

# Hillcrest High School

Grade 11

## MATHEMATICAL LITERACY P1 JUNE 2023

**MARKS:** 75

**TIME:** 1½ Hours

**EXAMINER:** Mrs J. Leuschke

**MODERATOR:** Ms G. Stow

**Instructions:**

Read the following instructions carefully before answering the questions.

1. This question paper consists of 4 questions and 8 pages.
2. Clearly show ALL calculations, diagrams, graphs, etc which you have used to determine your answers.
3. Answers only will NOT necessarily be awarded full marks.
4. An approved scientific calculator (non-programmable) may be used, unless otherwise stated.
5. If necessary, answers should be rounded off to TWO decimal places, unless otherwise stated, or appropriately within the given context.
6. Number the answers EXACTLY as the questions are numbered.
7. Diagrams are not necessarily drawn to scale.
8. It is in your own interest to write legibly and to present your work neatly.

## Question 1

1.1 Mr Duma decided to buy a coffee machine for home use. The slip is included below. Study the slip carefully and answer the questions that follow:

 <b>CLICKS CLUBCARD</b> <b>CALL 0860 254 257</b>	
WELCOME TO GARDEN ROUTE MALL	
K/B ESPRESSO MAKER	R1 299,00
1 BALANCE DUE	R1 299,00
Debit card	R1 299,00
CHANGE	R 0,00
TOTAL BEFORE VAT	<b>R A</b>
TOTAL AFTER VAT	R1 299,00
<b>TAX-CODE</b>	
15% VAT	
With Clubcard you could have earned 259 points	
CASHIER NAME: LUNGISA	
C0018 #8673 14:26:30 28DEC2018	
<b>THANK YOU FOR SHOPPING AT CLICKS</b>	

- 1.1.1 At which store was the coffee machine purchased? (2)
- 1.1.2 State the selling price of the coffee machine. (2)
- 1.1.3 Calculate the price of the coffee machine, excluding VAT. (3)
- 1.1.4 If Clubcard holders were to receive a 25% discount on the selling price, calculate how much they would have paid for the coffee machine. (3)

1.2 The examiner purchased roasted coffee beans from Slow-Roasted Coffee Shop & Roastery. She purchased two 250g bags of coffee beans. The credit card slip is shown below :



1.2.1 What was the cost per bag? (2)

1.2.2 Determine the cost per kilogram of coffee beans at Slow-Roasted Coffee Shop & Roastery. (2)

1.2.3 The cost price of coffee is USD 0,08 per ounce. Use the conversion table below to answer the following questions.

<b>Conversion</b>
<b>1 pound = 16 ounces</b>
<b>1 pound ≈ 0,454 kilograms</b>

(a) Determine how many ounces, to the nearest whole number, there are in one kilogram. (4)

(b) Hence, determine the cost of one kilogram of coffee in USD. (2)

[20]

Question 2

Dan works in China and earns Chinese Yuan (CYN) 192 000 per annum. He informed his father in South Africa that he has the following deductions from his salary:

- CYN 73 000 Annual contribution for his investments
- CYN 15 000 Annual labour market fees
- CYN 12 000 Annual employment tax deductions.

Use the information above to answer the questions that follow.

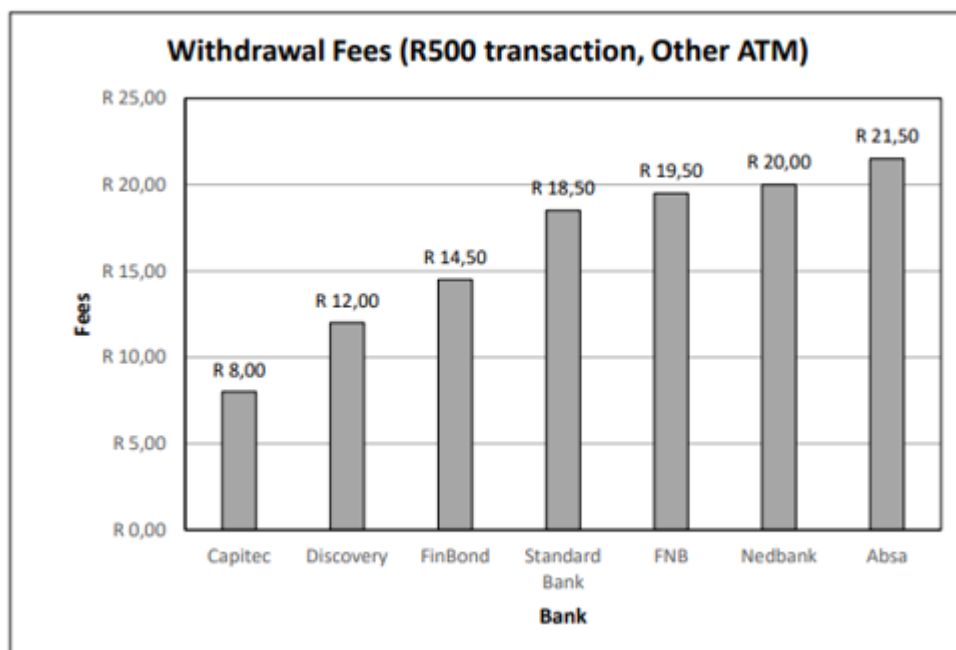
2.1.1 Calculate in Rands, Dan’s annual gross income using the following exchange rates:

$$\text{\$1} = \text{R13,66}$$

$$\text{\$1} = 6,14 \text{ Chinese Yuan.} \tag{4}$$

2.1.2 Dan stated that his total annual deductions (excluding tax) are more than 44% of his annual gross salary. Verify, showing ALL calculations, whether his statement is valid. (4)

2.2 The graph below shows the 2020 bank withdrawal fees for R500 charged by the different banks in South Africa.



2.2.1 Calculate the price difference between the most expensive and the least expensive withdrawal fee. Give a reason for the price difference. (3)

2.2.2 FNB charges a fixed bank fee plus R1,90 for every R100 withdrawn. Use the graph to calculate the fixed bank fee. (4)

2.2.3 Determine the percentage change in the withdrawal fee for Capitec Bank, if the cost to withdraw R500 in 2019 was R8,75. (3)

You may use the formula below.

$$\% \text{ change} = \frac{\text{New} - \text{original}}{\text{original}} \times 100$$

2.3 Absa charges R11,50 + R2 for every R100 withdrawn. A customer withdrew R2000.

Using working, explain why the calculation below is incorrect. Hence provider the correct calculation. (4)

$$\begin{aligned} \text{Total withdrawal fee for Absa Bank} &= \text{R}2000 \div 500 = 4 \\ &= 4 \times \text{R}21,50 \\ &= \text{R}86 \end{aligned}$$

[22]

Question 3

Carlton High school is considering buying a cell phone for the school to use when Telkom lines are down. The school is considering two phone options: a prepaid deal or a contract deal.

Vodacom offers two deals shown in the table below which shows the cost of the two offers in minutes.

Minutes	0	100	200	300	400	600
Prepaid deal costs	0	150	A	450	600	900
Contract deal costs	100	200	300	400	500	B

Use the table above to answer the questions that follow.

3.1 How many hours talk time do you get for 300 minutes? (2)

3.2.1 Identify the dependent variable in the table. (2)

3.2.2 Identify the independent variables in the table. (2)

3.3 The school can use the formula below to calculate the total cost when using the Prepaid option.

$$\text{Total Cost} = \text{R1,50} \times \text{number of minutes}$$

Use the above formula to calculate A, the cost for 200 minutes on the prepaid option. (2)

3.4 Write the formula the school can use to calculate the total cost for the contract deal in the form :

$$\text{Total Cost} = \dots\dots\dots (2)$$

3.5 Calculate B, the cost of the contract option for 600 minutes. (3)

3.6 Use ANNEXURE A to :

3.6.1 Draw the graphs of both options. (4)

3.6.2 Write down the co-ordinates of the break-even point. (2)

3.7 Provide TWO reasons why you would recommend Carlton High School to choose the contract option. (4)

[23]

Question 4

The government receives income from various sources, like tax and interest on loans. This income is then distributed to the different sectors.

The table below shows the sources of income and the expenditure for the 2019/2020 tax year.

INCOME		EXPENDITURE	
SOURCE	AMOUNT (in billion rand)	SECTOR	AMOUNT (in billion rand)
Tax	1 370	Social Development	278,4
Loans	242,7	Basic Education	262,4
Other income	180,3	Health	222,6
Non-tax income	31,5	Peace and Safety	211,0
		Economic Development	209,2
		Community Development	208,5
		Debt Service Cost	202,2
		Further Education and Training	112,7
		Other	<b>B</b>
<b>TOTAL</b>	<b>A</b>		<b>1 823,72</b>

Use the table above to answer the questions that follow.

- 4.1 Write the amount received from loans as a number in millions. (2)
- 4.2 Calculate the missing value A. (2)
- 4.3 Calculate the missing value B. Show ALL calculations. (3)
- 4.4 Determine the difference between Health and Basic Education as a percentage of the total expenditure. Give your answer rounded to one decimal place. (3)

[10]