



education

DEPARTMENT: EDUCATION
MPUMALANGA PROVINCE

MATHEMATICAL LITERACY

GRADE 12

AUGUST TEST

MARKS : 50 Marks

DURATION : 1 Hour

This question paper consists of 9 pages including the cover page,

INSTRUCTIONS AND INFORMATION

1. This question paper consists of **THREE** questions. Answer **ALL** the questions.
2. 2.1 Use **ANNEXURE A** to answer QUESTION 1
2.2 Use **ANNEXURE B** and **ANNEXURE C** to answer QUESTION 3
3. Show **ALL** calculations clearly.
4. Write neatly and legibly.
5. You may use an approved calculator, unless stated otherwise.
4. Round off ALL final answers appropriately according to the given context, unless stated otherwise.
5. Indicate units of measurement, where applicable.
6. Number the answers correctly according to the numbering system used in this question paper.

QUESTION 1

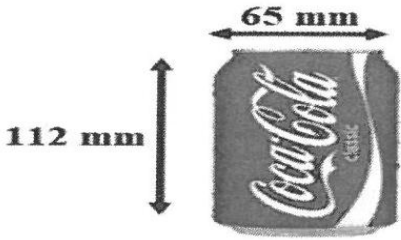
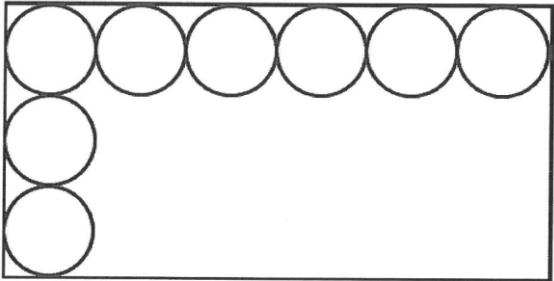
ANNEXURE A shows the plan of a house that Mr and Mrs Mokoena plan to build. Use ANNEXURE A to answer the following questions:

- 1.1 Identify the type of scale used on the plan. (2)
- 1.2 Describe what “view elevation” is in this context. (2)
- 1.3 Explain the meaning of the scale 1: 100. (2)
- 1.4 Write down the number of interior doors shown on the floor plan. (2)
- 1.5 Match the elevation plans A and B to the correct side of the house on the floor plan. Use compass directions North, South, West or East. (2)
- 1.6 Write down the rooms which are warmest in winter. (2)
- 1.7 The length of bedroom 1 is $46mm$ on the floor plan. Use the given scale to calculate the actual length, in *metres*, of the bedroom. (3)
- 1.8 The Mokoena’s are planning to put ceiling in the master bedroom. The dimensions of the master bedroom are $5\,100mm \times 4\,210mm$.
The dimensions of each ceiling board they intend using are: $2\,400mm \times 900mm$
Calculate the number of ceiling boards that would be needed for the master bedroom. (5)

[20]

QUESTION 2

To help with a fundraising project to host the Matric Farewell, Mpho and her friends sell cans of Coca Cola at the soccer matches played at school. They pack the Coca Cola cans in a rectangular box so that their circular tops touch each other as shown below.

CAN OF COCA COLA	ILLUSTRATION OF CANS IN A BOX
	

The following formulae may be used:

- **Area of circle** = $\pi \times \text{radius}^2$, where $\pi = 3,142$
- **Volume (cylinder)** = $\pi \times \text{radius}^2 h$, where $\pi = 3,142$
- **Volume of box** = **length** $\times$ **width** $\times$ **height**

NOTE:

- The height of the box = 11,76 cm
- $1000 \text{ cm}^3 = 1 \text{ litre}$

Use the information above to answer the questions that follow.

- 2.1. Determine the dimensions (in cm) of the base of the box. (5)
- 2.2. Calculate the volume (in litres) of the box, rounded off to the nearest litre. (4)
- 2.3. Mpho stated that there will be 18 cans that will fit in the box. Verify Mpho’s statement by showing all calculations. (5)

[14]

QUESTION 3

The HP Smart Tank printer 530 series is one of new generation printers that uses ink tanks instead of cartridges.

ANNEXURE B shows the HP printer parts and **ANNEXURE C** shows the initial set up instructions in diagram format.

Use **ANNEXURE B** and **ANNEXURE C** to answer the questions that follow.

3.1 Write down the number of trays on the printer. (2)

3.2 The following are the set of steps that should be followed when setting up the printer. Match diagrams (1 – 6) in **ANNEXURE C** with the appropriate steps (A - F) below. Write down only the diagram number and the letter of the step of your choice, for example: **7 – G**.

A) Remove the tape and packing material from the ink access area.

B) Open the printhead access door and then remove the tape and packing material from inside the printer.

C) Remove all tape from the outside of the printer.

D) Connect the power cord to the rear of the printer and then plug the other end into an electrical outlet.

E) Lift the scanner lid and then remove the protective tape.

F) Open the front door. (6)

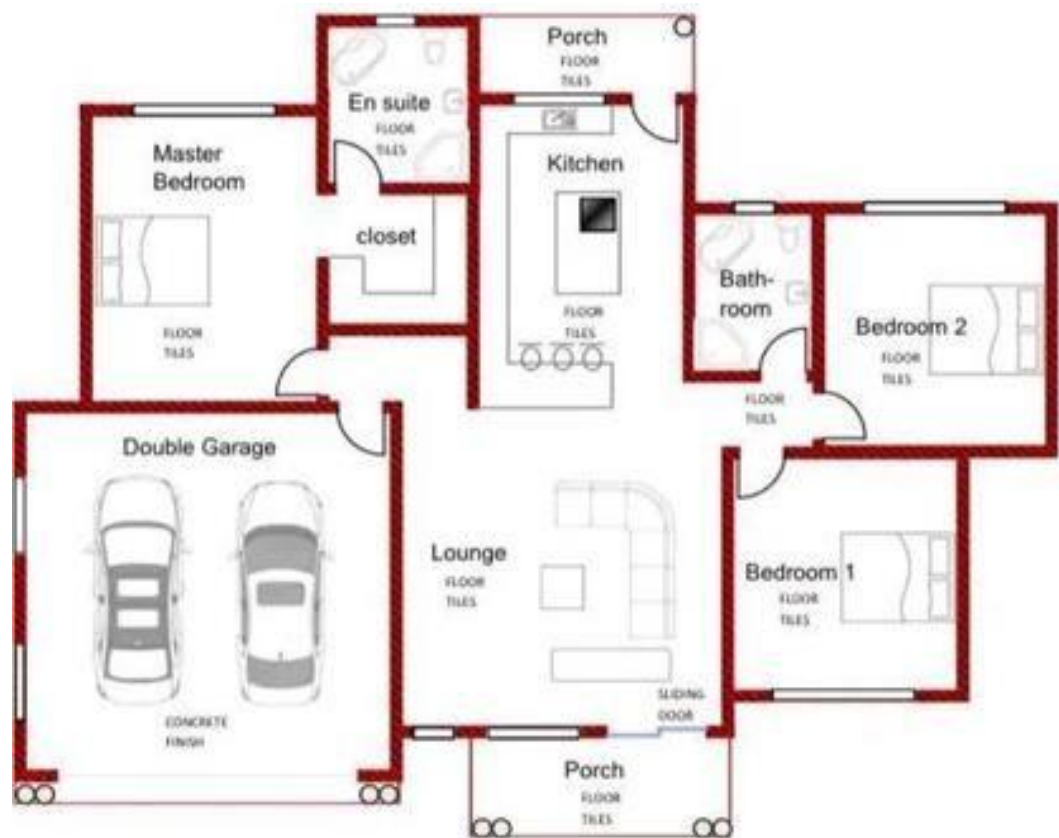
3.3 Write down 2 sets of instructions for diagrams **7** and **8** on **ANNEXURE C**. (4)

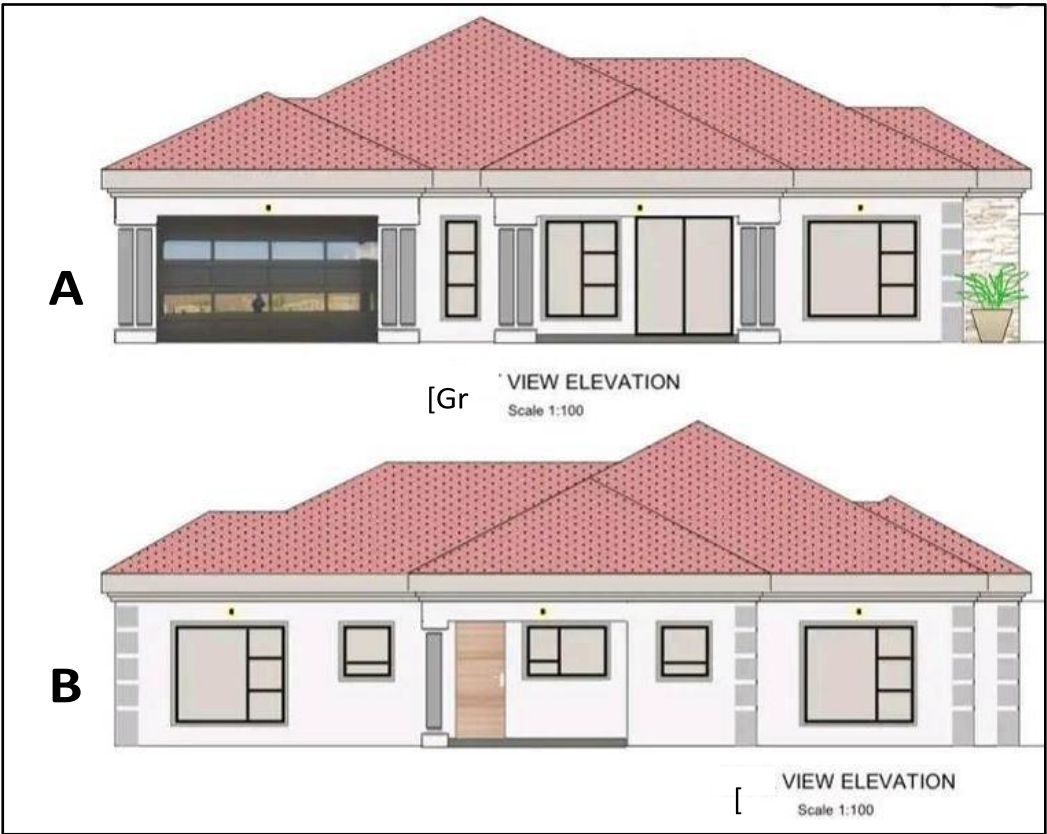
3.4 The HP Smart Tank printer can print up to 11 pages per minute (ppm) in black colour. A ream of paper has 500 pages. Mojalefa claims that the printer can finish printing on a full ream of paper in less than hour.

Verify Mojalefa's claim using calculations. (4)

[16]

ANNEXURE A
QUESTION 1





ANNEXURE B
QUESTION 3

Printer parts

1	Paper-width guide
2	Input tray
3	Input tray shield
4	Scanner lid
5	Scanner glass
6	Document feeder
7	Printhead access door
8	Front door
9	Ink tank
10	Ink tank cap
11	Output tray
12	Output tray extender (also referred to as the tray extender)
13	Control panel

ANNEXURE C
QUESTION 3

