive option. (2)

3.1.4 In 2018, 250 000 minibus taxis made approximately 15 million trips per day in South Africa. A minibus taxi owner makes a profit of R25 000 per month.

Determine the total expenses for the month of August (31 days), if a maximum of 14 passengers fit in a minibus taxi. (7)

3.2 TABLE 6 below shows the number of Rail and Road passenger journeys for 2019 and the income generated from this sector.

TABLE 6: INCOME GENERATED FROM RAIL AND ROAD TRANSPORT 2019

2019	Rail	Road	Total	
	Passenger journeys in (000)	Passenger journeys in (000)	Passenger journeys in (000)	Income (R million)
Jan	18 405	25 528	43 933	1 036
Feb	17 349	23 294	40 643	978
Mar	16 058	22 168	38 226	968
Apr	16 537	26 152	42 689	1 065
May	13 941	24 272	38 213	1 007
Jun	14 629	21 750	36 379	1 003
Jul	14 493	25 689	40 182	1 003
Aug	12 955	24 524	37 479	1 017
Sept	12 762	25 010	37 772	1 049
Oct	12 085	25 679	37 764	1 042
Nov	12 402	24 741	37 143	1 018
Dec	13 349	24 463	37 812	**A**

[Adapted source: www.statssa.gov]

Use information in TABLE 6 above to answer the following questions.

3.2.1 Determine how much more the average road passenger journeys was than the average rail passenger journeys in 2019. (6)

3.2.2 The total mean income received for passenger journeys in 2019 was R1 017 000 000. Determine the total income received in December. (4)

3.2.3 Determine the median number of total passenger journeys for 2019. (4)

3.2.4 Is the mean or median a better representation of the data above?

Explain your answer. (3)

3.2.5 Calculate the interquartile range for total passenger journeys for 2019. (4)

[38]

QUESTION 4

4.1

Sbu wants to use a Venter trailer to transport goods to Soweto. The photograph of a 6-foot Venter trailer and the dimensions of the trailer are given in ANNEXURE C.

Use information above and ANNEXURE C to answer the following questions.

4.1.1 The volume of a 6-foot Venter trailer large storage compartment is 1311,52 litres. Sbu stated that the breadth should be less than 1 metre.

Verify, with calculations whether this statement is CORRECT.

You may use the formula:

Volume = length × breadth × height

NOTE: 1 litre = 1000 cm^3 (8)

4.1.2 Determine how many 20kg bags will fit in the 6-foot Venter trailer large storage compartment if its load capacity is half a ton.

NOTE: 1 ton = 1000 kg (4)

4.1.3 A 7-foot Venter trailer has a length of 210,5cm, the breadth and height are the same as the 6 foot Venter trailer. Determine the difference in the volume (in litres) between the two Venter trailers.

You may use the formula:

Volume = length × breadth × height

NOTE: 1 litre = 1000cm^3 (4)

4.2

Sbu bought a second hand 6-foot Venter trailer and needed to refurbish the inside of the trailer.

Use information above and ANNEXURE C to answer the following questions.

4.2.1 Determine how many litres of paint must be bought to paint only the inside of the large storage compartment excluding the top cover, if the spread rate of paints is 0,5 m^2 per litre.

You may use the formula:

SA = L × W + 2(L × H) + 2(W × H) (5)

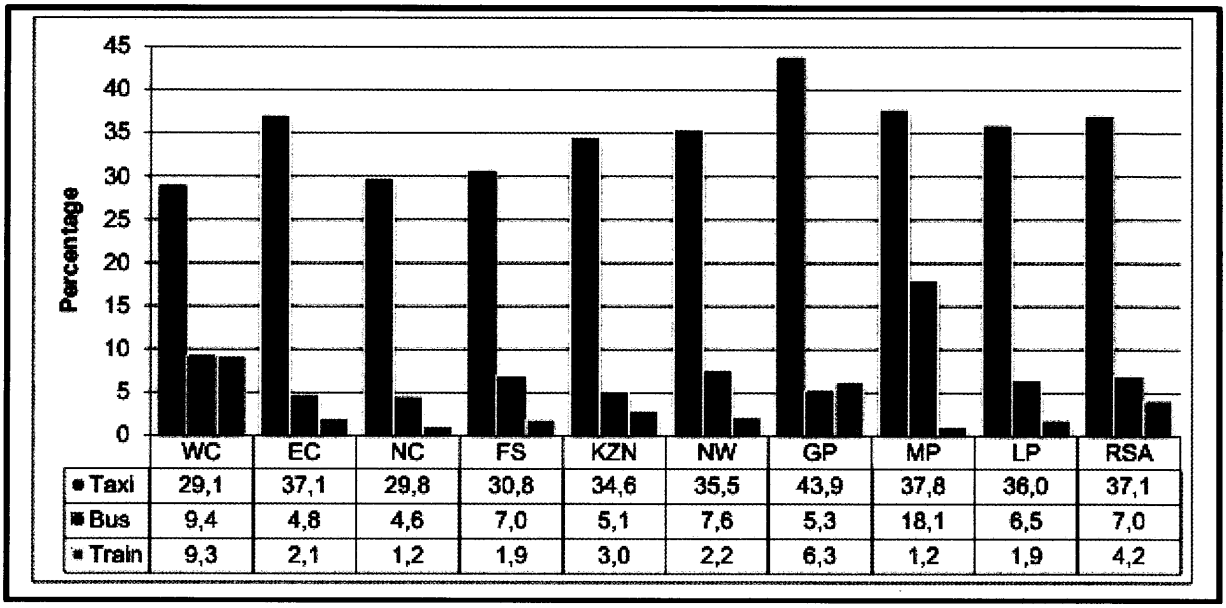
4.2.2 Paint is sold in 5 litre tins at R659,99 including VAT. Calculate the cost of paint, if two coats of paint must be applied. (4)

Copyright Reserved

4.3

Sbu wants to expand his taxi business to other parts of South Africa. He studies transport patterns in South Africa to decide which province to move to next.

GRAPH SHOWING MODE OF TRANSPORT USED BY HOUSEHOLD MEMBER TO SCHOOL AND WORK 2017



	WC	EC	NC	FS	KZN	NW	GP	MP	LP	RSA
Taxi	29,1	37,1	29,8	30,8	34,6	35,5	43,9	37,8	36,0	37,1
Bus	9,4	4,8	4,6	7,0	5,1	7,6	5,3	18,1	6,5	7,0
Train	9,3	2,1	1,2	1,9	3,0	2,2	6,3	1,2	1,9	4,2

[Source: www.statssa.gov]

Use the information in the graph above to answer the following questions.

4.3.1 KZN had a population of 11,1 million in 2017. KZN formed 19,6% of the South Africa population. Determine the population in South Africa in 2017. (3)

4.3.2 Determine the number of people using a taxi as a mode of transport in KZN in 2017. (2)

4.3.3 Determine the probability of not using a taxi or a bus or a train in GP. Write your answer as a decimal. (4)

[34]

TOTAL MARKS: 150

Copyright Reserved

education

Department:
Education
PROVINCE OF KWAZULU-NATAL

NATIONAL SENIOR CERTIFICATE

GRADE 12

MATHEMATICAL LITERACY P2

ADDENDUM

PREPARATORY EXAMINATIONS

SEPTEMBER 2020

This Addendum consists of 4 pages with 3 Annexures.

Copyright Reserved

ANNEXURE A

QUESTION 1.1

TABLE 1: INDIVIDUAL TAX RATES FOR 2019/2020 TAX YEAR

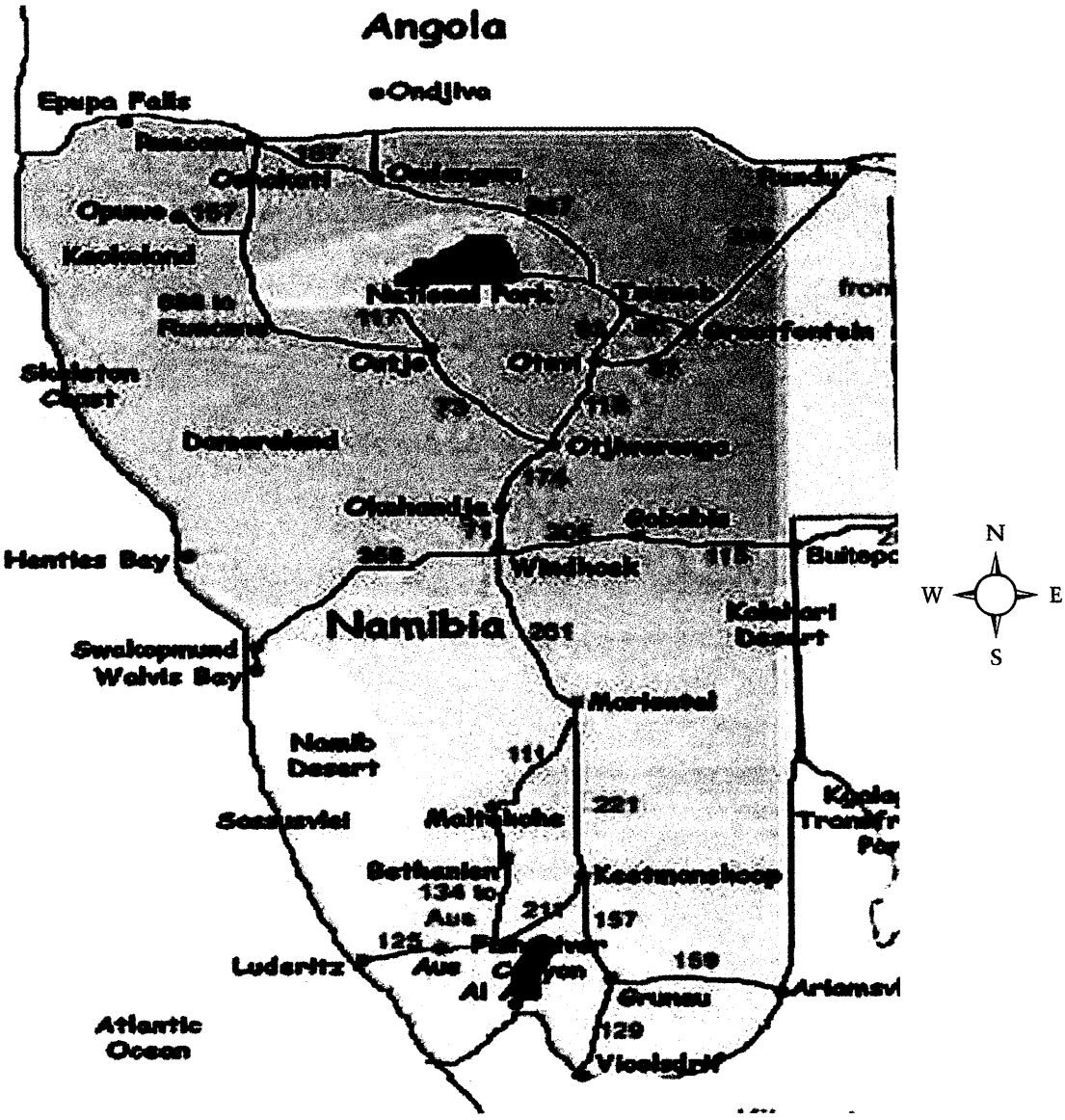
TAXABLE INCOME (R)		RATES OF TAX (R)
1.	R0 – R195 850	18% of taxable income
2.	R195 851 – R305 850	R35 253 + 26% of taxable income above R195 850
3.	R305 851 – R423 300	R63 853 + 31% of taxable income above R305 850
4.	R423 301 – R555 600	R100 263 + 36% of taxable income above R423 300
5.	R555 601 – R708 310	R147 891 + 39% of taxable income above R555 600
6.	R708 311 – R1 500 000	R207 448 + 41% of taxable income above R708 310
7.	R1 500 001 and above	R532 041 + 45% of taxable income above R1 500 000
TAX REBATES		
	Primary	R14 067
	Secondary (65 and older)	R7 713
	Tertiary (75 and older)	R2 574
MEDICAL AID CREDIT PER MONTH		
	Main member	R310
	First dependant	R310
	Each additional dependant	R209

[Source.www.sars.org]

Copyright Reserved

ANNEXURE B

QUESTION 1.3



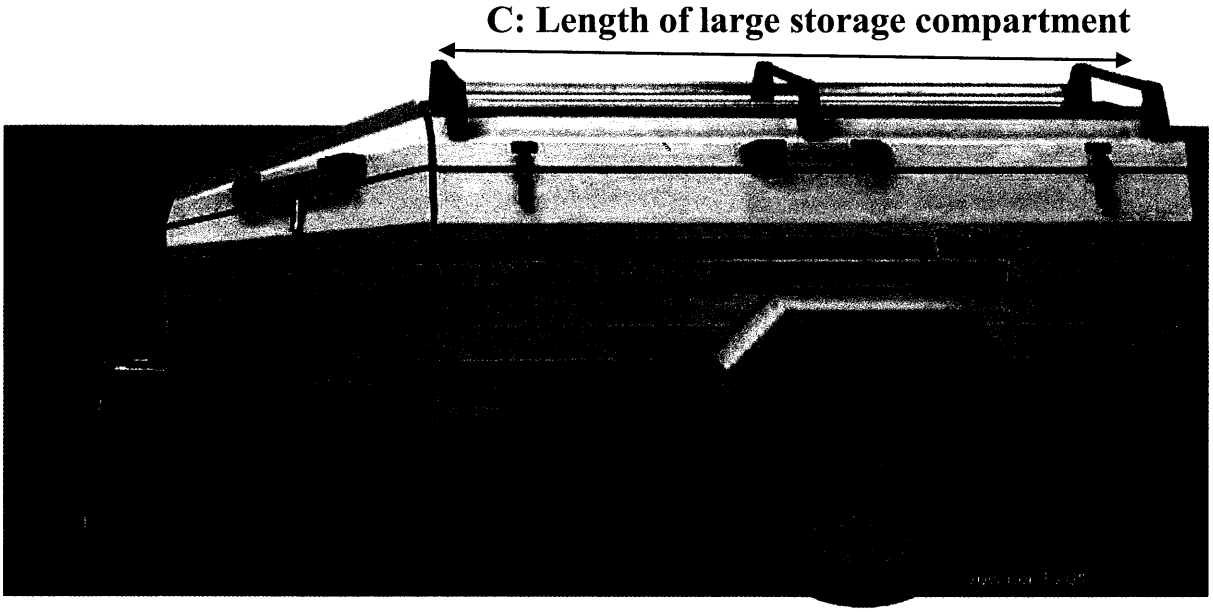
[Source:www.madbookings.com]

DISTANCE CHART

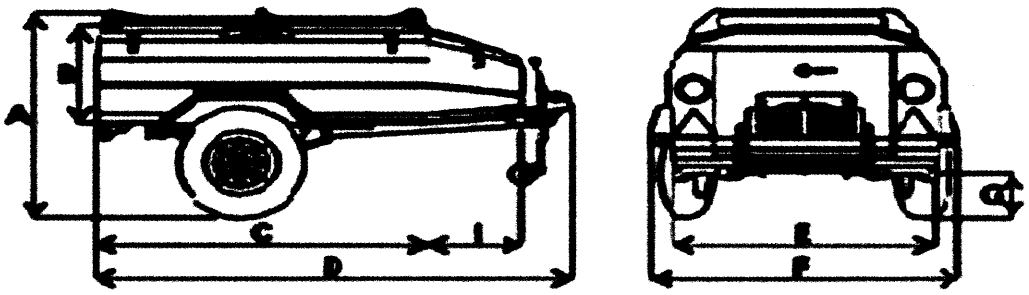
Swartkopmund					
297	**Sesriem**				
205	83	**Solitaire**			
552	745	684	**Tsumeb**		
31	266	205	673	**Walvis Bay**	
356	319	258	426	389	**Windhoek**

ANNEXURE C

QUESTION 4.1 AND 4.2



[Source www.ventertrailers.co.za]



DIMENSIONS	6 FOOT TRAILER
B: Height	64cm
C: Length	180,5 cm
E: Breadth	

Copyright Reserved

education

Department:
Education
PROVINCE OF KWAZULU-NATAL

NATIONAL SENIOR CERTIFICATE

GRADE 12

MATHEMATICAL LITERACY P2

MARKING GUIDELINE

PREPARATORY EXAMINATION

SEPTEMBER 2020

MARKS: 150

SYMBOL	EXPLANATION
M	Method
MA	Method with accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RT/RG/RD/RM	Reading from a table/ graph/ diagram/Map
SF	Correct substitution in a formula
O	Opinion/ reason/deduction/example/Explanation
J	Justification
R	Rounding off
F	deriving a formula
AO	Answer only full marks
P	Penalty e.g. for units, incorrect rounding off etc.
NPR	No penalty for rounding / units

This marking guideline consists of 10 pages.

Copyright Reserved

QUESTION 1 [45 MARKS]			
Quest.	**Solution**	**Explanation**	**T & L**
1.1.1	Taxable income per month = R 42 750 × 7,5% ✓MA = R3 206,25 ✓A = R42 750 – 3206.25 ✓M = R 39543,75 ✓CA **OR** Taxable income per month = 92,5% x R42 750 ✓✓MA = R39 543,75 ✓✓A	1MA multiplying by 7,5% 1A pension contribution 1M subtracting pension 1CA taxable income 2MA multiplying by 92,5% 2A pension contribution (4)	F L2
1.1.2	Annual taxable income = R 39 543,75 × 12✓MA = R474 525✓CA ✓A Annual tax = 100 263 + 0,36(474 525 – 423 300) ✓SF = 118 704 ✓CA = 118 704 – (14067) ✓MA = 104 637 = 104 637 – (620) × 12 ✓MA = R97 197 ✓CA	**CA from 1.1.1** 1MA multiplying by 12 1CA taxable income 1A correct tax bracket 1SF amount above 1CA answer 1MA subtracting 1 rebate 1MA subtracting medical aid credit 1CA answer (8)	F L3
1.2.1 (a)	Rand/Dollar exchange = $\frac{R141,57}{\$10}$ ✓MA = R14,157 ✓A Rand/Pound exchange = $\frac{R110,19}{£5,93}$ = R18,581 ✓A	1MA dividing by 10 1A rands per $ 1A rands per £ (3)	F L3
1.2.1 (b)	Pound is stronger by = R18,581 – R14,157 ✓M = R4,424 ✓CA	1M subtracting 1CA **NPR** (2)	F L3

1.2.2	Sbu's buying power = $\frac{\text{R42 750}}{\text{R60}}$ ✓MA = 712,50 burgers ✓A Xolani's buying power = $\frac{\text{£2 450}}{\text{£5,93}}$ ✓MA = 413,15 burgers ✓A Sbu's has more buying power ✓O	1MA dividing by R60 1A number of burgers 1MA dividing by £5,93 1A number of burgers 1O explanation **NPR** (5)	F L4
1.3.1	North East ✓✓RM	2RM reading from map (2)	MP L2
1.3.2	31km ✓✓RM	2RM reading from chart (2)	MP TL2
1.3.3	Measure distance = 4,5 cm ✓M Distance = 221+261 ✓MA = 482 km Number Scale: 4,5 cm = 482 km ✓M 4,5 cm = 48 200 000cm ✓C 1cm = 10 711 111,11 cm ✓M 1: 10 711 111 ✓CA	**Accept 2mm leeway** 1M measuring distance 1MA adding distance 1M concept of scale 1C multiplying by 100 000 1M dividing by 4,5 1CA simplification **NPR** (6)	MP L3
1.3.4	Total distance = 205 + 71 + 174 + 118 + 87 ✓✓RM = 655 km ✓CA	2RM reading from map 1CA total distance (3)	MP L2

1.3.5	Time = $\frac{655}{90}$ ✓SF = 7,277777778 Minutes = 0,277777778 × 60 ✓C = 16,67 = 17 ✓CA Total time = 7 hours 17 minutes ✓CA Time at Destination = 7:45 + 7 hours 17 mins ✓M = 15:02 Statement is incorrect ✓O	**CA from Q1.3.4** 1SF substitution 1C conversion 1CA minutes 1CA time in hours and minutes 1M adding 1O explanation (6)	MP L4
1.3.6	Number of litres = (655 ÷ 100) × 8 ✓M = 52,4 litres ✓CA Cost of Petrol = 52,4 × R16,45 ✓M = R861,98 ✓CA	**CA from Q1.3.4** 1M multiply by 8 divide by 100 1CA litres 1M multiply by R16,45 1CA cost of petrol (4)	MP L3
		[45]	

QUESTION 2 [33 MARKS]			
Quest.	**Solution**	**Explanation**	**T & L**
2.1.1	✓RT Deposit paid = R439 800 × 20% ✓MA = R87 960 ✓A	1RT cash price 1MA multiplying by 20% 1A deposit amount (3)	F L2
2.1.2	✓RT Balloon/Residual payment = R439 800 × 30% ✓MA = R131 940 ✓A	1RT cash price 1MA multiplying by 30% 1A residual amount (3)	F L2
2.1.3	Total Cost for Option 1 ✓CA = (87960) + (R5699,90 × 72) + R131 940 ✓SF = R630 292,80 ✓CA	**CA from Q2.1.1 and Q2.1.2** 1CA balloon payment 1SF substitution 1CA total cost (3)	F L3
2.1.4	✓MA Total Cost Option 2 = R87 960 + (R6788,93 × 72) = R576 762,96 ✓A Saving = R 630 292,80 – R576 762,96 ✓M = R53 529,84 ✓CA Claim is incorrect ✓O	**CA from 2.1.3** 1MA adding correct values 1A Total option 2 1M subtracting totals 1CA total cost (5)	F L4
2.1.5	YEAR 1 ✓MA Interest = R125 000 × 6,95% = R8 687,50 ✓A Amount = R125 000 + R8 687,50 = R133 687,50 ✓CA YEAR 2 ✓MA Interest = R133 687,50 × 7,25% = R9 692,34 Amount = R133 687,50 + R9 692,34 = R143 379,84 ✓CA Investment will cover residual amount ✓J	**CA from 2.1.2** 1MA multiplying by 6,95% 1A correct interest 1CA total amount 1MA multiplying by 7,25% 1CA total amount 1J justification	F L4

	OR ✓✓MA YEAR 1: Amount = R125 000 x 1,0695 = R133 687,50 ✓A ✓MA YEAR 2: Amount = R133 687,50 x 1,0725 = R143 379,84 ✓CA Investment will cover residual amount ✓J	**OR** 2MA multiplying by 1,0695 1A total amount 1MA multiplying by 1,0725 1CA total amount 1J justification (6)	
2.2.1	% change = $\frac{14050-14071}{14071} \times 100$ ✓MA ✓M = – 0,15%✓A **OR** % Decrease = $\frac{14071-14050}{14071} \times 100$✓MA ✓M = 0,15%✓A	1MA subtracting correct values 1M dividing by 14071 1A % decrease 1MA subtracting correct values 1M dividing by 14071 1A % decrease (3)	DH L2
2.2.2	Probability (fatalities in WC) $=\frac{1236}{14050} \times 100$ ✓✓RT = 8,80% ✓CA	2RT reading from table 1CA percentage (3)	DH L3
2.2.3	Eastern Cape ✓✓RT	2RT correct province (2)	DH L3
2.2.4	Dividing by a smaller value ✓✓O	2O reason (2)	DH L4
2.2.5	Free State % change = $\frac{922-972}{992} \times 100$ ✓MA ✓M = –7,06% ✓A **OR** Free S % Decrease = $\frac{992-922}{992} \times 100$ ✓MA ✓M = 7,06% ✓A	1MA subtracting correct values 1M dividing by 992 1A % decrease **OR** 1MA subtracting correct values 1M dividing by 992 1A % decrease (3)	DH L3
		[33]	

QUESTION 3 [38 MARKS]

Quest.	Solution	Explanation	T &L
3.1.1	Price of Uber taxi in 2017 = $\frac{R280}{1,08}$ ✓MA = R259,26 ✓A = R260 ✓R	1MA dividing R280 by 1,08 1A price in 2017 1R rounding up (3)	F L2
3.1.2	Price per km for Uber taxi = R280 ÷ 23 km ✓MA = R12,17 per km ✓A Price per km for Train = R9,50 ÷ 23 km✓MA = R0,41 ✓MCA 12,17 ÷ 0,41 = 29,68 = 30 times Claim is correct. ✓O	1MA dividing by 23 1A price per km 1MA dividing by 23 1MCA dividing by 0,41 1O opinion (5)	F L4
3.1.3	Convenient; quicker; does not stop for other passengers **Accept any reasonable answer** ✓✓O	2O explanation (2)	F L4
3.1.4	Number of trips per day = 15 000 000 ÷ 250 000 ✓MA = 60 ✓A ✓MA Income = 60 × (14 × R16) × 31 ✓M = R416 640 R25 000 =R416 640 – Total Expenses ✓MA Total Expenses = R416 640 – R25 000 ✓S = R391 640 ✓CA	1MA dividing by 250 000 1A number of trips per day 1MA multiplying 14 by R16 1M multiply by 31 1MA concept of profit 1S simplify 1CA total expenses (7)	F L4

Quest.	Solution	Explanation	T & L
3.2.1	Average for road = $\frac{293\,270\,000}{12}$ ✓MA ✓M = 24 439 166,67 ✓CA Average for rail = $\frac{174\,965\,000}{12}$ ✓MA =14 580 416,67 Difference = 24 439 166,67–14 580 416,67✓M = 9 858 750✓CA	1MA adding correct values 1M dividing by 12 1CA average journey 1MA adding correct values 1M subtracting 1CA average journey **NPR** (6)	DH L3
3.2.2	R1 017 = $\frac{11\,186 + A}{12}$ ✓MA ✓M A = (R1 017 × 12) – R11 186 ✓S A = R1 018 million or R1 018 000 000 ✓CA	1MA adding values 1M dividing by 12 1S simplify 1CA answer (4)	DH L3
3.2.3	36 379, 37 143, 37 479, 37 764, 37 772, 37812, 38213, 38 226, 40 182, 40 643, 42 689, 43 933 ✓MA Median = $\frac{37812 + 38213}{2}$ ✓M ✓MA = 38 012 500 ✓CA	1MA arrange data from lowest to highest 1MA adding 2 middle values M dividing by 2 1CA median (4)	DH L4
3.2.4	Mean. ✓O Mean takes into account all the values in the data set, ✓O whereas the median only looks at the middle value ✓O	1O answer 2O explanation (3)	DH L4
3.2.5	Q3 = $\frac{40182000 + 40643000}{2}$ ✓MA = 40 412 500 ✓A Q1 = $\frac{37479000 + 37764000}{2}$ ✓MA = 37 621 500 IQR = 40 412 500 – 37 621 500 ✓M = 2 791 000 ✓CA	1MA dividing correct values by 2 1A Q3 1MA dividing correct values by 2 1M substracting 1CA IQR (4)	DH L4
		[38]	

QUESTION 4 [34 MARKS]			
Quest.	**Solution**	**Explanation**	**T & L**
4.1.1	Volume in cm^3 =1311,52 × 1000 ✓C =1 311 520 cm^3 ✓A 1 311 520 cm^3 = 180,5 × 64 × Breadth✓SF Breadth = $\frac{1311520}{180,5 \times 64}$ ✓S Breadth = 113,531856 cm ✓A Convert to metres = 113,531856 ÷100 ✓C = 1,14m ✓CA Statement is incorrect ✓O	1C conversion 1A answer in cm^3 1SF substitution 1S simplification 1A breadth 1C conversion 1CA answer in metres 1O explanation **NPR** (8)	MM L4
4.1.2	Convert to kg = 0,5 ×1000 ✓C = 500 kg ✓A Number of bags = 500 ÷ 20✓MCA = 25 ✓CA	1C conversion 1A answer in kg 1MCA dividing by 20 1CA number of bags **NPR** (4)	MM L2
4.1.3	Volume = 210,5 × 113,531856 × 64 ✓SF = 1 529 249,642 cm^3 Convert to litres = 1 529 249,642 ÷ 1000 ✓C = 1 529,25 Difference = 1529,25 – 1311,52 ✓M = 217,73 litres ✓CA	**CA from 4.1.1** 1SF substitution 1C convert to litres 1M subtracting 1CA litres **NPR** (4)	MM L3

Quest.	Solution	Explanation	T &L
4.2.1	SA = L × W + 2(L × H) + 2(W × H) = 180,5 × 113,53 + 2(180,5 × 64) + 2(113,53 × 64) ✓SF = 58 128,005 cm^2 ✓CA Convert to m^2 = 58 128,005÷100^2 ✓C = 5,8128 m^2 Number of litres = 5,8128÷0,5 ✓C =11,6256 litres = 12 litres✓CA	**CA from 4.1.1** 1SF substitution 1CA surface area 1C conversion 1C conversion 1CA number of litres (5)	MM L3
4.2.2	Number of litres = 12× 2 ✓MCA = 24 litres Number of 5 litres tins = 24 ÷ 5 ✓C = 4,8 = 5 tins Cost of paint = 5 × R659,99 ✓MCA = R3 299,95 ✓CA	**CA from 4.2.1** 1MCA multiplying by 2 1C conversion 1MCA multiplying by R659,99 1CA cost of paint (4)	MM L3
4.3.1	Population of SA in 2017 ✓MA ✓MA = (11,1 million × 100) ÷ 19,6 = 56 632 653,06 people = 56 632 654✓A	1MA multiply by 100 1MA dividing by 19,6 1A population in millions **NPR** (3)	DH L2
4.3.2	Number of minibus taxi users in KZN =34,6% × 11 100 000 ✓RG =3 840 600 ✓CA	1RG multiply by 34,6 1CA minibus taxi users (2)	DH L2
4.3.3	Probability (not using a taxi, bus or train in GP) ✓M ✓MA = 100 – (43,9 + 5,3 + 6,3) = 44,5% ✓A = 0,445 ✓C	1MA adding correct values 1M subtracting 1A percentage 1C decimal answer **NPR** (4)	P L2
		[34]	
		TOTAL MARKS: 150	