NATIONAL SENIOR CERTIFICATE EXAMINATION
NOVEMBER 2020

MATHEMATICAL LITERACY: PAPER I

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 into 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.

Q	Marking guideline	Skill assessed	Topic	Level
KEY	**a** accuracy **m** method **cam** continued accuracy method	**ca** continued accuracy **ma** method accuracy **r** rounding	**F** Finance **M** Measurement **MP** Maps/Plans **D** Data Handling **P** Probability	**1** KN **2** RP **3** CP
1.1.1	R180	× 2 R180	F	1
1.1.2	R180 ÷ 14 = R12,857 Accept = R12,86 Not Accept R 12,80 or R12,90	Divide by 14 R12,86 to 2 dec places	F	1
1.1.3	First Day: R180 Remaining 48 hrs ÷ 12 = 4 4 × R90 = R360 R180 + R360 = R540 OR 180 × 3 = R540 OR 3 days = 72 hrs 72 ÷ 12 = 6 6 × R90 = R540	R180 4 R360 R540	F	1
1.1.4.(a)	R160 ACCEPT R150 – R170 NOT ACCEPT R180	×2 R160	F	2

1.1.4 (b)(i)	R900 – R400 = R500	Values correct Subtraction of 400 (TOP – BOTTOM) R500	F	2
1.1.4 (b)(ii)	$\frac{500}{900} \times 100 = 55{,}56\%$ OR 100% – 44,44% = 55,56%	Numerator Denominator 55,56%	F	3
1.2.1	Mugg & Bean	×2 Mugg & Bean	F	1
1.2.2	October OR 10^{th} month	×2 October	F	1
1.2.3	A. R77,80 ÷ 1,15 = R67,65 OR $R77{,}80 \times \frac{100}{115} = R67{,}65$ B. R77,80 – R67,65 = R10,15 OR $\frac{15}{115} \times R77{,}80 = R10{,}15$	Division by 1,15 R67,65 Subtraction from total R10,15	F	2 1
1.2.4	R44,90 + 0,052 × 44,90 = R47,2348 R47,2348 + 0,052 × 47,2348 = R49,69 OR R44,90 × 105,2% = R47,23 R47,23 × 105,2% = R49,69	Calculating 5,2% of R44,90 Use of Compound Interest R49,69	F	2

1.3.1	R11 704 × 2 = R23 408	Correct value of R11 704 R23 408	F	1
1.3.2	€1 449,41 : R23 408 R23 408 ÷ 1 449,41 = R16,15	R23 408 divided by 1 449,41 Correct values In ratio form	F	2
1.3.3	19,7231 – 18,9599 = R0,7632 ACCEPT R0,76 OR 76 cents	Subtractions R0,7632	F	1

2.1.1	°C = $\frac{5}{9}(2000 - 32)$ °C = 1093,33 OR 2000 = $\frac{8}{5}$ °C + 32 °C = 1 230	Substitution of 2 000 Calculating °C 1 093,33 °C	M	1
2.1.2 (a)	5 min × 2 sides = 10 minutes	Multiply by 2 10 minutes	M	1
2.1.2 (b)	14:07	14 07	M	1
2.2.1	0,5 × 220 g = 110 g OR 220 g ÷ 2 = 110 g OR Convert tots and tsp to grams Add all = 96 g	Half of 220 g 110 g	M	1
2.2.2	7,75 ounces : 220 g 220 g ÷ 7,75 = 28,39 g/ounce	Divide by 7,75 28,39 g/ounce	M	2
2.2.3	$\frac{1}{2}$ tot : 1 tsp 12,5 g : 4,2 g 125 : 42	Ratio tot to teaspoon Ratio in grams Making numbers whole Simplified to 125 : 42	M	1
2.3.1	11,81 × 2,54 = 29,9974 cm = 30 cm	Multiplication by 2,54 29,9974 30 cm	M	1

2.3.2	30 ÷ 1,5 = 20 slices including crusts	Division by 1,5 20 slices	M	1
2.3.3	20 – 2 = 18 slices excluding crusts 18 ÷ 2 = 9 toasted sandwiches	Excluding the crusts, - 2 Division by 2 9 toasted sandwiches	M	2
2.3.4	Along the width: 33 ÷ 11 = 3 Along the Length 44 ÷ 11 = 4 3 × 4 = 12 sandwiches	3 4 Multiplication 12	M	2

3.1.1	B3	×2 B3	MP	1
3.1.2	8 mm : 200 m 21 mm ÷ 8 × 200 = 525 m A = 525 × 525 = 275 625 m² OR 24 mm : 600 m 21 mm ÷ 8 × 600 = 525 m A = 525 × 525 = 275 625 m² OR 3 mm : 100 m 21 mm ÷ 3 × 100 = 700 m A = 700 × 700 = 490 000 m² OR 7 mm : 200 m 21 mm ÷ 7 × 200 = 600 m A = 600 × 600	Recognition of Bar measurement Pirate method 525 m calculating area of a square 275 625 m²	MP	3

	= 360 000 m² OR 20 mm : 600 m 21 mm ÷ 20 × 600 = 630 m A = 630 × 630 = 396 900 m²			
3.1.3	Robber's Grave	×2 Robber's Grave	MP	1
3.2	1 721 ÷ 25,4 = 67,7559 = 68 people/km²	Divide by 25,4 km² 68 people/km² Accept 67 as an answer	MP	1
3.3.1	Any Two of the following: Kruger National Park Blyde River Canyon Nature Reserve Sabi Sand Game Reserve Marloth Park	any two	MP	1
3.3.2	South West	×2 South West	MP	1
3.3.3	Mozambique Swaziland	Mozambique Swaziland	MP	1
3.3.4	N4	×2 N4	MP	1
3.3.5	3,6 cm : 108 km 3,6 : 10 800 000 cm (÷3,6) 1 : 3 000 000	Converting 108 km to cm Simplification of scale 1 : 3 000 000	MP	2
3.3.6	T = 108 ÷ 81 = 1,333… = 1 hour 20 min 2 pm + 1hr 20 minutes = 3:20 pm	Formula Substitution Converted to hours and minutes Addition 3:20 pm	MP	3

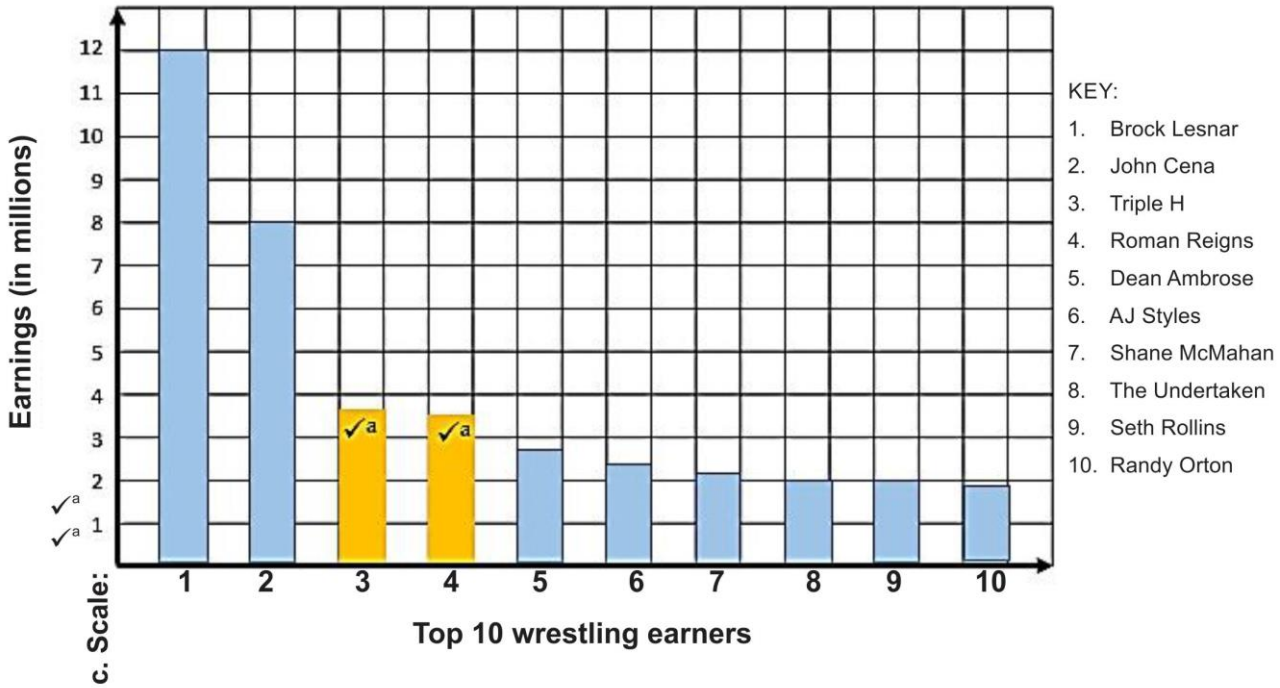
4.1.1	Pictogram or Pictograph	×2 Pictogram	D	1
4.1.2	\$10 mil ÷ 10 OR & 2 mil ÷2 =\$1 million OR \$1 000 000	×2 \$1 000 000	D	1
4.1.3	\$10 mil – \$2 mil = \$8 mil OR \$8 000 000	Subtraction of \$2 million \$8 mil	D	1
4.1.4	Average = $\frac{39,8\text{mil}}{10}$ = \$3,98 million = \$3 980 000	Sum of all earning 10 earners \$3,98 million \$3 980 000	D	2
4.1.5	$Q_2 = \frac{3,2\text{ mil} + 2,9\text{ mil}}{2}$ =\$3,05 million OR \$3 050 000	sum of correct values dividing by 2 \$3,05 million	D	2
4.1.6 (a)	(i) \$4,3 million (ii) \$4,3 million – \$2,5 million = \$1,8 million (iii) 4	×2 \$4,3 million Subtraction of upper & lower quartiles 1,8 million ×2 4	D	1 1 1
4.1.6 (b)	[ ] The data is skewed to the left. [X] The upper quartile represents the top 25% wrestling earners. [X] The difference in earning for the top quartile is larger than lower quartile.		D	1
4.2.1	\$12 000 000 OR \$12 million	×2 \$12 000 000	D	1
4.2.2	\$2 000 000 OR \$2 million	×2 \$2 000 000	D	1
4.2.3 (a)	$\frac{12}{40,5} \times 100\%$ = 29,6%	Correct numerator division by 40,5 29,6%	D	2

4.2.3 (b)	$\frac{12}{40,5} \times 360° = 106,7°$ OR 29,6% × 360 = 106,6° 30% × 360 = 108°	Multiply by 360 106,7° Accept 107^{o}	D	2
4.2.4 (a)	Numerical	×2 Numerical	D	1

4.2.4 (b–d)	See Below:	D	(b) 1 (c) 2 (d) 1

b. Suitable Heading:

WWE's highest-paid wrestlers of 2019 ✓a



5.1	A. $\frac{1}{3}$ B. Grey C. Green $\frac{1}{6} \times 0,35 = 0,0583$ OR $\frac{7}{120}$	$\frac{1}{3}$ Grey Green Multiplication 0,0583	P	1
5.2	$\frac{3}{8}$	Numerator Denominator	P	2
5.3.1	2,3 + 12 + 7 = 21,3 cm	Addition 21,3 cm	M	1
5.3.2	$A = \frac{1}{2} \times 12 \times 7$ = 42 cm²	Substitution 42 cm²	M	2
5.4.1	R20 800 × 13 = R270 400	Multiply 13 R270 400	F	1
5.4.2	A. R270 400 B. R64 500 C. R53 832	R270 400 R60 600 R52 818	F	3
5.5.1	23 000 × 24,75% × 2 = R11 385	24,75% of… Multiplication by 2 R11 385	F	2
5.5.2	23 000 + 11 385 = R34 385 OR 23 000(1 + 0,2475 × 2) = R34 385	Use of Simple Interest R34 385	F	1
5.5.3	34 385 ÷ 24 =R1 432,71	Division by 24 R1 432,71	F	1