



eduresourceza.com



NATIONAL SENIOR CERTIFICATE EXAMINATION
NOVEMBER 2023

MATHEMATICAL LITERACY: PAPER II

MARKING GUIDELINES

Time: 3 hours

150 marks

These marking guidelines are prepared for use by examiners and sub-examiners, all of whom are required to attend a standardisation meeting to ensure that the guidelines are consistently interpreted and applied in the marking of candidates' scripts.

The IEB will not enter any discussions or correspondence about any marking guidelines. It is acknowledged that there may be different views about some matters of emphasis or detail in the guidelines. It is also recognised that, without the benefit of attendance at a standardisation meeting, there may be different interpretations of the application of the marking guidelines.

QUESTION 1

Q. Nr	Possible Solution	Cognitive Level
1.1.1	$175 \text{ g} \div 1\,000$ $= 0,175 \text{ kg}$	1
1.1.2	25 g	1
1.1.3	$\frac{25}{175}$	1
1.1.4	$\frac{1}{7} \times 100$ $= 14,3\%$	1
1.2.1	1. E 2. D 3. B 4. F 5. A 6. C	1
1.2.2 (a)	$\frac{1}{3} \times 22 \times 22 \times 5$ $= 806,6666$ $= 810 \text{ cm}^3$	1
1.2.2 (b)	C. cm^3	1
1.2.2 (c)	$7,5 \times 2,54$ $= 19,05 \text{ cm}$ WILL NOT	1
1.3.1	$2 \times 15 \div 5$ $= 6 \text{ teaspoons}$	1
1.3.2	$155 \div \frac{3}{4}$ $= 206,6667$	1
1.3.3	7×40 $= 280 \text{ g}$	1
1.3.4	$180 \div 15$ $= 12 \text{ g each}$	1

QUESTION 2

Q. Nr	Possible Solution	Cognitive Level
2.1.1	$66 \div 2$ $= 33 \text{ cm}$	1
2.1.2	Distance $= 2 \times 3,142 \times 33$ $= 2 \times 3,142 \times 0,33$ $= 2,073720 \text{ m}$ OR if use pi = 2,073451	3
2.1.3	$21,2 \text{ km} \div 2,073720 \text{ m}$ $= 21,2 \text{ km} \div 0,002073720 \text{ km}$ $= 10\,224 \text{ turns}$ OR if use pi = 10 224	3
2.1.4 (a)	$34 : 51$ $2 : 3$	2
2.1.4 (b)	$M_{34} = \{34; 68; 102; 136; 170 \dots\}$ $M_{51} = \{51; 102; 221 \dots\}$ 3 rotations on the small wheel and 2 rotation on big wheel	3
2.2.1	Average Speed $= (28 + 12 + 48 + 28) \div 4$ $= 29 \text{ km/h}$	3
2.2.2	Time $= 500 \text{ m} \div 28 \text{ km/h}$ $= 0,5 \text{ km} \div 28 \text{ km/h}$ $= 0,017857142 \text{ hours}$ $= 0 \text{ hours } 1 \text{ minutes}$	2
2.2.3	First $500 \text{ m} = 0,5 \text{ km} \div 28 \text{ km/h} = 1 \text{ min}$ $500 \text{ m} - 1\,000 \text{ m} = 0,5 \text{ km} \div 12 \text{ km/h} = 2,5 \text{ min}$ $1\,000 \text{ m} - 1\,500 \text{ m} = 0,5 \text{ km} \div 48 \text{ km/h} = 0,625 \text{ min}$ $1\,500 \text{ m} - 2\,000 \text{ m} = 0,5 \text{ km} \div 28 \text{ km/h} = 1 \text{ min}$ TOTAL 5,265 $\begin{array}{r} 5,265 \\ \hline 5 \text{ hr } 4 \text{ min} \\ 5,265 \\ \hline = 304 \text{ min} \\ 1053 \\ \hline = 60\,800 \end{array}$ OR $5,125 \div (5 \times 60 + 4)$ $\begin{array}{r} 41 \\ \hline = 2\,432 \end{array}$	3
2.3	40°	1

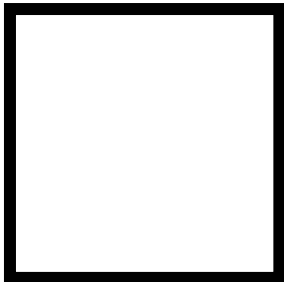
QUESTION 3

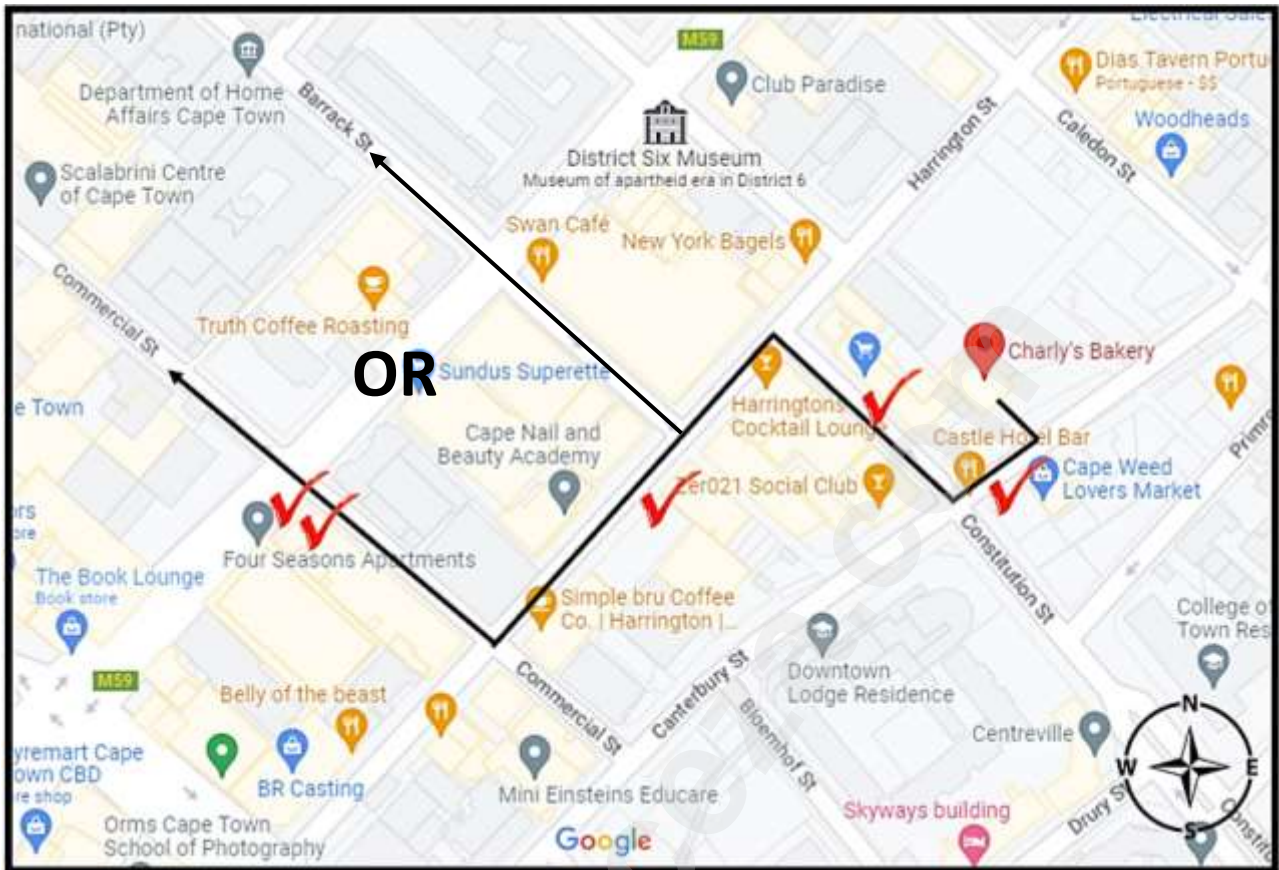
Q. Nr	Possible Solution	Cognitive Level
3.1.1	Oven OR Stove	1
3.1.2	$22' \times 30,48 = 670,56$ $37' \times 30,48 = 1\,127,76$ $670,56 \times 1\,127,76$ $= 756\,230,7456 \text{ m}^2$ $= 756\,230,7456 \div 100^2$ $= 75,62 \text{ m}^2$ OR $22 \times 0,3048 \times 37 \times 0,048$ $= 75,62 \text{ m}^2$	3
3.1.3	$35^{\circ}\text{F} = 1,8^{\circ}\text{C} + 32$ $35^{\circ}\text{F} - 32 = 1,8^{\circ}\text{C}$ $^{\circ}\text{C} = \frac{3}{1,8}$ $^{\circ}\text{C} = 1,667$	2
3.2	$70 \div 8,5 = 8,235$ $= 8 \text{ tins in the length}$ $30 \div 8,5 = 3,529$ $= 3 \text{ tins in the width}$ $37 \div 9,7 = 3,81$ $= 3 \text{ tins in the height}$ $8 \times 3 \times 3$ $= 72 \text{ tins stacked on one shelf}$ Thus 144 tins on two shelves Therefore, donation will fit on two shelves.	4
3.3.1	$(41 - 40) \div 2$ $= 0,5 \text{ cm}$	2
3.3.2	Diameter of Pot = 40 cm Radius of Pot = 20 cm Volume = $3,142 \times 20 \times 20 \times 27$ $= 33\,933,6 \text{ cm}^2$ $= 33\,933,6 \text{ ml}$ $33\,933,6 \div 400$ $= 84,8205$ $= 84 \text{ bowls of soup}$	3
3.3.3	$240 \div 84$ $= 2,857$ $= 3 \text{ pots}$	2

QUESTION 4

Q. Nr	Possible Solution	Cognitive Level
4.1.1	$\frac{1}{2} + x + \frac{1}{5} + 2x = 1$ $+ 3x = 1$ $3x = \frac{3}{10}$ $x = \frac{1}{10} = 0,1$ Probability for Cloudy: $x = \frac{1}{10} = 0,1 = 10\%$ Probability for Rainy day: $x = \frac{2}{10} = 0,2 = 20\%$ OR $100 - 70 = 30$ Cloudy: $30 \div 3 = 10\%$ Rainy: 20%	4
4.1.2		2
4.2.1	Northwest	1
4.2.2	N1	1
4.3.1	$2,4 \times 5$ $= 12 \text{ m}$	2
4.3.2	$10 \text{ m} \div 2 \text{ m/sec}$ $= 5 \text{ sec}$ Yes the spectator will not get to the camera on time OR Distance in 6 sec: $6 \times 2 = 12 \text{ m}$ Yes, spectator will get to the camera on time as it is a smaller distance to cover	4
4.3.3	$1,9 \text{ m} \times 12$ $= 22,8 \text{ m}$	2
4.3.4	$9 \text{ m} \times 2$ $= 18 \text{ m wide}$	1
4.3.5	75 minutes	1
4.4.1	123 °C	1
4.4.2	$\frac{9}{5} = \frac{18}{10} = 1,8$	2

QUESTION 5

Q. Nr	Possible Solution	Cognitive Level
5.1	 4 cm	2
5.2.1	$\frac{6}{12} \times 100$ $= 50\%$	2
5.2.2	One koekie taken out of the box already, thus leaving 3 koekies left and only 11 products left.	4
5.2.3	$\frac{4}{12} \times \frac{3}{11} = \frac{1}{11}$	2
5.3.1	2 OR 3	1
5.3.2	Castle of Good Hope	1
5.4.1	Canterbury Street	1
5.4.2	4, 5 or 6	1
5.4.3 (a)	Constitution Street	1
5.4.3 (b)	SMALL MAP Bar Scale: range of 1,4–1,6 cm : 20 m Total in cm: range of 9,1–9,3 cm $9,2 \div 1,5 \times 20$ $= 122,66667 \text{ m}$ LARGE MAP Bar Scale: range of 2,2–2,4 cm : 20 m Total in cm: range of 13,7–13,9 cm $13,8 \div 2,3 \times 20$ $= 120 \text{ m}$	2
5.4.3 (c)	Time taken to walk: 12:40 – 12:10 $= 30 \text{ minutes}$ Speed = $120 \text{ m} \div 30 \text{ min}$ $= 0,12 \text{ km} \div \frac{30}{60} \text{ hr}$ $= 0,24 \text{ km/h}$ OR $0,12 \div 0,24$ $= 0,5 \text{ hrs}$ $= 30 \text{ min}$	4
5.4.4	See on map on next page	4



Total: 150 marks