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Province of the
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GRADE 11

NOVEMBER 2024

MATHEMATICAL LITERACY P2 ADDENDUM

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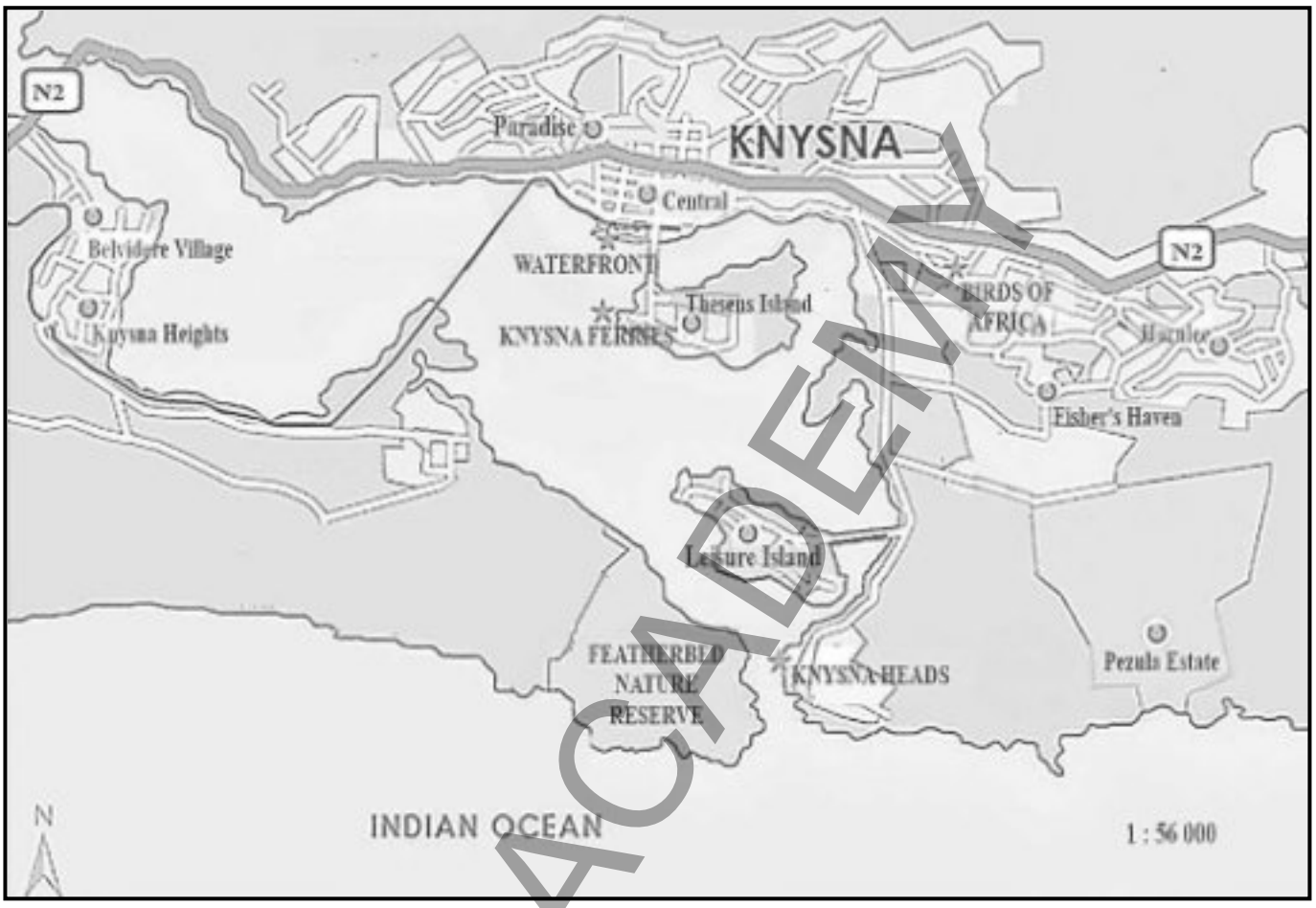
This addendum consists of 3 pages.

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ANNEXURE A

QUESTION 2.1

MAP OF KNYSNA AND SURROUNDING AREAS



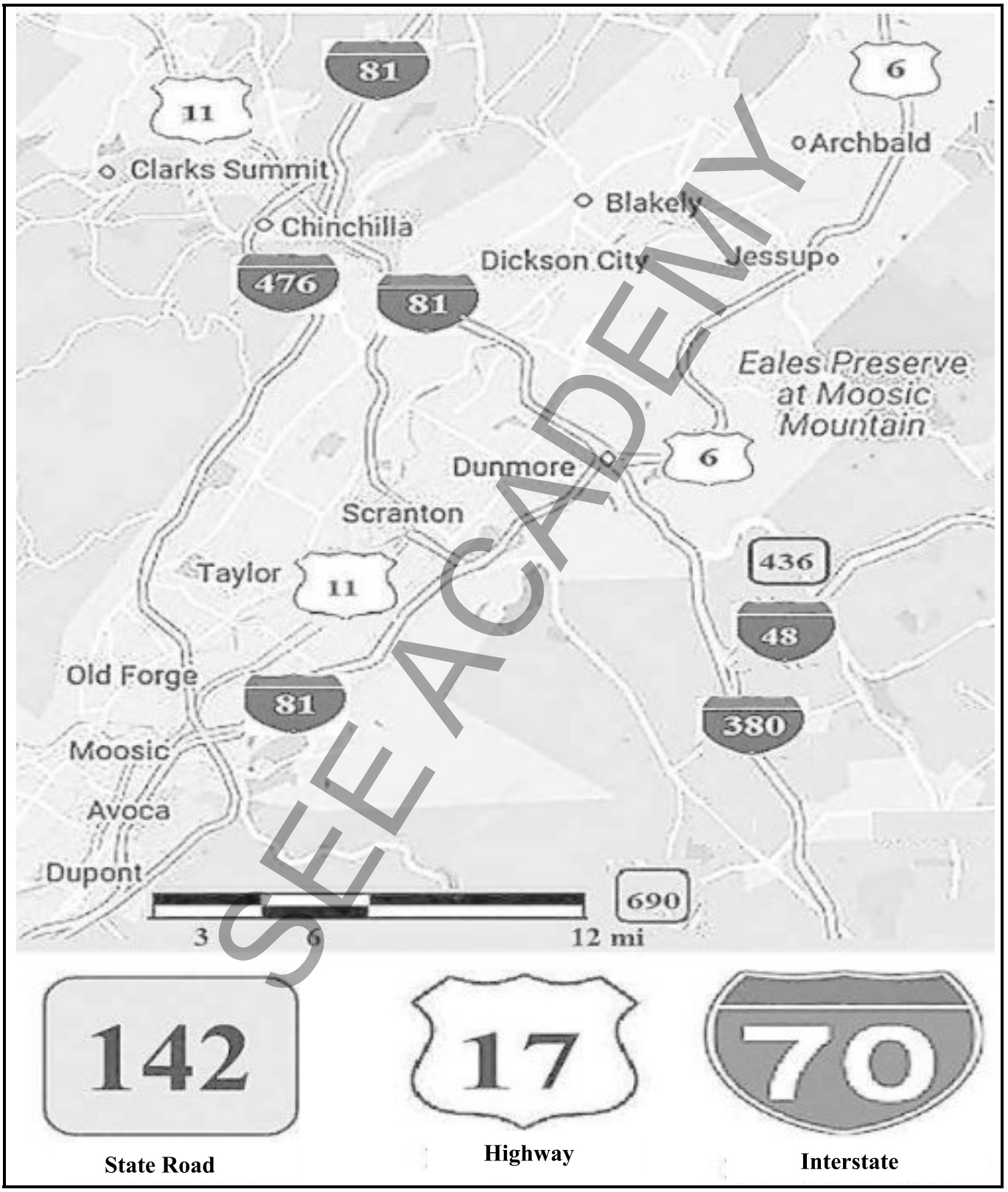
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ANNEXURE B

QUESTION 4.2

ROAD MAP OF SCRANTON IN PENNSYLVANIA, NEW YORK



[Adapted from ItsEasy Passport & Visa | Serving Scranton, Pennsylvania]

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MATHEMATICAL LITERACY P2 MARKING GUIDELINES

MARKS: **100**

Symbol	Explanation
M	Method
MA	Method with accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RT	Reading from a table/graph/diagram
SF	Correct substitution in a formula
O	Opinion/Explanation/Reasoning
P	Penalty, e.g. for no units, incorrect rounding off etc.
R	Rounding Off/Reason
NPR	No penalty for correct rounding minimum two decimal places
AO	Answer only
MCA	Method with consistent accuracy
RCA	Rounding with consistent accuracy

This marking guidelines consist of 11 pages.

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MARKING GUIDELINES

NOTE:

- If a candidate answers a question TWICE, only mark the FIRST attempt.
- If a candidate 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.
- If the candidate presents any extra solution when reading from a graph, table, layout plan and map, then penalize for every extra incorrect item presented.

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KEY TO TOPIC SYMBOL:
F = Finance; M = Measurement; MP = Maps, plans and other representations; P = Probability

QUESTION 1 [20 MARKS] **ANSWER ONLY FULL MARKS**

Ques.	Solution	Explanation	Level
1.1.1	Analogue clock ✓✓A	2A correct type clock (2)	M L1
1.1.2	Ten minutes past ten o'clock in the morning. ✓✓A **OR** Ten past ten in the morning. ✓✓A **OR** Ten past ten before noon. ✓✓A	2A correct time (2)	M L1
1.1.3	Time taken = 10:27 -10:10 ✓M = 00:17 ∴ 17 minutes ✓A	1M subtracting time 1A correct time (2)	M L1
1.2.1	Perimeter is the distance around an object or shape. ✓✓A	2A definition (2)	M L1
1.2.2	Perimeter = 230 cm + 200 cm + 95 cm + 88 cm + 135 cm + 112 cm ✓MA = 860 cm ✓A **Accept if calculated as follows:** Perimeter = (230 × 2) + (200 × 2) ✓MA = 860 cm ✓A	1MA adding all the correct values 1A perimeter 1MA multiplying length and width by 2 1A perimeter (2)	M L1
1.3.1	Side or length = $\frac{43}{100}$ ✓C = 0,43 m ✓A	1C conversion 1A answer (2)	M L1
1.3.2	Area of a square = side × side = 0,43 × 0,43 ✓SF = 0,1849 ≈ 0,18 m^2 ✓MCA **(Accept 0,185 m^2)**	**CA from 1.3.1** 1SF substitution 1MCA area in m^2 **NPR** (2)	M L1
1.4.1	5 casters (wheels) ✓✓A	2A number of casters (2)	MP L1
1.4.2	Tool = Allen key ✓✓A	2A correct tool (2)	MP L1

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1.4.3	M8 × 15 mm ✓A M5 × 18 mm ✓A	1A M8 × 15 mm 1A M5 × 18 mm **(Accept any order)** (2)	MP L1
		[20]	

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QUESTION 2 [20 MARKS]

Ques.	Solution	Explanation	Level
2.1.1	N2 ✓✓A	2A correct national road (2)	MP L1
2.1.2	Southeast **OR** SE ✓✓A	2A correct direction (2)	MP L1
2.1.3	Map distance = 7 km × 100 000 ✓C = 700 000 cm ∴ $\frac{700\ 000}{56\ 000}$ ✓M = 12,5 cm ✓CA ≈ 13 cm ✓R **OR** Map distance = $\frac{56\ 000}{100\ 000}$ = 0,56 m ✓C ∴ $\frac{7}{0,56}$ ✓M = 12,5 cm ✓CA ≈ 13 cm ✓R	1C conversion 1M dividing by scale 1CA map distance 1R rounding **OR** 1C conversion 1M dividing by scale 1CA map distance 1R rounding (4)	MP L2
2.2.1	Speed = $\frac{Distance}{Time}$ 100 km/h = $\frac{11,2\ km}{Time}$ ✓SF ∴ Time = $\frac{11,2\ km}{100\ km/h}$ ✓M = 0,112 hours × 60 ✓C = 6,72 minutes ✓CA **(Accept 7 minutes)** **Accept if calculated the time as follows:** = 0,112 × 60 = 6 minutes, 43,2 sec **(full marks)**	1SF substitution 1M changing subject of formula 1C converting hours to minutes 1CA time **NPR** (4)	MP L3
2.2.2	✓M Total Distance = (11,2 km × 2) + 156 km ✓M = 178,4 km ✓A	1M multiplying by 2 1M adding 156 km 1A total distance (3)	MP L2

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2.2.3	Number of litres of petrol $= \frac{178,4}{100} \times 5,7$ ✓M $= 10,1688$ litres ✓A ∴ Cost $= R24,45 \times 10,1688$ ✓M $= R248,63$ ✓MCA ∴ Her statement is valid ✓O **OR** Number of litres of petrol $= \frac{5,7}{100} \times 178,4$ ✓M $= 10,1688$ litres ✓A ∴ Cost $= R24,45 \times 10,1688$ ✓M $= R248,63$ ✓MCA ∴ Her statement is valid ✓O	~~**CA from 2.2.2**~~ 1M dividing by 100 and multiplying with 5,7 1A number of litres 1M multiply with R24,45 1MCA petrol cost 1O opinion **OR** 1M dividing by 100 and multiplying with 178,4 1A no. of litres 1M multiply with R24,45 1MCA petrol cost 1O opinion (5)	F L4
		[20]	

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QUESTION 3 [34 MARKS]

Ques.	Solution	Explanation	Level
3.1.1	Volume is the amount of space inside the fish tank. ✓✓A	2A definition (2)	M L1
3.1.2	Volume of a cylindrical prism = π × radius^2 × height 38,8 ft^3 = 3,142 × 2,1^2 × height ✓SF 38,8 ft^3 = 13,85622 × height ∴ Height = $\frac{38,8}{13,85622}$ ✓M = 2,8 foot ✓CA	1SF substitution 1M divide correct values 1CA height (3)	M L2
3.1.3	°C = (°F - 32^0) × $\frac{5}{9}$ = (72 °F - 32^0) × $\frac{5}{9}$ ✓SF = 22,222… ≈ 22,2 °C ✓A ∴ Hein's claim is valid ✓O	1SF substitution 1A temperature 1O opinion (3)	M L4
3.1.4	Volume of stones = 87% – 75% ✓M = 12% ✓A ∴ $\frac{12}{100}$ × 38,8 ✓M = 4,656 ft^3 ✓CA ≈ 4,7 ft^3 ✓R **OR** Volume of water and stones in tank = $\frac{87}{100}$ × 38,8 ✓M = 33,756 ft^3 Volume of water before stones added = $\frac{75}{100}$ × 38,8 ✓M = 29,1 ft^3 ∴ Volume of stones = 33,756 ft^3 – 29,1 ft^3 ✓M = 4,656 ft^3 ✓CA ≈ 4,7 ft^3 ✓R	1M subtracting percentages 1A correct % 1M multiply with 38,8 1CA volume of stones 1R rounding **OR** 1M calculating 87% 1M calculating 75% 1M subtracting volumes 1CA volume of stones 1R rounding (5)	M L3
3.1.5	Probability = $\frac{1}{7}$ ✓A × 100 % ✓M = 14,2857… ≈ 14,29% ✓CA **(Accept 14,3% OR 14,286%)**	1A correct fraction 1M multiply with 100% 1CA probability as % **NPR** (3)	P L2

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3.2.1	Total SA = [2 (l × w) + 2 (l × h) + 2 (w × h)] ✓C = [2 (240 × 112) + 2 (240 × 70) + 2 (112 × 70)]✓SF = 53 760 + 33 600 + 15 680 ✓S = 103 040 mm^2 ✓CA	1C conversion 1SF substitution 1S simplification 1CA total SA (4)	M L2
3.2.2	Number of complete pallets = $\frac{2\,500}{500}$ ✓MA = 5 pallets ✓A	1MA dividing correct values 1A number of pallets (2)	M L1
3.2.3	Weight of one pallet = $\frac{9\,187}{5}$ ✓M = 1 837,5 kg ∴ = $\frac{1\,837,5}{1\,000}$ ✓C = 1,8375 ton ✓CA **OR** Weight of one pallet = 500 × 3,675 ✓M = 1 837,5 kg ∴ = $\frac{1\,837,5}{1\,000}$ ✓C = 1,8375 ton ✓CA	1M dividing weight by 5 1C conversion 1CA weight of one pallet **OR** 1M multiplying 500 with 3,675 1C conversion 1CA weight of one pallet (3)	M L2
3.2.4	Volume of a rectangular prism = Length × Width × Height ✓SF = 240 mm × 112 mm × 70 mm = 1 881 600 mm^3 ∴ 1 881 600 × 2 500 ✓M = 4 704 000 000 mm^3 ∴ $\frac{4\,704\,000\,000}{1\,000\,000\,000}$ ✓C = 4,704 m^3 ✓CA ≈ 4,7 m^3 ∴ Hein's claim is correct ✓O **OR** Volume of a rectangular prism = Length × Width × Height ✓C ✓SF = 0,24 m × 0,112 m × 0,070 m = 0,0018816 m^3 ∴ 0,0018816 × 2 500 ✓M = 4,704 m^3 ✓CA ≈ 4,7 m^3 ∴ Hein's claim is correct. ✓O	1SF substitution 1M multiply volume with 2 500 bricks 1C convert volume to m^3 1CA volume of all bricks 1O opinion **OR** 1C conversion 1SF substitution 1M multiply volume with 2 500 bricks 1CA volume of all bricks 1O opinion (5)	M L4

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3.2.5	Total cost	= R2,60 × 2 500 ✓M = R6 500 + R650 (delivery) ✓M = R7 150 ✓CA ≈ R7 200 ✓R	1M multiply cost with number of bricks 1M adding delivery costs 1CA total cost 1R rounding (4)	F L2
			[34]	

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QUESTION 4 [26 MARKS]

Ques.	Solution	Explanation	Level
4.1.1	Graphic scale ✓A **OR** Bar scale ✓A **OR** Linear scale ✓A Ratio scale ✓A **OR** Numeric scale ✓A	1A bar scale 1A number scale (2)	MP L1
4.1.2	Scale = 6,7 cm ✓A 6,7 cm = 12 miles $\frac{6,7\ cm}{6,7} = \frac{12\ miles}{6,7}$ ✓M 1 cm : 1,791044776 miles ✓CA ∴ Actual distance = 10,5 cm × 1,7910… ✓M = 18,80597015 miles ≈ 18,81 miles ✓CA **(Accept 18,806 miles OR 19 miles)**	1A measuring scale in cm 1M divide by 6,7 1CA scale 1M multiply 10,5 cm with the scale 1CA actual distance **NPR** (5)	MP L3
4.1.3	Time = $\frac{Distance}{Speed}$ = $\frac{121,4\ miles}{85\ miles/h}$ ✓SF = 1,4282… hours ∴ 0,4282… × 60 ✓C = 25,694… minutes ∴ Time = 1 hour 25 minutes 42 seconds ✓CA Arrival time = 13:30:00 (departure) 01:25:42 (travelling) ✓M 00:25:00 (stop at petrol station) = 15:20:42 ✓CA ∴ His claim is invalid. ✓O **If calculated as follows, DO NOT penalize:** Travel time = 1h26 min Arrival time = 13:30 01:26 00:25 = 15:21	1SF substitution 1C converting hours to minutes 1CA travel time 1M adding time 1CA arrival time 1O opinion (6)	MP L4
4.1.4	Probability = $\frac{2}{8}$ ✓A ✓A (**Accept simplified form** = $\frac{1}{4}$) ✓A ✓A	1A numerator 1A denominator (2)	P L2
4.2.1	Radius = $\frac{9,5}{2}$ = 4,75 cm ✓M Area of a circle = π × radius^2 = 3,142 × 4,75^2 ✓SF = 70,891375 ≈ 70,89 cm^2 ✓CA	1M finding radius 1SF substitution 1CA area of white cloth (3)	M L2
4.2.2	Length of wooden frame = 22 inches × 2,54 ✓C = 55,88 cm ✓A Area of rectangle = length × width 2 682 = 55,88 × width ✓SF ∴ Width = $\frac{2\ 682}{55,88}$ ✓M = 47,9957 … ≈ 48 cm ✓CA **(Aanvaar 47,996 cm)**	1C converting length 1A answer 1SF substitution 1M dividing area by length 1CA width	M L3

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4.2.3	Width of one rectangular bar $= \frac{48}{6}$ ✓MCA $= 8$ cm ✓CA ∴ Lwandile's claim is valid. ✓O **OR** Width of one rectangular bar $= \frac{47,996}{6}$ ✓MCA $= 7,9993\ldots$ cm ≈ 8 cm ✓CA ∴ Lwandile's claim is valid. ✓O	**CA from 4.2.2** 1MCA dividing width by 6 1CA width of rectangular bar 1O opinion **OR** 1MCA dividing width by 6 1CA width of rectangular bar 1O opinion (3)	M L4
		[26]	
		TOTAL: 100	

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