Downloaded from SEE academy: www.seeacademy.co.za

education

Department of Education
FREE STATE PROVINCE

MID-YEAR EXAMINATION

GRADE 11

MATHEMATICAL LITERACY P1

JUNE 2024

MARKS: 75

TIME: 1 HOURS

This question paper consists of 09 pages including 01 answer sheet.

SEE ACADEMY

Copyright reserved

Downloaded from SEE academy: www.seeacademy.co.za

INSTRUCTIONS AND INFORMATION

1. This question paper consists of FOUR questions. Answer ALL the questions.
2. Answer QUESTION 4.1.2 on the attached ANSWER SHEET.
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 may 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 stated otherwise.
10. Write neatly and legibly.

SEE ACADEMY

Copyright reserved

Downloaded from SEE academy: www.seeacademy.co.za

QUESTION 1

1.1 In TABLE 1 below is a list of explanations and definitions of concepts used in Mathematical Literacy.

TABLE 1: EXPLANATIONS AND DEFINITIONS OF CONCEPTS

A.	A fixed payment, typically paid monthly by an employer to employee.
B.	A tool used in probability to calculate possible outcomes.
C.	Fees for services the bank provide to the clients.
D.	Is an abbreviation of the insurance fund aimed at temporary financial support for persons who is laid-off from work.
E.	The way things turn out.
F.	Money spent on something.

Use the information above to write down the letter of the explanation or definition (A to E) of EACH of the following concepts:

1.1.1 Bank charges (2)

1.1.2 UIF (2)

1.1.3 Expenditure. (2)

1.1.4 Tree diagram (2)

1.2 Mosala's daughter joined her school's hockey team in 2022.

TABLE 2 below shows the school sport uniform she would need as well as the percentage (%) change in the price compared to the previous year.

TABLE 2: PRICES OF SCHOOL SPORT UNIFORM WITH PERCENTAGE (%) CHANGE IN PRICE

ITEM	2021 PRICE	2022 PRICE	% CHANGE IN PRICE
Sport shirt	R267,92	R265,00	– 1,1
Sport shorts	R214,17	R177,00	– 17,4
Sport skirt	R248,70	R232,00	– 6,7
Tracksuit top	R267,78	R382,00	42,7
Tracksuit pants	R87,75	R195,00	122,2
Sport socks	R48,58	R53,50	10,1
Cap	R89,95	R171,00	90,1

[Adapted from www.news24.com/fin24/money/education]

Use TABLE 2 to answer the questions that follow.

1.2.1 Arrange (in descending order) the % change in price. (2)

1.2.2 Identify the most expensive item in 2021. (2)

SEE ACADEMY

Downloaded from SEE academy: www.seeacademy.co.za

1.2.3 Calculate the difference in the price of a cap bought in 2022 compared to 2021. (2)

[14]

QUESTION 2

2.1 Mr Venter is working in Germany as a teacher.

He decided to visit his family in South Africa for 12 days and 11 nights in June 2023. Mr Venter made a list of all the expenses needed to go on this trip.

TABLE 3: BUDGET FOR ALL THE EXPENSES TO VISIT SOUTH AFRICA

Expenses	**Cost**
Plane ticket	€1 003 (Return trip)
Car hire and petrol	€23,52 per day
Accommodation	€31,69 per night
Meals	€22,39 per day
Spending money	€500 for 12 days

Source: *www.cheapflight.co.za*

Use the information above to answer the questions that follow.

2.1.1 Define the term *budget* in the given context. (2)

2.1.2. Calculate the total amount Mr Venter is budgeting for the trip to South Africa. (5)

2.1.3 Calculate the total budget amount he will spend in Rands if €1 : R20,10. (2)

2.1.4 Determine if Mr Venter would have enough money for the trip if he invested €2 200 for 2 years at ABC Bank in Germany at an interest rate of 6% compounded annually. (6)

SEE ACADEMY

Downloaded from SEE academy: www.seeacademy.co.za

2.2 Mr Venter booked a flat in Johannesburg where he had to pay for the electricity he uses during his stay.

TABLE 4: ELECTRICITY RATES FOR JOHANNESBURG DURING JUNE 2023.

Tariff blocks (usage intervals)				**R/kWh (VAT inclusive)**
Block 1	0	–	100 kWh	R2,0970
Block 2	101	–	400 kWh	R2,4541
Block 3	401	–	650 kWh	R2,6738
Block 4	usage above 650 kWh			R2,8824

Source:*www.nersa.org.za*

Use the information above to answer the questions that follow.

2.2.1 What does the acronym *VAT* stand for? (2)

2.2.2 Determine the maximum kWh charged in **Block 2.** (2)

2.2.3 Calculate the total amount he will pay if he uses 412 kWh electricity during his stay. (5)

2.2.4 Determine the probability (as a percentage), that Mr Venter will be in South Africa during winter season. (2)
[26]

SEE ACADEMY

Downloaded from SEE academy: www.seeacademy.co.za

QUESTION 3

The Mokoena family travelled daily for 10 days between Johannesburg and Pretoria. Every day their son counted the number of TOYOTA and VOLKSWAGEN vehicles they passed on the road.

TABLE 5: The number of TOYOTA and VOLKSWAGEN vehicles counted per day.

TOYOTA	20	24	25	29	33	36	36	43	46	58
VOLKSWAGEN	22	41	30	16	10	24	30	19	27	21

Use the above information to answer the questions that follow.

3.1 State whether the number of vehicles counted per day represent discrete or continuous data. Explain your answer. (2)

3.2 Write down the data collection method the Mokoena's son used to collect the data. (2)

3.3 Arrange the number of VOLKSWAGEN counted daily in ascending order. (2)

3.4 Use the data collected on TOYOTA and determine the median. (3)

3.5 The Mokoena's son stated that he saw on average 15 more TOYOTA than VOLKSWAGEN vehicles. Show with calculations whether the son's statement is correct. (6)

[15]

SEE ACADEMY

Downloaded from SEE academy: www.seeacademy.co.za

QUESTION 4

4.1 LUCKY PRINTING EASY business produce advertising brochures.

Its business finances are as follows:

- Pays R1 000 monthly for the hire of the printing machine.
- The cost of printing one brochure is R10.
- Lucky charges her customers R20 per brochure.

LUCKY PRINTING EASY's monthly expenses and income.				
Number of brochures printed in a month	0	100	**B**	200
Total expenses (in rand)	1 000	2 000	2 500	3 000
Total income (in rand)	0	**A**	3 000	4 000

Use the above information to answer the questions that follow.

4.1.1 Write down the formula used by LUCKY PRINTING EASY to calculate the business monthly total expenses. (2)

4.1.2 Calculate the values of **A** and **B** in die tabel. (3)

4.1.3 Use the ANSWERSHEET appearing on the last page to draw a graph of LUCKY PRINTING EASY's monthly income. (3)

4.1.4 Suppose LUCKY PRINTING EASY in one month prints 160 brochures and sells all of them. Calculate the profit she made in that month.

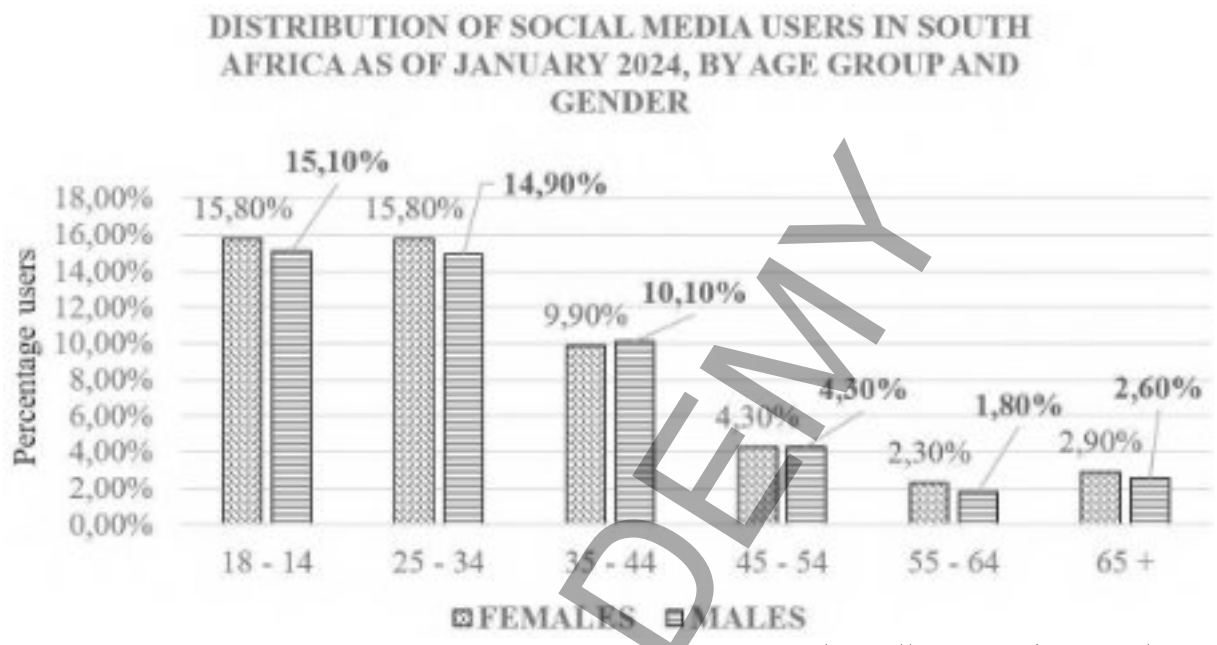
Use the formula:

Profit = Income – Expenses (4)

SEE ACADEMY

Downloaded from SEE academy: www.seeacademy.co.za

4.2 Below is a graph showing the distribution of social media users in the Republic of South Africa as of January 2024, by age group and gender.



Source: https://www.statista.com/

Use the information above to answer the questions that follow.

4.2.1 Determine the age group where the difference between female and male users of social media usage is zero. (2)

4.2.2 Give responses in terms of **(a)** and **(b)** below:

(a) **Comment** (that is, give a numerical observations) about females and males users of social media in the age group of 25 to 34 years. (2)

(b) **How do the numbers compare** for females and males in the age group of 25 to 34 years? (2)

4.2.3 Describe the trend in the use of social media by females and males over the age groups as observed in the graph. (2)
[20]

TOTAL: 75

SEE ACADEMY

Downloaded from SEE academy: www.seeacademy.co.za

ANSWER SHEET

SURNAME: _____

NAMES / INITIALS: _____

QUESTION 4.1.3



SEE ACADEMY

Copyright reserved