

HILLCREST HIGH SCHOOL



Grade 11 Maths Literacy Paper 1

November 2020

Examiner: Mrs Leuschke

Moderator: Mrs Jugmohan

MARKS: 75

TIME: 1½ hours

INSTRUCTIONS AND INFORMATION

Read the following instructions carefully before answering the questions.

1. This question paper consists of 4 questions. Answer ALL the questions.
2. Write your name and **your Mathematical Literacy teacher**'s name on your answer booklet.
3. Clearly show ALL calculations, diagrams, graphs, etc which you have used to determine your answers.
4. Answers only will NOT necessarily be awarded full marks.
5. An approved scientific calculator (non-programmable) may be used, unless otherwise stated.
6. Round off appropriately according to the context unless otherwise stated.
7. Number the answers EXACTLY as the questions are numbered.
8. Diagrams are not necessarily drawn to scale.
9. It is in your own interest to write legibly and to present your work neatly.

Question 1

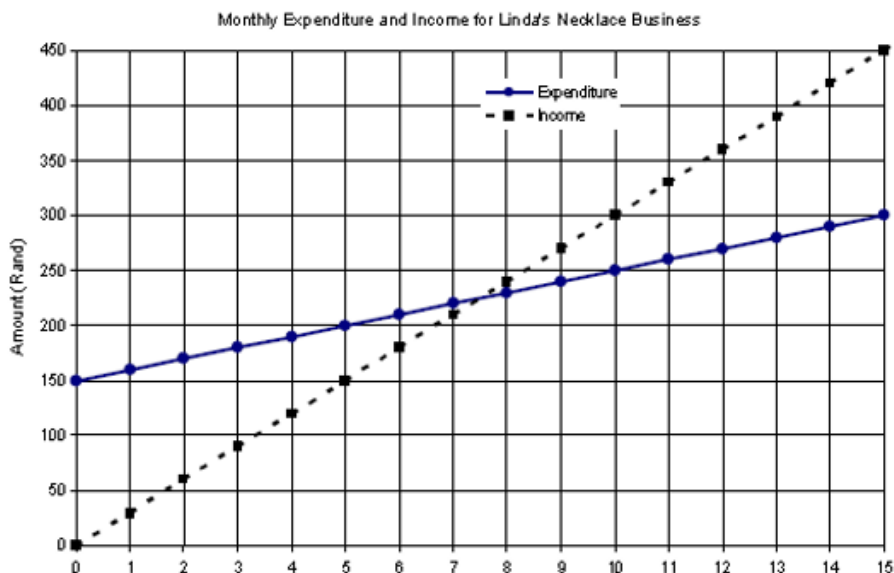
The following data are the masses (in kg) of the players in the Springbok Rugby Squad that won the Rugby World Cup in 2019.

86 90 90 91 94 95 95 95 102 102 103 103 105 105
 107 108 109 110 112 114 116 119 120 121 122 122 125

- 1.1 Determine the range of the masses (in kg). (2)
 - 1.2 What is the mode of the data? (2)
 - 1.3 What is the median of the data. (2)
 - 1.4 Calculate the mean of the data. (3)
 - 1.5.1 Complete the tally table on your answer sheet. (6)
 - 1.5.2 Use the frequency table to draw a histogram in the space provided on your answer sheet. (4)
 - 1.6 Calculate the Interquartile range for the data above. (4)
- [23]

Question 2

Linda runs a business selling beaded necklaces. The graph below shows that the monthly income and expenditure for her business is dependent on the number of necklaces that she makes and sells.



- 2.1 Linda's monthly expenditure is made up of a fixed monthly rental for her stall. How much rent does she pay per year? (3)
- 2.2.1 Use the graph and calculations to show that Linda sells each necklace for R30,00. (2)

2.2.2 Linda states that each necklace costs her R12,50 to make. Verify, showing ALL calculations whether or not she is correct. (5)

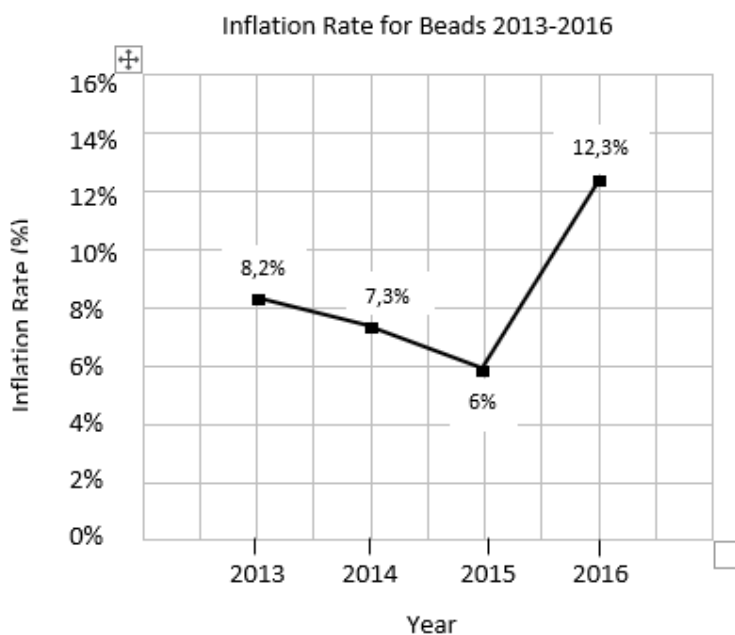
2.3 Linda decides to sell her necklaces for 40% more than her normal selling price.

2.3.1 Write down an equation to describe the relationship between Linda's new monthly income and the number of necklaces that she sells during the month. (2)

2.3.2 Write down an equation to describe the relationship between Linda's monthly expenditure and the number of necklaces that she sells during a month. (2)

2.3.3 Use the equations from 2.3.1 and 2.3.2 to determine whether Linda is making a profit or loss if she sells 5 necklaces with her new selling price. You must show ALL calculations. (4)

2.4 The graph below shows the annual inflation rate for the beads that Linda uses for her necklaces for the period 2013 – 2016.



2.4.1 Describe what has happened to the price of the beads since 2013. (3)

2.4.2 At the start of 2014, a collection of 100 beads cost R24,80. Using the inflation graph, calculate what the price of the same collection is at the end of 2016. (4)

2.5 Linda travelled to Botswana in 2008 to go and buy beads for her necklaces and to sell some of her necklaces there. Before the trip, Linda visited a money exchange to buy Botswana Pula (P) currency. The following exchange rate board was displayed.

MISTER MONEY		
Exchange Rate Board (16.07.08)		
	WE BUY (Rand per 1 unit of currency)	WE SELL (Rand per 1 unit of currency)
British Pound (£)	15,55	15,60
Botswana Pula (P)	1,15	1,22
Euro (€)	12,30	12,41
Swaziland Lilangeni (L)	1,02	1,03

Terminology:
 'We Buy' Rate:
 The exchange rate at which Mister Money will buy foreign currency from a customer.

 'We Sell' Rate:
 The exchange rate at which Mister Money will sell foreign currency to a customer.

Mister Money provides the following example of how commission fees are calculated on currency exchange transactions.

Commission Fees on Currency Exchange Transactions		
Fee	Minimum Fee	Maximum Fee
1,7% of the Rand value being exchanged	R45,00	None

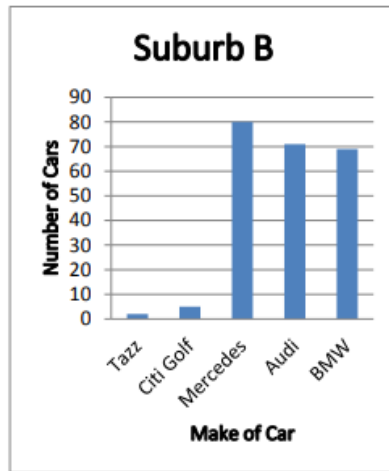
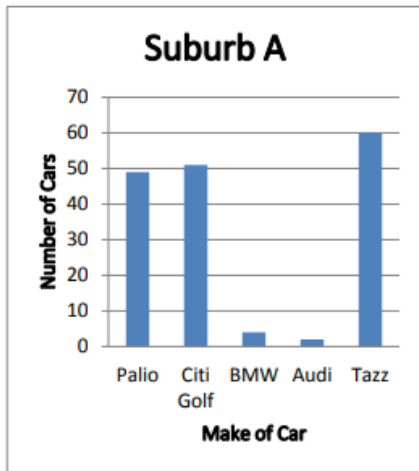
Say you want to exchange R10 000,00 into British Pounds (£).
 Commission fee = 1,7% of the Rand value exchanged (with a minimum charge of R45,00)
 = $1,7\% \times R10\ 000,00$
 = R170,00

2.5. Linda said that when she exchanged R2500 into Botswana Pula (P) she received P 2012,30. Verify whether or not she is correct. Show ALL calculations and remember that a commission fee is charged on the exchange. (7)

[32]

Question 3

A recent survey was done to find out which cars were the most popular in South Africa. The two graphs below show the results obtained in two different suburbs in Johannesburg.



Type of Car	Suburb A	Suburb B
Palio	49	
Citi Golf	51	5
BMW	5	69
Audi	2	70
Tazz	60	2
Mercedes		80

- 3.1 Which car type is the most popular in Suburb A? (2)
- 3.2 Which car type is the most popular in Suburb B? (2)
- 3.3 What is the probability of a Citi Golf being randomly picked in Suburb B? (2)
- 3.4 What is the probability of a Mercedes being randomly picked in Suburb A? (2)
- 3.5 What can you tell about the income of the residents of the two suburbs? (2)

[10]

Question 4

You want to borrow money from a micro lender to buy a new IPAD and laptop. The table below shows the monthly repayments on loans over different periods. Use the table to answer the questions that follow.

LOAN	12 MONTHS	24 MONTHS	36 MONTHS	<i>To qualify, you must earn at least R2200 per month</i>
R3000	R355	R219	R175	
R5000	R584	R356	R283	
R8000	R927	R562	R446	
R10000	R1156	R700	R553	

- 4.1 What is the loan amount if a person is paying off R533 per month for 36 months? (2)
- 4.2 What is the monthly payment for a loan of R5000 taken over a period of 2 years? (2)
- 4.3 Your friend earns R20 000 per year and says that he will be able to secure a loan from the bank. Verify, showing calculations whether or not your friend is correct. (3)
- 4.4 Calculate the interest only to be paid back on a loan of R3000 taken over a 1 year period. (3)

[10]