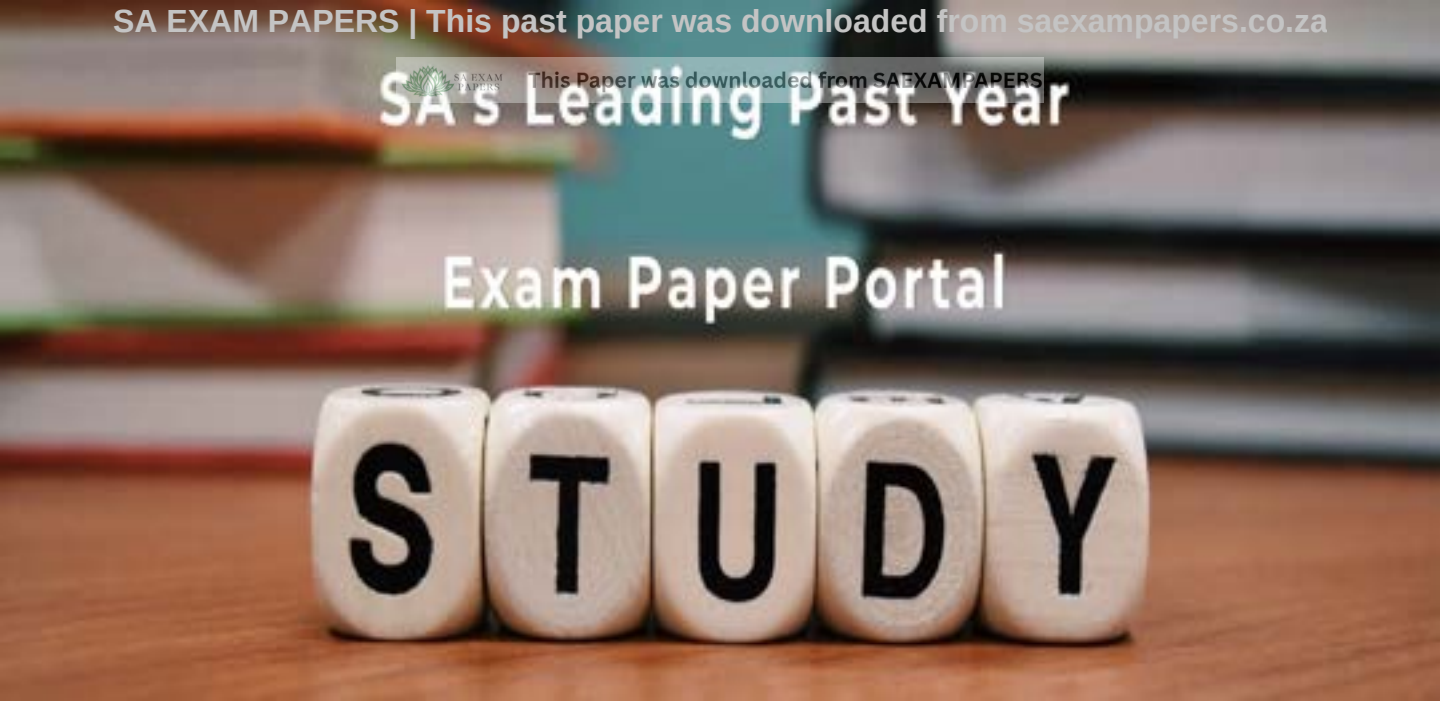


education

Department:
Education
North West Provincial Government
REPUBLIC OF SOUTH AFRICA

PROVINCIAL ASSESSMENT

GRADE 12

MATHEMATICAL LITERACY P2

JUNE 2025

MARKS: 100

TIME: 2 hours

This question paper consists of 10 pages.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of FOUR questions. Answer ALL the questions.
2. Number the answers correctly according to the numbering system used in this question paper.
3. Start EACH question on a NEW page.
4. You may use an approved calculator (non-programmable and non-graphical), unless stated otherwise.
5. Show ALL calculations clearly.
6. Round off ALL final answers appropriately according to the given context, unless stated otherwise.
7. Indicate units of measurement, where applicable.
8. Maps and diagrams are NOT necessarily drawn to scale, unless stated otherwise.
9. Write neatly and legibly.

QUESTION 1

1.1 Explain EACH of the following concepts:

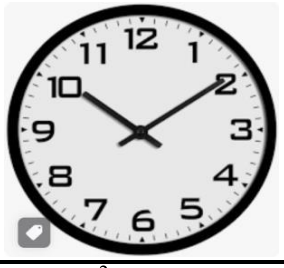
1.1.1 Radius (2)

1.1.2 Scale (2)

1.1.3 Probability (2)

1.2 TABLE 1 below contains information in COLUMN A which relate to units, formulas and instruments listed in COLUMN B that are used in measurement.

TABLE 1:-INFORMATION, UNITS, FORMULAS & INSTRUMENTS

COLUMN A		COLUMN B	
1.2.1	The instrument to measure the mass of an adult.	A 	B 
1.2.2	The clock that displays 10 minutes to 2 o'clock.	C 	D 
1.2.3	The unit for measuring BMI	E. $kg.m^2$	F. kg/m^2
1.2.4	The formula to calculate the surface area of a closed cylinder.	G. $2\pi r^2 + 2\pi\, rh$	H. $\pi r^2 + 2\pi\, rh$

Match the information in COLUMN A with units, formulas or instruments in COLUMN B by choosing the relevant option.
Write only the letter (A–H) next to the question numbers (1.2.1 to 1.2.4), e.g. 1.2.5 J. (8)

1.3

The map below shows some countries of Africa.

MAP: COUNTRIES OF AFRICA

[Adapted from www.WorldAtlas.com]

Use the information above to answer the questions that follow.

1.3.1 Name the type of scale used on the map. (2)

1.3.2 Write down the number of countries that appear on the map. (2)

1.3.3 List TWO towns in South Africa that appear on the map. (2)
[20]

QUESTION 2

The map below shows Zimbabwe and its neighbouring countries.

A MAP OF ZIMBABWE AND NEIGHBOURING COUNTRIES

[Adapted from www.WorldAtlas.com]

NOTE:

National Parks

Use information above to answer the questions that follow.

2.1 Name the river that is on the border line of South Africa and Zimbabwe. (2)

2.2 Determine the probability, as a percentage, of Zambesi River forming a border between Botswana and Namibia. (2)

2.3 Give the compass direction of Victoria Falls from Kruger National Park. (2)

2.4 It is claimed that the scale of the map is **1 : 5 000 000**.

Use 125 km of the scale given on the map to verify whether the claim is VALID. (5)

2.5 A group of tourists travelled a distance of 1 852 km by bus from Kruger National Park to Victoria Falls in Namibia. The bus was driving at a speed of 80 km/h.

2.5.1 Calculate the time (in hours and minutes), excluding stops, that the tourists took to drive to Victoria Falls.

You may use the formula:

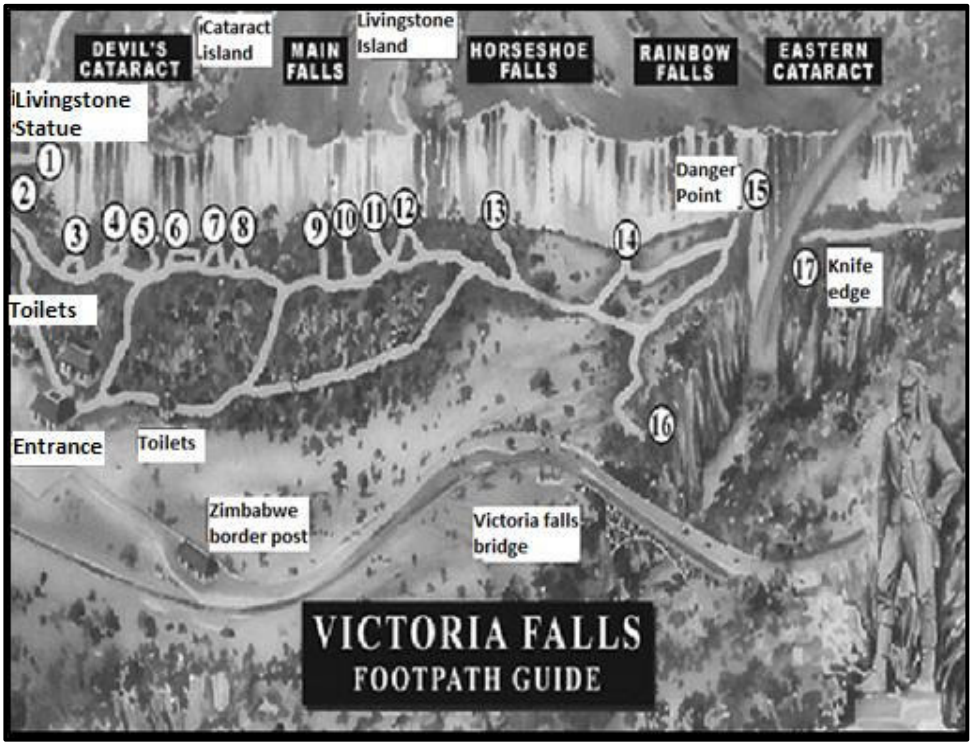
$$\textbf{Time} = \frac{distance}{speed}$$ (4)

2.5.2 The tourists left Kruger National Park on Friday at 13:15. They spent 48 minutes at Beitbridge border gate and 1 hour 30 minutes at Bulawayo.

Determine the day and arrival time at Victoria Falls. (5)

2.5.3 Give ONE possible reason why the tourists stopped at Bulawayo. (2)

2.6 The picture below shows Victoria falls footpath guide.



[Adapted from www.pinterest.co.za]

Use the picture above to answer the questions that follow.

2.6.1 Write down the name of the island that is on the right of the Main Falls. (2)

2.6.2 Explain the route from the entrance to point ⑨ (4)

[28]

QUESTION 3

3.1 Pule, a young farmer specialising in maize, stores his harvest in square based silos. Every silo is covered with a special material for heat control. The base of the silo is not covered but placed on the steel stand.

The picture below shows the dimensions of one of the silos.

COVERED SQUARE BASED SILO

NOTE The dimensions of the rectangular silo are as follows:

Side of the base = 2,3 m

Height = 3 000 mm

[Adapted from http//: www.pixelsquid.com]

Use the information above to answer the questions that follow.

3.1.1 Explain the concept *perimeter* in this context. (2)

3.1.2 Calculate the volume (to nearest m^3) of a rectangular silo.

You may use the following formula:

Volume = $s^2 \times h$ (4)

3.1.3 Calculate the total material needed to cover the THREE silos for heat control.

You may use the following formula:

Area = $4s \times$ height + s^2 (5)

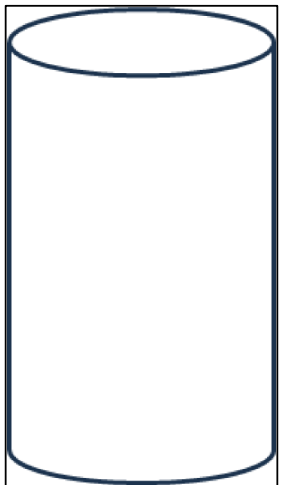
3.1.4 Give ONE possible reason why the silos are placed on the steel stands. (2)

3.2 Pule intends to buy three new cylindrical silos, to top up the silos he already has. The cylindical silos have cone-shaped lids and bases. The maize will only be stored in the silo as shown below.

Below is a picture of a cylindical silo and its diagram without the lid and the base.

CYLINDRICAL SILO

THE CYLINDRICAL SILO WITHOUT THE LID AND THE BASE



The diameter of the cylindrical silo is 2,3 m with the volume of 3 962,5808 gallons

NOTE:
1 gallon = 3,7854 litres
1 000 litres = 1 m^3

[Adapted from http//: www.pixelsquid.com]

Use the information above to answer the questions that follow.

3.2.1 Convert the volume of a cylindrical silo to m^3. Round off answer to the nearest m^3. (4)

3.2.2 Calculate the height of the cylindrical silo without the lid and the base.

You may use the following formula:

Volume of cylinder = 3,142 × r^2 × h (4)

3.2.3 Pule was advised to paint the cylindrical silo with a silver shield paint. Each silo has a surface area of 34,33 m^2.

The spread rate of a silver shield paint is 9 m^2 per litre for the first coat and 12 m^2 per litre for the subsequent coats.

The shopkeeper claims that Pule will need more than 20 litres of paint for the THREE silos.

Verify, showing ALL calculations, whether the claim is VALID. (7)

[28]

QUESTION 4

Mac is an athlete who looks after his weight without a compromise. He is cautious about his daily calory intake.

He consulted with his dietician who gave him the following information:

- The normal daily calory intake for men is 2 500 and for females is 2 000
- To lose weight, one must reduce daily calory intake by 500–600

Use the information above to answer the questions that follow.

4.1 Write down the acronym *BMI* in full. (2)

4.2 Mac divided his daily calory intake of 2 500 into the ratio **4 : 3 : 2** amongst breakfast, lunch and supper respectively. (4)

Calculate the amount of calories Mac should consume for supper. Round off the answer to the nearest 10.

4.3 Calculate the maximum daily calory intake for men to lose weight. (3)

4.4 Mac is 170 cm high and with a BMI of 23,1 kg per m^2

Calculate Mac's mass.

You may use the following formula:

$$\textbf{BMI} = \frac{\textbf{mass in kg}}{(\textbf{height in m})^2}$$ (4)

4.5 Mac was advised to preheat the oven to 450 °F when he prepares his meals. He tried to convert this temperature and got 230 ℃ rounded off to 10 ℃.

Verify whether Mac converted the temperature CORRECTLY.

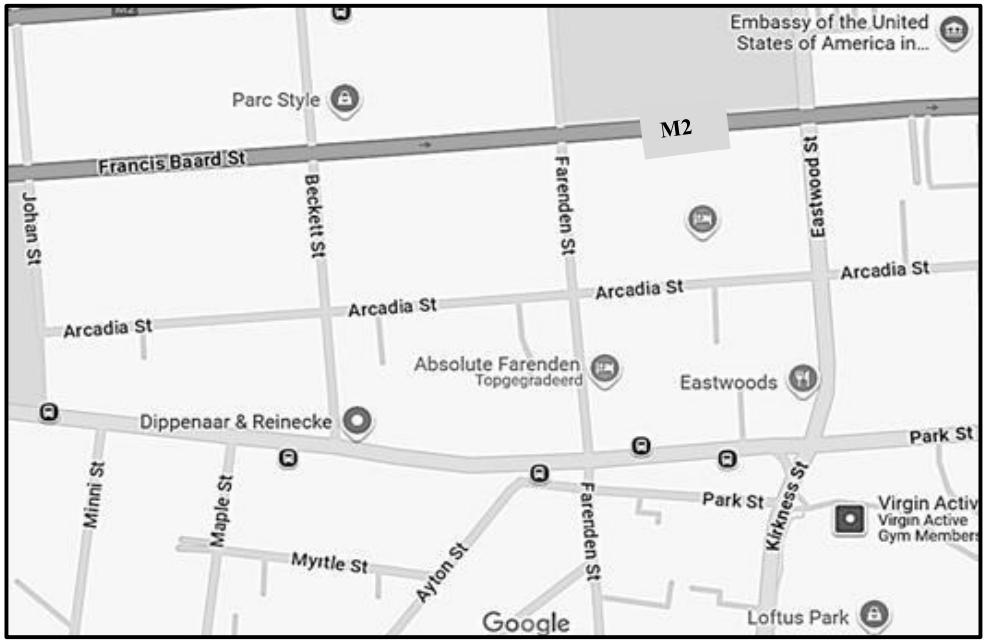
You may use the following formula:

$$°F = (1{,}8 \times °C) + 32°$$ (4)

4.6 Mac stays in Pretoria and prefers to run every morning before going to work.

Below is a map of part of Pretoria where Mac runs.

A MAP OF PART OF PRETORIA



[Adapted from www.googlemaps]

Use the map above to answer the questions that follow.

4.6.1 Name the type of map used above. (2)

4.6.2 Identify the street on the map that one can use to reach M2. (2)

4.6.3 Every morning Mac runs anticlockwise from Absolute Farenden and back using Arcadia Street, Beckett Street, Park Street and Farenden Street.

Arrange the order of streets for Mac to plan a COMPLETE route. (3)
[24]

TOTAL: 100