



**Western Cape
Government**

Education

**Directorate Curriculum:
FET SCHOOLS**

**WESTERN CAPE EDUCATION
DEPARTMENT**

GRADE 12

MATHEMATICAL LITERACY

INVESTIGATION 1

TERM 1

MARKS: 70

TIME: 2 hours

INSTRUCTIONS

1. Carefully read the given scenario before answering the questions
2. Answer ALL the questions
3. Write neatly and legibly

Scenario

George, a business man, lives in Gauteng. In one month he must travel to Cape Town to visit his three business sites. The first site is in Cape Town which is 9 kilometres from the airport, the second site is in Paarl and is 60 kilometres from the airport and the third site is in Bellville and is 30 kilometres from the airport. George visits one site per day, travels back to Gauteng and comes back the following day to visit another site.

In this Investigation you will be required to advise George as to which of the three rental companies offer the cheapest rate for each of the three days he will require a car to visit the sites.

George collected the following information from advertisements of three car hiring companies at Cape Town International Airport

		
Eezy Bucs Cars	S'bu Taxi service	Joe radio Taxi service
Only R10 per kilometre	Convenient travelling for only R100 <i>basic</i> fee plus R5 per kilometre	The cheapest rate per kilometre only R200 <i>basic</i> fee plus R2 per kilometre
Power steering, radio and air con. Car fully serviced	Power steering and radio. Car fully serviced	Leather seats, power steering air con, ABS brakes and CD player. Car fully serviced

1. What does the term basic mean as used in the advertisement? (2)
2. Which car rental company offer the cheapest rate per kilometre? (1)
3. The formula used to calculate the cost of hiring a car from Eezy Bucs Cars is ***Cost (in rands) = R10 x n, (where n is the number of kilometres travelled)***
 - (a) Write down formulae for calculating the cost of hiring from the other two companies. (4)
 - (b) How much will George pay for the return trip to Paarl if he hires from Eezy Bucs Cars? (2)

- (c) The car that George used to Paarl has the fuel consumption rate of 5, 2 litres per 100 km.

The cost of petrol on the day was R11,90 per litre

- (i) Calculate the cost of petrol for the trip to Paarl (4)
- (ii) Determine the profit Eezy Bucs Cars made from that trip (excluding wear and tear cost). Profit = Income – Cost (2)
- (d) The table below compares the hiring cost for the three companies; complete the table in your answer book.

Distance (in Km)	0	10	20	30	40	50	60	70	80
Eezy Bucs Cars (cost in rands)	0	100	200	300	400	500	600	700	800
S'bu Taxi service (cost in rands)	100				300				
S'bu Taxi service (cost in rands)	200					300			

4. The graph on ANNEXTURE A shows the cost of hiring from Eezy Bucs Cars for different kilometres.
- (a) On the same set of axes draw graphs that represent hiring costs from S'bu Taxi service and Joe Radio Taxi service. Clearly label your graphs. (8)
- (b) On a certain day George hired a car from S'bu Taxi services and paid an amount of R450. Use your graph to estimate the distance that George travelled on that day. (2)
- (c) If on the first day George decides to visit his uncle who lives 20 km from the airport before going for the site visit in Cape Town in the same direction, which of the three companies will be the cheapest option, and why (4)
5. Name three other considerations that George must take into account before choosing a car hire? (3)
6. Explain in your own words what is happening at 20 km and at 35 km in terms of the cost? And which option is expensive on the respective kilometres (4)
7. Give a reason why the graphs for S'bu Taxi services and Joe Radio service do not start at (0; 0), the origin. (2)
8. Use your completed table or graph to advice George on the cheapest car hiring option for each of his site visits. (3)

GRAND TOTAL: 45

ANNEXURE A:

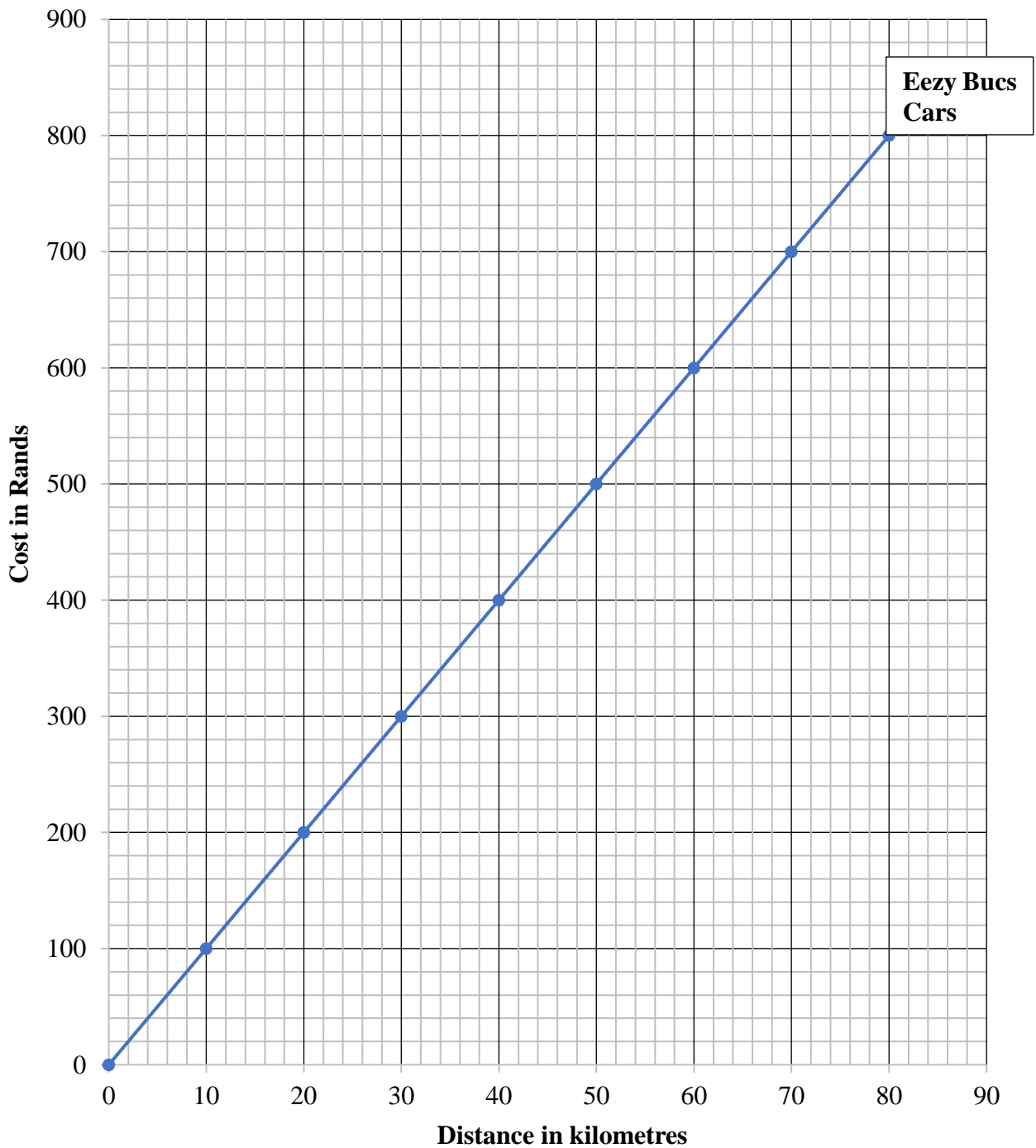
Name of learner:

GRADE 12

QUESTION 4 (a)

(Attach this page to your answer sheet)

Hiring Cost per kilometres between different companies





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MATHEMATICAL LITERACY

INVESTIGATION 1

TERM 1

MEMORANDUM

MARKS: 45

QUESTIONS	MARKS	DESCRIPTOR	TL																																									
1.	2		TL 1																																									
2.	1		TL 1																																									
3. (a)	4		TL 2																																									
(b)	3	1 for return distance 1 for substitution 1 for answer	TL 3																																									
(c) (i)	4	1 for multiplying by 120 1 for amnt petrol 1 for cost	TL 3																																									
(ii)	2	1 for substitution 1 for answer	TL 2																																									
(d)	<table border="1"> <thead> <tr> <th>Distance (in Km)</th> <th>0</th> <th>10</th> <th>20</th> <th>30</th> <th>40</th> <th>50</th> <th>60</th> <th>70</th> <th>80</th> </tr> </thead> <tbody> <tr> <td>Eezy Bucs Cars (cost in rands)</td> <td>0</td> <td>100</td> <td>200</td> <td>300</td> <td>400</td> <td>500</td> <td>600</td> <td>700</td> <td>800</td> </tr> <tr> <td>S’bu Taxi service (cost in rands)</td> <td>100</td> <td>150</td> <td>200</td> <td>250</td> <td>300</td> <td>350</td> <td>400</td> <td>450</td> <td>500</td> </tr> <tr> <td>Joe Radio Taxi service (cost in rands)</td> <td>200</td> <td>220</td> <td>240</td> <td>260</td> <td>280</td> <td>300</td> <td>320</td> <td>340</td> <td>360</td> </tr> </tbody> </table>				Distance (in Km)	0	10	20	30	40	50	60	70	80	Eezy Bucs Cars (cost in rands)	0	100	200	300	400	500	600	700	800	S’bu Taxi service (cost in rands)	100	150	200	250	300	350	400	450	500	Joe Radio Taxi service (cost in rands)	200	220	240	260	280	300	320	340	360
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2 mark for each correct row ✓✓
All number must be correct. ✓✓
(4) Marks TL 2

4.	(a)	See the graph on ANNEXTURE A	8		TL 2
	(b)	70 kms ✓✓	2	RG	TL 2
	(c)	Joe Taxi Radio service will be the cheapest ✓✓	2	RG	TL 2
5.		<ul style="list-style-type: none"> • Enough money • Comfort ability of the car • Safety of the car • Beauty of the car • If the cars are availability • Distance to travel • Brand of the car (name of the manufacturer) ✓✓✓ 	3	Any two valid consideration	TL 4
6.		<ul style="list-style-type: none"> • At 20 kms Eezy Bucs cars and S’bu taxi service are charging the same amount ✓, and Joe Radio taxis is the expensive option ✓ • At 35 kms S’bu Taxi Service and Joe Radio taxis are charging the same amount ✓ and Eezy Bucs is the expensive option ✓ 	4		TL 4
7.		<ul style="list-style-type: none"> • Because if you choose one of them then you have to pay the basic amount on top of the kilometres rates ✓✓ 	2		TL 4
8.		<ul style="list-style-type: none"> • For the Cape town trip the cheapest option is Eezy Bucs Cars ✓ • For the Paarl trip Joe Radio Taxis is the cheapest ✓ • For the Bellville trip S’bu taxi service will be the cheapest ✓ 	3	No other answer is acceptable	TL 4

ANNEXURE A:

QUESTION 4 (a)

Hiring Cost per kilometres between different companies

