



KWAZULU-NATAL PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA

**PROVINCIAL STANDARDISED
ASSESSMENT**

GRADE 11

MATHEMATICAL LITERACY P2

JUNE 2026

MARKS: 75

TIME: $1\frac{1}{2}$ hours

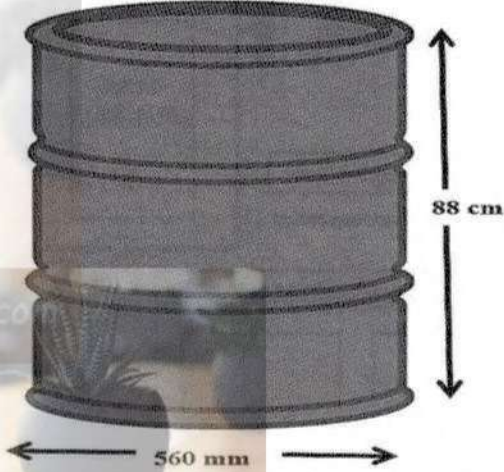
This question paper consists of 10 pages.

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 the calculations clearly.
6. Round off, ALL the final answers appropriately according to the given context, unless stated otherwise.
7. Indicate units of measurement, where applicable.
8. Diagrams are NOT necessarily drawn to scale unless stated otherwise.
9. Write neatly and legibly.

QUESTION 1

- 1.1 Thabo is a local welder who manufactures braai stands from recycled steel cylindrical drums. He cuts the drum exactly in half lengthwise. Each drum has a diameter of 560 mm and a height of 88 cm.

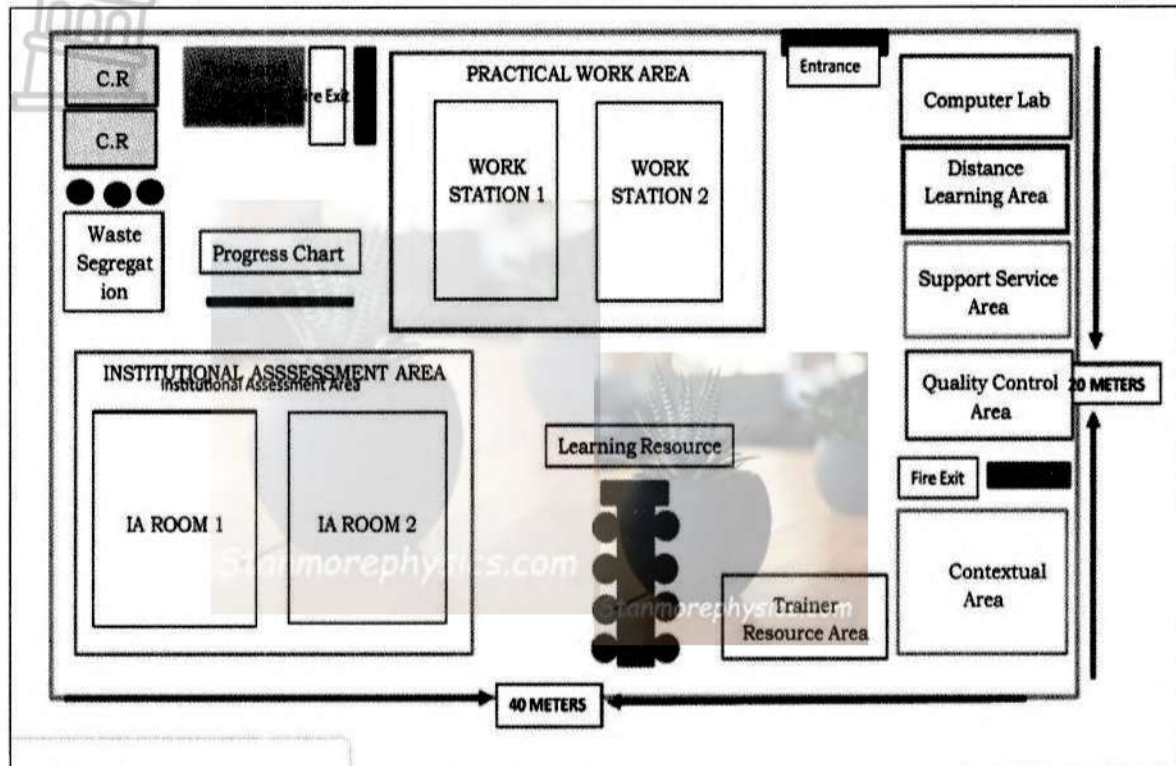
PICTURE OF THE BRAAI STANDS	DIMENSIONS OF THE CYLINDRICAL DRUM
	 [Source: https://barrelwarmer.com/]

Study the information above and answer the questions that follow.

- 1.1.1 Define the term *diameter* in the given context. (2)
- 1.1.2 Determine the radius of the drum in millimetres. (2)
- 1.1.3 Convert the height of the drum to metres (2)
- 1.1.4 Choose the correct option (A, B, C or D) that best represents the area of the rectangular top grill (2)
- A 49 280 cm²
B 4 928 mm²
C 0,4928 m²
D 1 296 cm²

- 1.2 The layout plan below shows the workshop used by Thabo to train the youth in different welding skills. The workshop has an area of 800 m^2 with a length of 40 metres and a width of 20 metres.

LAYOUT PLAN OF THABO'S WORKSHOP



[Source : <https://www.scribe.com>]

Use the layout plan above to answer the following questions.

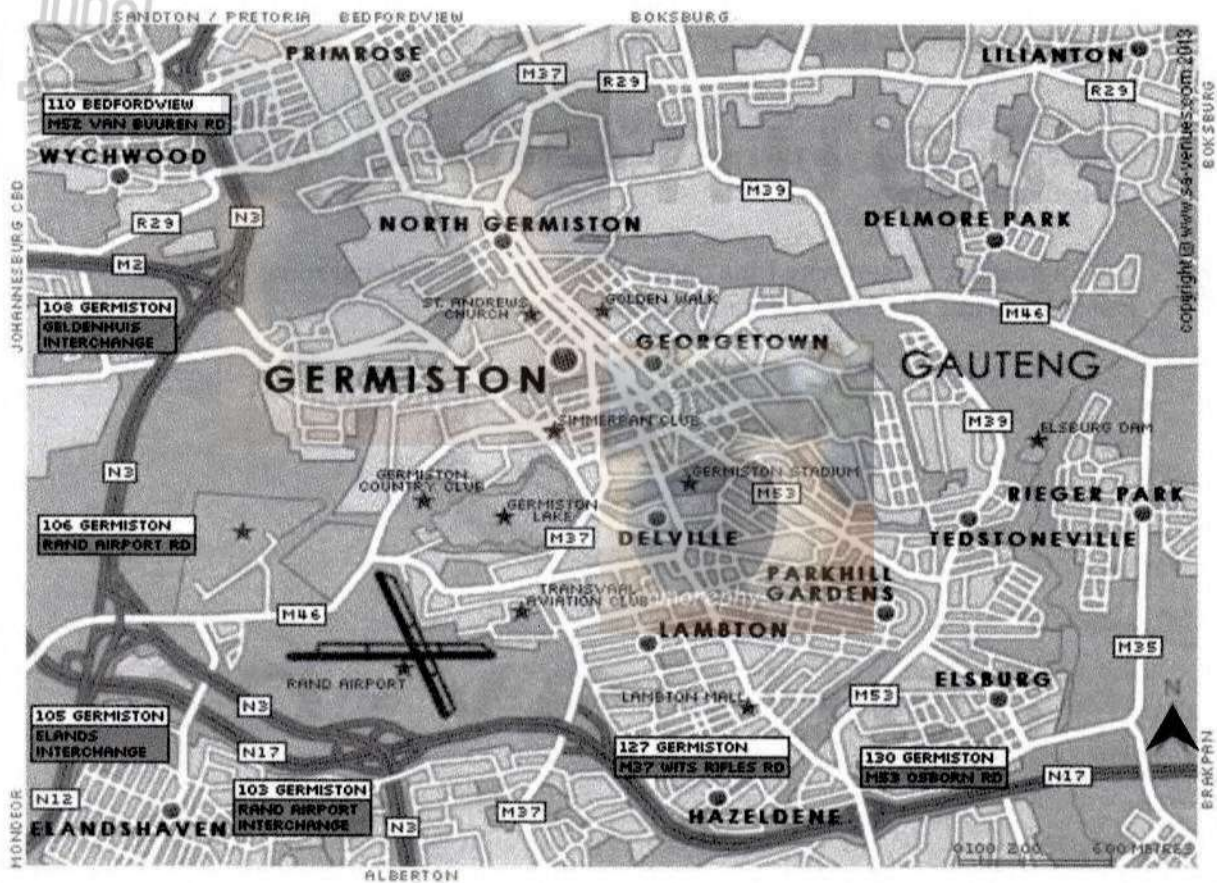
- 1.2.1 Determine the number of fire exit points shown on the layout plan. (2)
- 1.2.2 Thabo walks straight from the entrance without turning to the sides. Identify the room that will be directly in front of him. (2)
- 1.2.3 The area of one work station is 9% of the area of the workshop. Calculate the area of ONE work station in square metres. (2)
- 1.2.4 The measured length of the workshop is 5cm. determine the scale of the layout plan in the form of **1cm:...m** (2)

[16]

QUESTION 2

- 2.1 Lina lives in Germiston and is a delivery driver at Rand Airport. Below is a street map of Germiston and its surroundings.

STREET MAP OF GERMISTON AND SURROUNDINGS



[Source : <https://www.sa-venues.com/maps>]

Key:



Metropolitan route



National route

Study the street map above and answer the questions that follow.

- 2.1.1 Identify the national road that runs from north to south on the western side of Germiston. (2)
- 2.1.2 Give the general direction of Elandshaven from Delmore Park. (2)
- 2.1.3 Name metropolitan route that is found in Rieger Park. (2)

- 2.2 Lina drives from Rand airport to Brakpan and her delivery van has a fuel consumption of 9,5 litres per 100 km. The one-way trip takes about 0,6667 hours from Rand Airport to Brakpan using a Metropolitan route.

- 2.2.1 Calculate the number of litres of fuel she will need for a round trip to Brakpan, if the actual distance from Rand Airport to Brakpan is 24,9 km. (3)
- 2.2.2 Lina leaves the Rand airport at 08:45 for delivery to Brakpan. She spends 25 minutes offloading the delivery at Brakpan. Calculate her arrival time back at Rand airport after offloading a delivery. (5)
- 2.2.3 Give a possible reason why Lina chose to drive on the national route for her delivery instead of using the Metropolitan route. (2)

[16]



QUESTION 3

- 3.1 Yamato uses cylindrical stainless steel and rectangular square-based containers to store milk and olive oil, respectively.

The pictures below show the dimensions of the two containers.

Cylindrical olive oil container	Rectangular square-based milk container
 Radius (r) = 16cm or 6,29 inches Height (h) = 24,5cm or 9,64 inches Note: Volume (imperial) is equal to 1 198,35 inches³	 Length(l) = 238mm Width (w) = 238mm Height (h) = 35cm

[Adapted from <https://www.amazon.com/>]

Study the pictures and the information above to answer the questions that follow.

- 3.1.1 Determine the circumference of the base of a cylindrical container in centimetres.

You may use the following formula:

Circumference of the circle = $2 \times 3,142 \times r$, where r = radius

(2)

- 3.1.2 Calculate the volume of the rectangular square-based container in cm³.

You may use the following formula:

Volume of a rectangular prism = length $\times$ width $\times$ height

(3)

- 3.1.3 Determine to the nearest litre the capacity of the rectangular container.

Note: 1 000 cm³ = 1 litre

(3)

- 3.1.4 Show by calculations that the conversion factor of the volume of the cylinder is given by 1 inch³ = 16,44 cm³.

You may use the following formula:

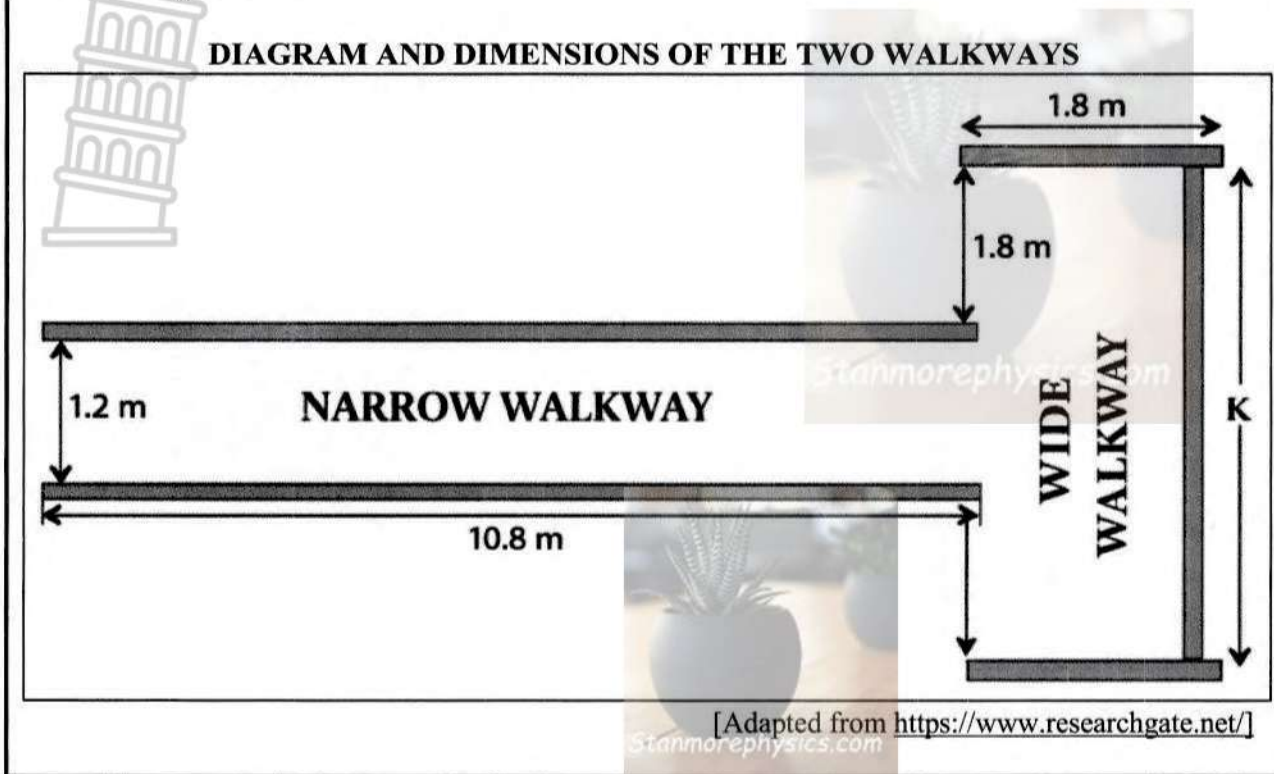
Volume of a cylinder = $3,142 \times r^2 \times h$, where r = radius and h = height.

(4)

- 3.1.5 Yamato intends to coat the outside of the rectangular square base container with a rust-proof spray. Give ONE valid reason of spraying a container with a rust-proof spray.

(2)

- 3.2 Yamato intends to build a walkway that leads to his house. The walkway has a narrow side and a wide side. The walkway design is illustrated below with the diagram and the dimensions of the two walkways shown.



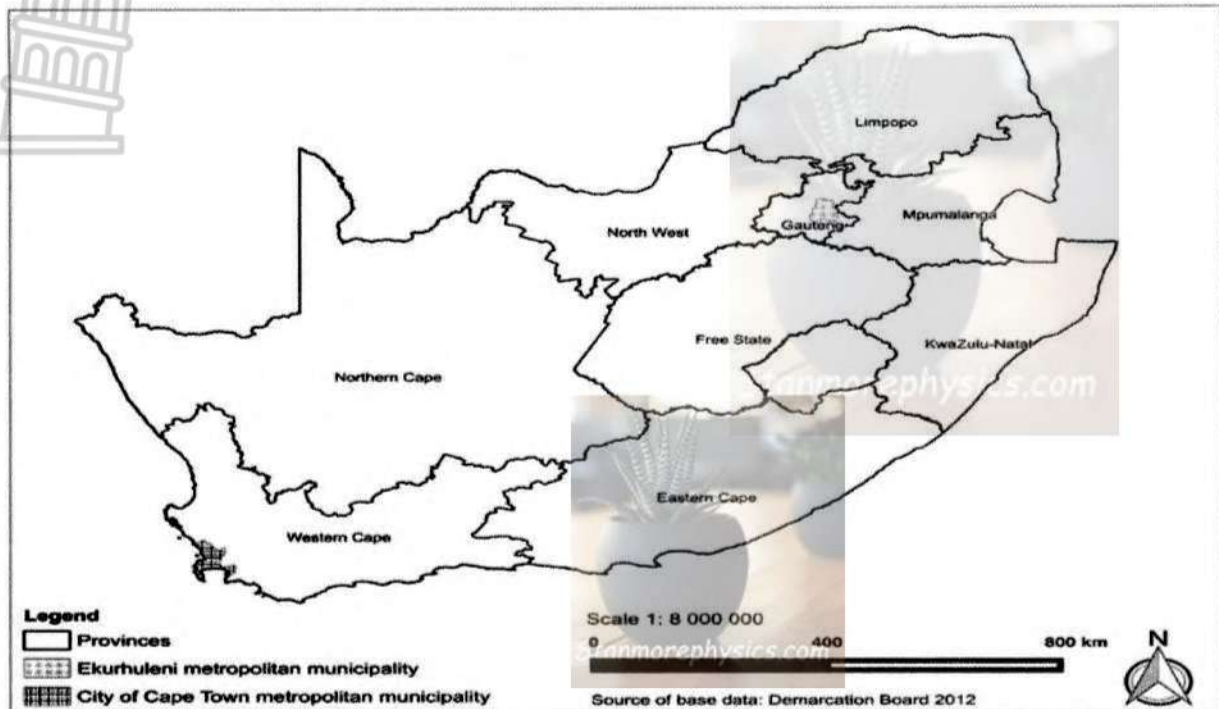
Study the diagram and information above to answer the questions that follow.

- 3.2.1 Calculate the value of **K**, the length of the wide walkway. (3)
- 3.2.2 Determine the area of the narrow walkway in square metres. (2)
- You may use the following formula:
- Area of a rectangle = length $\times$ width**
- 3.2.3 The narrow walkway sides require a recycled-plastic edge to keep the track level. The plastic edging is sold in half-lengths, and each half-length costs R72,50. Calculate the total cost for buying enough edging for the two side narrow walkway lengths. (5)

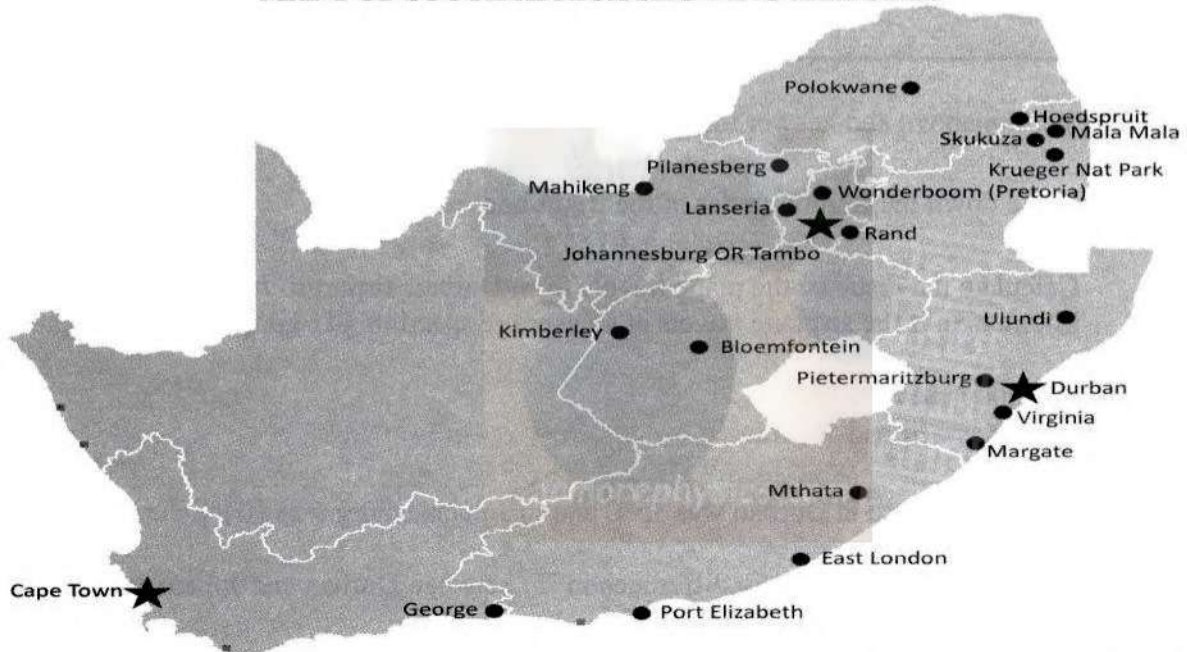
[24]

QUESTION 4

- 4.1 TWO South African maps with provinces and airports per province are respectively shown below.

MAP 1 OF SOUTH AFRICA SHOWING PROVINCES

[Source: <https://www.africansky.com/african-travel/south-africa/>]

MAP 2 OF SOUTH AFRICA SHOWING AIRPORTS

[Source: <https://www.airportspotting.com/airports-south-africa/>]

Study the TWO maps above and answer the questions that follow.

- 4.1.1 Explain the meaning of the number scale given on map 1. (2)
- 4.1.2 Identify the province that has no airport. (2)
- 4.1.3 Describe the direction of Johannesburg OR Tambo from Cape Town via Durban airport according to the given context. (3)
- 4.1.4 Convert the measurement of bar scale into unit ratio. (4)

- 4.2 Below is the picture showing the flight ticket for a domestic flight from Durban Airport to Johannesburg OR Tambo Airport.

ONE-WAY FLIGHT TICKET FROM DBN TO JHB



[Source: <https://www.flysafair.co.za/>]

Study the picture above and answer the questions that follow.

- 4.2.1 Write down the flight number of the flight booked. (2)
- 4.2.2 Calculate the distance the plane travels from Durban airport to Johannesburg in kilometres, if the airplane travels at an average speed of 441 kilometres per hour. (3)
- You may use the formula:
Distance = Speed × Time
- 4.2.3 The temperature in Durban was 35°C and in Johannesburg was 104°F during the day of the flight. Determine the temperature difference in °F; between Durban and Johannesburg. If 86°F = 30°C. (3)

[19]

TOTAL: 75 MARKS



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**NATIONAL
SENIOR CERTIFICATE**

GRADE 11

MATHEMATICAL LITERACY P2
PROVINCIAL STANDARDISED ASSESSMENT
JUNE 2026
MARKING GUIDELINE

MARKS: 75

SYMBOL	EXPLANATION
MA	Method with accuracy
MCA	Method with Consistent accuracy
CA	Consistent accuracy
A	Accuracy (Answer)
C	Conversion
RT	Reading from a table/ graph/ diagram/ document
SF	Correct substitution in a formula
O	Opinion/ explanation/ reason/deduction/example
P	Penalty e.g. for no units, incorrect rounding off
S	Simplification
R	Rounding off
NPR	No penalty for correct rounding
NPU	No penalty for omitting units, but wrong unit is penalised
AO	Answer only full marks

This marking guideline consists of 5 pages.

NOTE:

- If a learner answers a question *TWICE*, only mark the *FIRST* attempt.
- If a learner has crossed out (cancelled) an attempt to a question and *NOT* redone the solution, mark the crossed out (cancelled) version.
- Consistent accuracy (CA) applies in *ALL* aspects of the marking guidelines; however, it stops at the second calculation error.
NOTE: consistent accuracy does not apply in case of a breakdown.
- If the learner presents extra solution when reading from the graph, table, layout plan and map, then penalise for every extra item presented.
- Rounding is an independent mark.
- General principle of making, if a learner has made one mistake and there is evidence of sound mathematics thereafter, then that learner should lose one mark only.
- A conclusion mark can only be given if relevant calculations precedes it. At least a $\frac{1}{3}$ of mark before conclusion.
- No penalty for rounding (NPR) if the first decimal is correct, except for questions involving money.

QUESTION 1 [16] ANSWER ONLY FULL MARKS			
QUE	SOLUTION	EXPLANATION	T&L
1.1.1	Is twice the radius of the drum. ✓✓O OR Is the distance from the edge of the drum through the centre to the other side edge. ✓✓O	2O explanation (2)	M L1 E
1.1.2	Radius = $\frac{560\text{mm}}{2}$ ✓MA = 280mm ✓A	1MA dividing diameter by 2 1A answer (2)	M L1 E
1.1.3	Height in metres = $\frac{88\text{cm}}{100}$ ✓C = 0,88 m ✓A	1C conversion 1A answer (2)	M L1 E
1.1.4	C ✓✓A	2A answer Accept 0,4928m² (2)	M L1 M
1.2.1	2 ✓✓RT	2RT correct number of fire exits (2)	MP L1 E
1.2.2	Trainer resource area. ✓✓RT	2RT correct room (2)	MP L1 E
1.2.3	Area of the workstation = $9\% \times 800 \text{ m}^2$ ✓MA = 72 m ² ✓A	1MA multiplying by 9% 1A answer (2)	M L1 M
1.2.4	$\frac{5\text{cm}}{5} : \frac{40\text{m}}{5}$ ✓MA 1cm : 8m ✓A	1MA dividing correct scale by 5 1A simplification (2)	MP L1 E
			[16]

QUESTION 2[16]			
QUE	SOLUTION	EXPLANATION	T&L
2.1.1	N3✓✓RT	2RT correct road (2)	MP L1 E
2.1.2	South West ✓✓A OR SW✓✓A	2A correct direction (2)	MP L2 E
2.1.3	M35 ✓✓RT	2RT correct route (2)	MP L2 E
2.2.1	Number of litres = $\frac{24,9\text{km} \times 9,5 \text{ litres}}{100\text{km}}$ ✓MA $= 2,3655\text{litres} \times 2$ ✓MCA $= 4,73 \text{ litres}$ ✓CA OR Number of litres = $\frac{24,9\text{km} \times 9,5 \text{ litres} \times 2}{100\text{km}}$ ✓MA $= 4,73\text{litres}$ ✓CA	1MA correct rate usage 1MCA multiplying by 2 1CA simplification OR 1MA correct rate usage 1MA multiplying by 2 1CA simplification (3)	MP L3 E
2.2.2	Duration = $0,6667\text{hrs} \times 60$ ✓C $= 40 \text{ minutes}$ ✓A Arrival time = $08:45 + 40 \text{ min} + 40 \text{ min} + 25 \text{ min}$ $= 10:30$ ✓CA OR Duration = $25\text{min} \div 60 + (0,6667\text{hrs} \times 2)$ $= 0,416666\text{hrs} + 1,3334\text{hrs}$ $= 1,75\text{hrs}$ ✓A $= 1\text{hr } 45\text{min}$ Arrival time = $08:45 + 1\text{hr } 45\text{min}$ ✓MCA $= 10:30$ ✓CA	1C multiplying by 60 1A simplification 1MCA adding 40min x 2 1MA adding 25min 1CA arrival time OR 1C dividing by 60 1MA multiplying by 2 1A correct duration 1MCA adding duration 1CA arrival time (5)	MP L4 M
2.2.3	The national route has less traffic congestion ✓✓O OR The national road has a high-speed limit ✓✓O OR Metropolitan Road passes through towns/townships ✓✓O OR The Metropolitan route has fewer lanes ✓✓O OR Metropolitan route has traffic lights/calming ✓✓O OR Road works / stop and go ✓✓O	2O opinion (2)	MP L4 E
			[16]

QUESTION 3 [24]			
QUE	SOLUTION	EXPLANATION	T&L
3.1.1	Circumference of the base of the cylinder $= 2 \times 3,142 \times 16\text{cm} \checkmark \text{SF}$ $= 100,544\text{cm} \checkmark \text{A}$	1SF correct substitution 1A answer (2)	M L2 E
3.1.2	Length in cm = $238\text{mm} \div 10 \checkmark \text{C}$ $= 23,8\text{cm}$ Volume of a rectangular prism $= 23,8\text{cm} \times 23,8\text{cm} \times 35\text{cm} \checkmark \text{SF}$ $= 19\,825,4\text{cm}^3 \checkmark \text{CA}$	1C dividing by 10 1SF correct substitution 1CA correct volume (3)	M L3 M
3.1.3	Capacity = $\frac{19\,825,4\text{cm}^3}{1000} \checkmark \text{C}$ $= 19,8254 \checkmark \text{CA}$ $\approx 19 \text{ litres} \checkmark \text{R}$	CA from 3.1.2 1C converting cm^3 to litres 1CA answer 1R rounding (3)	M L1 D
3.1.4	$\checkmark \text{SF}$ Volume of a cylinder = $3,142 \times (16\text{cm})^2 \times 24,5\text{cm}$ $= 19\,706,624\text{cm}^3 \checkmark \text{CA}$ $\frac{1\,198,35\text{inches}^3}{1\,198,35} : \frac{19\,706,624\text{cm}^3}{1\,198,35} \checkmark \text{MA}$ $\frac{1\,198,35}{1\,198,35} \checkmark \text{MA}$ $1\text{ inches}^3: 16,444\text{cm}^3$	1SF correct substitution 1CA volume 1MA correct ratio order 1MA dividing by 1 198,35 (4)	M L4 D
3.1.5	He wants to increase/extend the life span of the container. $\checkmark \checkmark \text{O}$ OR To prevent the rust formation $\checkmark \checkmark \text{O}$	2O opinion (2)	M L4 E
3.2.1	$\checkmark \text{RT}$ $\text{K} = 1,2\text{m} + 1,8\text{m} + 1,8\text{m} \checkmark \text{MA}$ $= 4,8\text{m} \checkmark \text{CA}$	1RT reading 1,2m 1MA adding correct values 1CA correct length (3)	M L2 E
3.2.2	Area of the narrow walkway = $10,8\text{m} \times 1,2\text{m} \checkmark \text{SF}$ $= 12,96\text{m}^2 \checkmark \text{A}$	1SF correct substitution 1A simplification (2)	M L2 E
3.2.3	$\checkmark \text{RT}$ Total length = $10,8\text{m} \times 2 \checkmark \text{MA}$ $= 21,6\text{m} \checkmark \text{A}$ Number of half lengths = $\frac{21,6\text{m}}{0,5}$ $= 43,2$ $\approx 44 \text{ half lengths}$ Cost = $44 \times \text{R}72,50 \checkmark \text{MCA}$ $= \text{R}3\,190 \checkmark \text{CA}$	1RT correct length 1MA multiplying by 2 1A correct total length 1MA multiplying by R72,50 1CA correct total cost (5)	M L3 D
			[24]

QUESTION 4 [19]			
QUE	SOLUTION	EXPLANATION	T&L
4.1.1	One unit measured on the map of South Africa represents 8 000 000 units in reality. ✓✓O	2O correct explanation (2)	MP L1 E
4.1.2	Northern Cape ✓✓RT OR NC ✓✓RT	2RT correct province (2)	MP L2 M
4.1.3	✓✓A From Cape town fly north east to Durban then fly north west direction to Johannesburg. ✓A	2A correct direction 1A correct direction NE, NW: Penalty max.1mark (3)	MP L2 M
4.1.4	✓MA 6,3cm: 800 km × 100 000 ✓C <u>6,3cm: 80 000 000 cm</u> 6,3cm 6,3cm ✓MA 1: 12 698 412,70 ✓CA	1MA correct measured distance 1C correct conversion 1MA dividing by 6,3cm 1CA number scale Leeway of 0,1cm NPR (4)	MP L3 M
4.2.1	FA273 ✓✓RT	2RT correct number (2)	MP L1 E
4.2.2	✓C Time in hours = 1h + (5 ÷ 60) = 1,083333hrs Distance = 441km/h × 1,083333hrs ✓SF = 477,75 = 477,8 km ✓CA	1C conversion 1SF correct substitution 1CA correct distance NPR (3)	M L3 M
4.2.3	Temperature = $\frac{35^{\circ}\text{C}}{30^{\circ}\text{C}} \times 86^{\circ}\text{F}$ ✓C = 100,33°F Difference = 104°F - 100,33°F ✓MCA = 3,67°F ✓CA	1C correct conversion 1MCA subtraction 1CA difference NPR (3)	M L2 M
			[19]
		TOTAL MARKS:	75