



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF EDUCATION

VHEMBE WEST DISTRICT

GRADE 11

MATHEMATICAL LITERACY

ASSIGNMENT 1

MAY 2023

TOTAL: 50 MARKS

TIME: 1,5 HOURS

This question paper consists of 8 pages and 2 Annexures.

Assignment

INSTRUCTIONS AND INFORMATION

1. This question paper consists of **THREE** questions. Answer **ALL** the questions
2. Use **ANNEXURE A** to answer **QUESTION 3.1** and **ANNEXURE B** to answer **QUESTION 3.2.**
3. Number the answers correctly according to the numbering system used in this question paper.
4. Round off **ALL** final answers appropriately according to the given context, unless state otherwise.
5. An approved calculator (non-programmable and non-graphical) may be used.
6. Maps and diagrams are **NOT** necessarily drawn to scale, unless stated otherwise.
7. Indicate units of measurement, where applicable.
8. Write neatly and legibly.



Assignment

QUESTION 1

- 1.1 Tendani works as a Lawyer. He receives a basic salary of R21 556,00 per month. TABLE 1 shows Tendani's monthly pay slip and the monthly deductions made from his salary for UIF, contributions to pension fund, medical aid and PAYE.

TABLE 1: TENDANI MONTHLY PAYS LIP

Bakali Law Firm	PAY DATE: 31/03/2023	NAME: Tendani	STAFF NUMBER: 12457200	DEPARTMENT: Building
IDENTITY NUMBER: 870517 5642 081		DATE OF BIRTH: 17- 05-1987	JIB TITLE: Lawyer	TAX REFERENCE: 0847/234/89/5
MARITAL STATUS: Married		BANK ACCOUNT NUMBER: 6237 1973 189		BANK: FNB bank
SALARY		AMOUNT	DEDUCTIONS	AMOUNT
Basic Salary		R21 556,00	PAYE (on salary)	R1 864,04
			Pension	R1 616,70
			Medical & contribution	R865,10
			UIF – 1% of Basic salary	R215,56
GROSS SALARY		R21 556,00	TOTAL DEDUCTIONS	R.....
			NET PAY DUE:	R.....

- 1.1.1 Write the abbreviation UIF in full. (2)
- 1.1.2 Each employee should contribute to UIF, give at least one benefit of contributing to UIF? (2)
- 1.1.3 Calculate the total deductions on Tendani's pay slip. (2)
- 1.1.4 To calculate NET PAY DUE for the month you subtract deductions from Gross Salary. Calculate Tendani's net pay. (2)

Assignment

1.1.5 Show how the amount of R215,56 for UIF was calculated. (2)

1.1.6 In September 2023 Tendani will be given 7% increase on his basic salary.

a) What will Tendani's new salary be? (2)

b) If pension, medical aid contribution and tax remain the same. (2)
How much UIF will he pay as a result of 7% increase?

1.2

Tendani is planning to visit China during the holidays. His budget is R50 000 and he intends to spend R13 406 VAT inc for his plane ticket using Qatar Airways.

1.2.1 Calculate VAT amount he spent for his plane ticket to China. (2)

1.2.2 How much will the amount of R50 000 be in Chinese yuan. (2)

Use the exchange rate 1 (YUAN) = R 2,63 (ZAR)

1.2.3 Which currency is stronger between South Africa Rand and Chinese yuan? (2)

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Assignment

QUESTION 2

AWE & BRILLIANT CAR WASH is in an area where water is charged according to the water tariffs structure shown in TABLE 2 below.

TABLE 2: WATER AND TARRIF STRUCTURE

Block	Usage in kilolitre(kl)	Normal charge per kilolitre(kl) (VAT excluded)
1	0 – 6	R0,00
2	+6 – 15	R9,35
3	+15 – 30	R11,16
4	+30 – 45	R12,53
5	+45 – 60	R13,98
6	60+	R15,34

NOTE: VAT is value added tax. The VAT rate is 15%

Use TABLE 2 above to answer the question that follow.

- 2.1 Identify the block number if AWE & BRILLIANT CAR WASH used 31 kl of water in a certain month. (2)
- 2.2 Calculate how much AWE & BRILLIANT CAR WASH pays a month including VAT when they use 31 kl of water. (4)
- 2.3 Hence, give a reason why a step up (increasing block rate) system of water tariffs is used to charge water consumption other than a flat single rate. (2)

[08]

Assignment

QUESTION 3

- 3.1 Thandi is a teacher who is relocating to Durban. She is trying to find her way around the city. **Annexure A** shows the map of Durban.

Use the information in Annexure A to answer the following questions:

- 3.1.1 Identify the type of map on Annexure A. (2)
- 3.1.2 Name the sport venue that is North East of Berea. (2)
- 3.1.3 Identify three types of roads found on this map. (3)
- 3.1.4 What is the general direction from Congella to the Westridge? (2)
- 3.1.5 Identify the scale indicated on this map? (2)
- 3.1.6 Explain what the number scale 1 : 25 000 represents on the map. (2)

- 3.2 The **ANNEXURE B** shows the map of the Ultra Marathon. Use the map to answer the questions that follow:

- 3.2.1 Write the total number of the medical stations and the refreshments stations on the map. (2)
- 3.2.2 Name the point at which this marathon ends. (2)
- 3.2.3 How many kilometres would an athlete have completed at the 11th refreshment station? (2)
- 3.2.4 The winner of this 56 km marathon completed the race in 3 hours and 15 minutes. Calculate his average speed in kilometre per hour. (3)

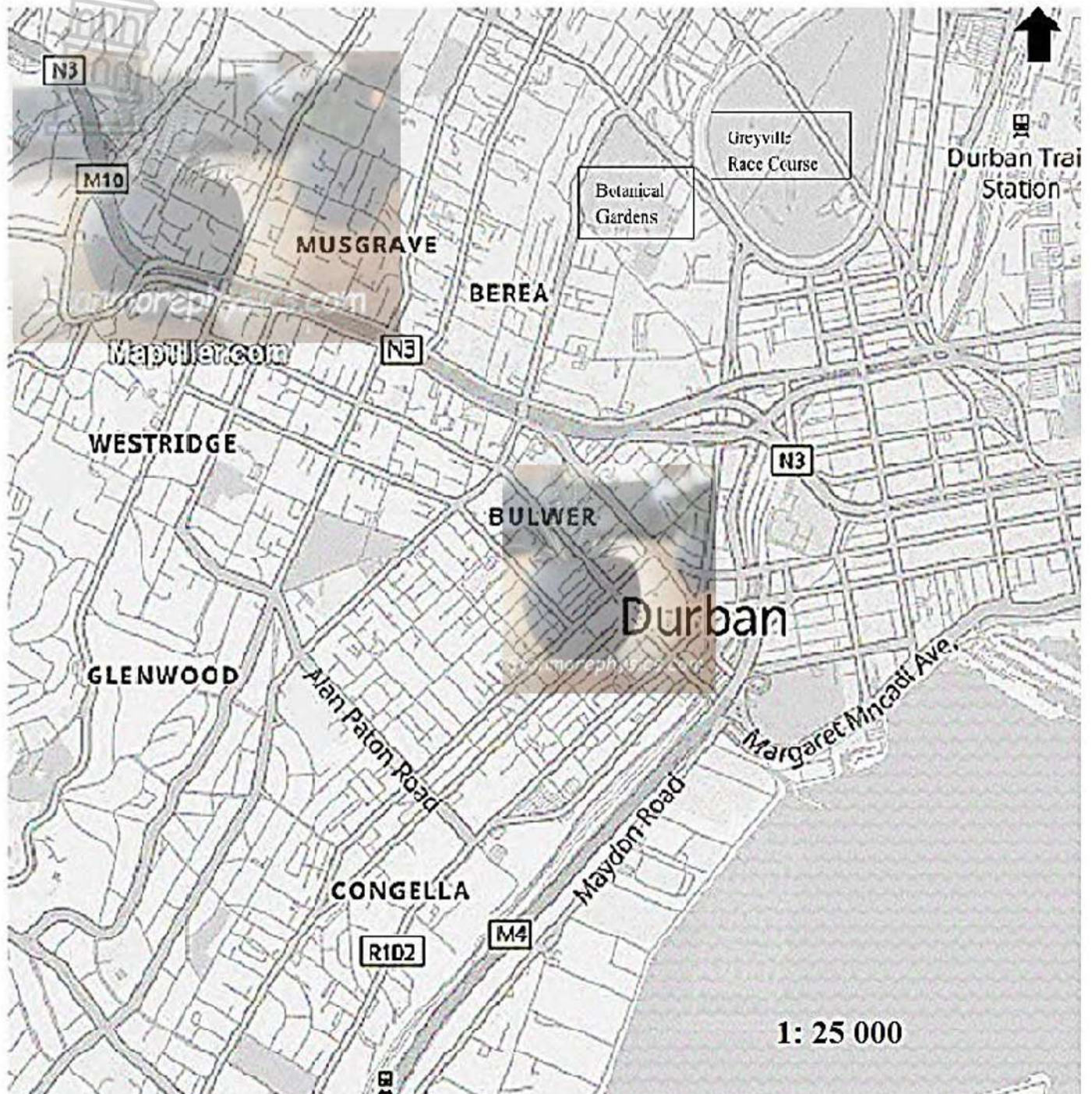
You may use the formula: $Speed = \frac{Distance}{Time}$

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TOTAL MARKS: 50

ANNEXURE A: THE MAP OF DURBAN

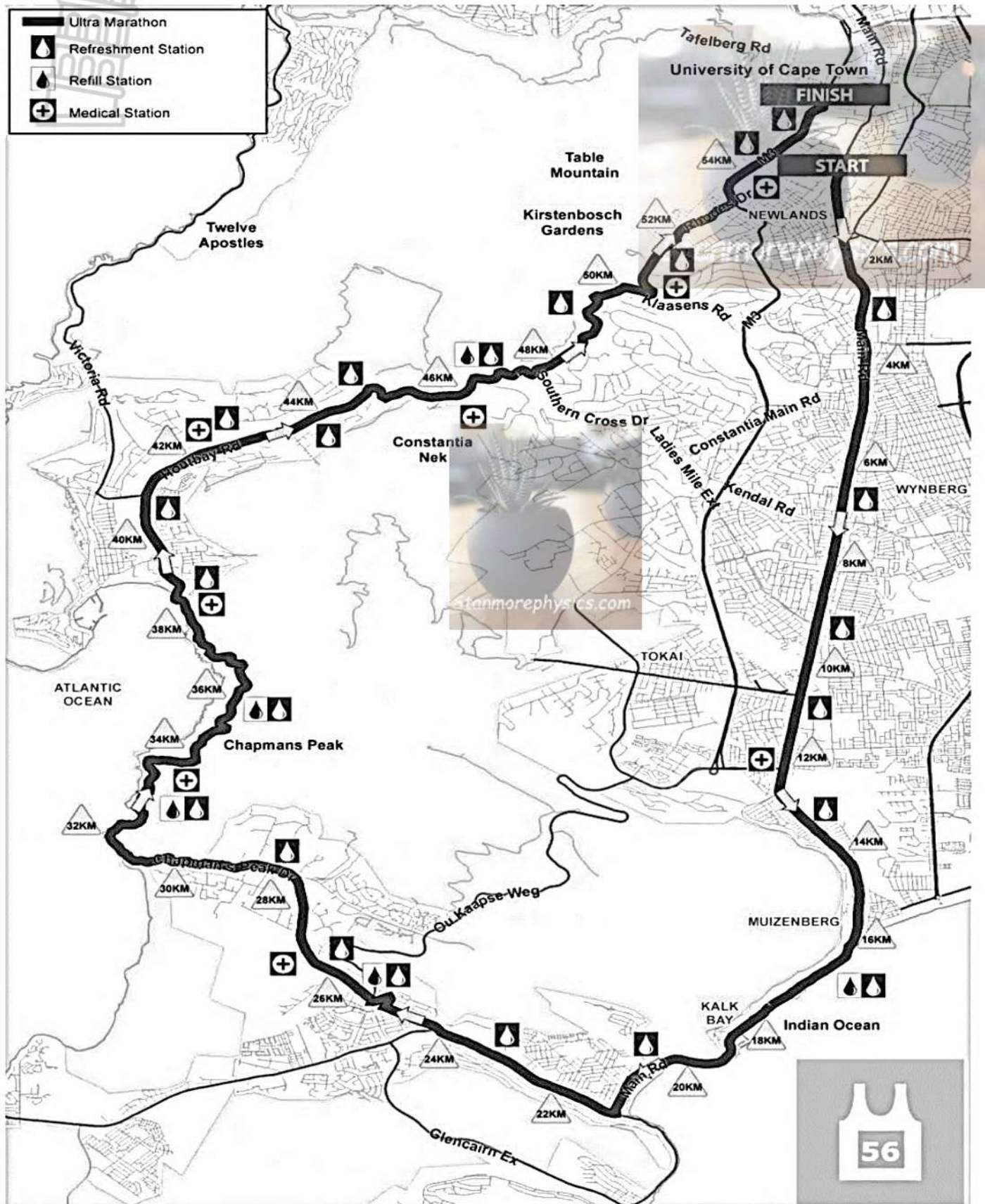
QUESTION 3.1



Assignment

ANNEXURE B: THE MAP OF THE ULTRA MARATHON

QUESTION 3.2





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MATHEMATICAL LITERACY

GRADE 11

TERM 2 ASSIGNMENT 2023

FORMAL ASSESSMENT TASK

MARKING GUIDELINES

MARKS: 50

Codes	Explanation
M	Method
MA	Method with Accuracy
CA	Consistent Accuracy
A	Accuracy
C	Conversion
D	Define
J	Justification/Reason/Explain
S	Simplification
RD	Reading from a table OR a graph OR a diagram OR a map OR a plan
F	Choosing the correct formula
SF	Substitution in a formula
O	Opinion
P	Penalty, e.g. for no units, incorrect rounding off, etc.
R	Rounding Off
NPR	No penalty for rounding OR omitting units
AO	Answer only

This memorandum consists of FOUR (4) pages

Ques	Solution [20 Marks]	Explanation	Marks
1.1.1	UIF = Unemployment Insurance Fund ✓✓	2O explanation	(2)
1.1.2	It helps the employee when one is not working ✓✓ It gives short term relief ✓✓ Any relevant answer	2O opinion	(2)
1.1.3	Total Deduction: $= R1\ 864,04 + R215,56 + R865,10 + R1\ 616,70$ ✓ $= R4\ 561,40$ ✓	1MA adding correct values 1CA answer	(2)
1.1.4	Net Pay Due $= R21\ 556,00 - R4\ 561,40$ ✓ $= R16\ 994,60$ ✓	1M subtracting by R4 561,40 1A Answer	(2)
1.1.5	UIF = 1% of R21 556,00 ✓ $= R\ 215,56$ ✓	1M of 1% of basic salary 1CA answer	(2)
1.1.6	a) new salary $= R21\ 556 + (7\% \times R21\ 556)$ ✓ $= R23\ 064,92$ ✓ OR New salary $= R21\ 556 \times 1,07$ ✓ $= R23\ 064,92$ ✓	1MA adding 7% of basic salary 1CA answer 1MA times by 1,09 1CA answer	(2)
1.1.6	b) UIF = 1% of R23 064,92 ✓ $= R230,65$ ✓	1M of 1% of basic salary 1CA answer	(2)
1.2.1	$VAT\ Amount = \frac{15}{115} \times R13\ 406$ ✓ $= R1\ 748,61$ ✓	1M of concept of VAT 1CA answer	(2)
1.2.2	R1 = Y0,89 R25 000 = ? Amount in Chinese yaum: $= Y\ 0,89 \times 25\ 000$ ✓ $= Y\ 22\ 250$ ✓	1MA correct values 1A answer in Chinese yaum	(2)
1.2.3	South African rand (ZAR) ✓✓	2O opinion	(2)
			[20]

Ques	Solution [08 Marks]	Explanation	Marks
2.1	Block 4 ✓✓	2RD from table	(2)
2.2	$31 \text{ kl} = 6\text{k} + 9\text{kl} + 15\text{kl} + 1\text{kl} \checkmark$ Block 1 = $6 \times 0 = \text{R}0,00$ Block 2 = $9 \times 9,35 = \text{R}84,15$ Block 3 = $15 \times 11,16 = \text{R}167,40 \checkmark$ Block 4 = $1 \times 12,53 = \text{R}12,53$ Total Cost without VAT = $\text{R}264,08 \checkmark$ Total Cost with VAT = $\text{R}264,08 \times 1,15$ $= \text{R}303,69 \checkmark$ OR Cost = $(6 \times 0) + (9 \times 9,35) + (15 \times 11,16) +$ $(1 \times 12,53) \checkmark$ $= \text{R}84,15 + \text{R}167,04 + \text{R}12,53$ $= \text{R}264,06 \checkmark$ Including VAT = $\text{R}264,06 \times 15\% \text{ M}$ $= \text{R}39,612 \checkmark$ $= \text{R}264,06 + \text{R}39,612$ $= \text{R}303,69 \checkmark$	1M adding to 31 kl 1M Cost for both 9, 35 1CA Total cost 1M Multiply by 15% & Cost including VAT 1M adding all tariffs 1CA Total cost 1M Multiply by 15% 1A Correct answer	(4)
2.3	Increase block rate tariffs encourage saving of water. ✓✓ OR Also assist small business or families with free water. ✓✓ Accept reasonable answer.	2A Reason	(2)
			[08]

Ques	Solution [08 Marks]	Explanation	Marks
3.1.1	Street map ✓✓	2A Answer	(2)
3.1.2	Greyville race course ✓✓	2RD Answer	(2)
3.1.3	National roads ✓ Municipal roads/ Main roads/ Metropolitan roads ✓ Reginal Roads ✓	3A correct names of roads	(3)
3.1.4	North West / NW ✓✓	2A correct direction	(2)
3.1.5	Number Scale/ Numerical Scale / Ratio Scale ✓✓	2A Correct answer	(2)
3.1.6	1 unit on the map represents 25 000 units on the ground/ in reality ✓✓ OR 1cm on the map/paper represents 25 000 cm on the ground/ in reality ✓✓	2A Opinion	(2)
3.2.1	8 medical ✓ and 23 Refreshments stations ✓	2RD from the map	(2)
3.2.2	University of Cape Town ✓✓	2RD from the map	(2)
3.2.3	28 km ✓✓	2RD from map	(2)
3.2.4	$t = 3h 15min = \frac{15}{60} h = 0,25h = 3,25h$ ✓ $Speed = \frac{56 km}{3,25 h}$ ✓ $= 17,23 km/h$ ✓	2C conversion from minutes to hours 2SF correct substitution 1CA answer	(3)
TOTAL: 50 MARKS			[08]