NATIONAL SENIOR CERTIFICATE EXAMINATION
NOVEMBER 2015

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.

Key: accuracy
method
continuous accuracy
rounding

Topics

F	Finance
MP	Maps and Plans
M	Measurement
P	Probability
DH	Data Handling

QUESTION 1

1.1 1.1.1 (a) 100 + 1,50 = 101,50 EGP (2)

(b) 90 + 1 = EGP 91
Therefore Saving EGP 101,50 – EGP 91
= EGP 10,50 × 2
= EGP 21
Or 203 – 182 = EGP 21 (4)

1.1.2 Railway Museum (2)

1.1.3 27 + 90 = 117 Egyptian pounds (if calc for 2 people -1) (3)

1.2
$$\begin{array}{r} 3\ 000\ 000\ 000 \\ -\ \ 125\ 000\ 000 \\ \hline 2\ 875\ 000\ 000 \text{ EGP} \end{array}$$
OR 2 875 million EGP or 2,875 billion EGP (3)

OR
$\frac{2\ 875\ 000\ 000}{3\ 000\ 000\ 000} \times 100 = 95{,}83\%$

1.3 1.3.1 (a) R150 × 2 = R300
R300 × 9 = R2 700 (3)

(b) R2 700 × 0,09 = $243
$243 ÷ 0.13 = EGP 1 869 (3)

1.3.2 (a) R10 205 × 4,1% = R418,41
OR
R10 623,41 – R10 205 = 418,41 (2)

(b) R10 623,41+ 5 000 = R15 623,41 (2)

OR
640,56÷4,1% = R 15 623,41

(c) R15 623,41 + 640,56 = R16 263,97 (2)

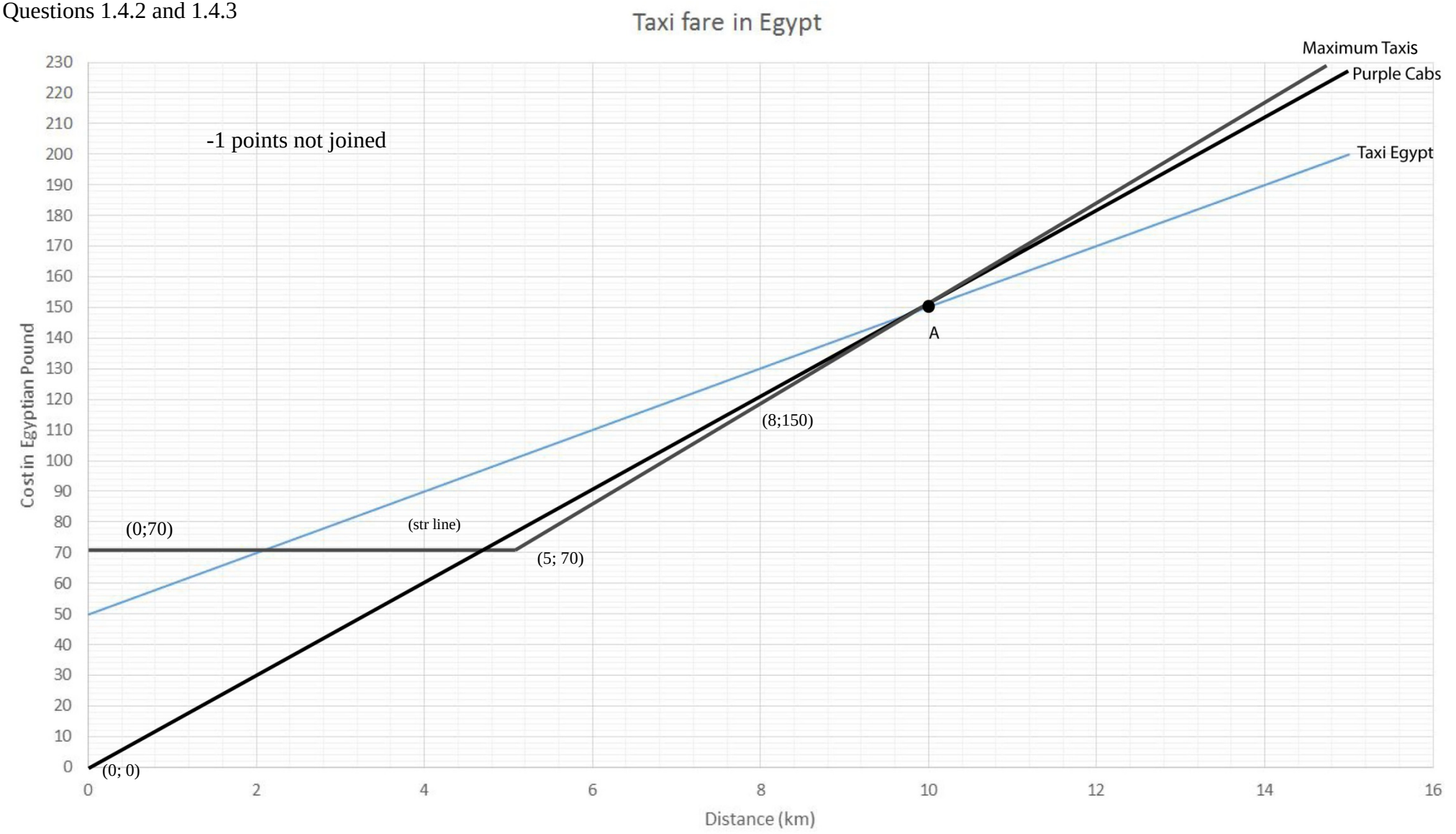
1.4 1.4.1

Kilometres travelled	0	5	10	15
Taxi Egypt	50	100	150	200
Purple Cabs	0	**75**	150	**225**
Maximum Taxis	70	**70**	**150**	**230**

(5)

1.4.4 Maximum Taxis (2)

Questions 1.4.2 and 1.4.3



(9)
[42]

QUESTION 2

2.1 $(6\text{ m} \times 3\text{ m}) + (4\text{ m} \times 3\text{ m})$
$= 18\text{ m}^2 + 12\text{ m}^2$
$= 30\text{ m}^2 \times 100 \times 100$ [a] $= 300\,000\text{ cm}^2$ (6)

2.2 $300\,000\text{ cm}^2 \times 2\text{ cm} = 600\,000\text{ m}^3$ (2)

2.3 $600\,000\text{ cm}^3 \div 4\,000\text{ cm}^3 = 150$ bags (2)

2.4 $\frac{1}{5}$ OR 0,2 OR 20% (2)

2.5 2.5.1 $1 - 0{,}75 = 0{,}25$ (2)

2.5.2 a = 25%
b = 50%
c = 75% (3)

2.5.3 less likely OR 0,25 OR 'a' (2)

[19]

QUESTION 3

3.1 7 entrances (2)

3.2 Gate 2 (2)

3.3 Viewpoint Street (2)

3.4 South West or West OR WSW OR SSW (2)

3.5 6 rooms (2)

3.6 3.6.1 2,8 cm (accept 2,6 – 3,0) (2)

3.6.2 2,8 cm × 3 300
9 240 ÷ 100 = 92,4 m or 92 m (3)

3.7 3.7.1 7:15 – 6:10 = 1:05 OR 65 min (2)

3.7.2 3 OR 7:50 (2)

3.7.3 (a) See Map (2)

(b) Turn left onto North Rand Road (accept Cynthia/M44/R144)
Left into 1st Road
Right into Viewpoint Road (3)

OR
Continue on North Rand Road
Left onto Wiek
Right onto Allen
Left onto 1st
Right onto Viewpoint

[24]

QUESTION 4

4.1 4.1.1 (Vertical) Bar graph (2)

4.1.2 (i) year (2)

(ii) number of gigawatt hours OR amount of elec produced (GWh) (2)

4.1.3 2007 (2)

4.1.4 252 578 ÷ 0,986 (OR 98,6%)
= 256 164,30 gigawatt hours
= 256 164 gigawatt hours (3)

4.2 4.2.1 $\frac{13\ 836}{252\ 578} \times 100 = 5,477 = 5,48\%$ (4)

4.2.2 Amount used = 13 836 + 18 474 + 231 445 = 263 755 GWh

Amount imported = 263 755 – 252 578 = 11 177 GWh (4)

OR
252 578 – 13 836 – 18 474 = 220 268
231 445 – 220 268 = 11 177 GWh

[19]

QUESTION 5

5.1 5.1.1 12 Penguin Ave, Durban OR Durban (2)

5.1.2 Yes, R2 095,09 was paid OR Payment 13/6 OR Payment made (2)

5.1.3 Credit/Amount to be subtracted from the account or Amount paid (2)

5.1.4 2 731,93 – 575,75 + 192,58 = R2 348,76 (4)
OR
2 731,93÷1,14 = 2 348,76
OR
2 731,93 – 328,83 = 2 348,76

5.1.5 2 348,76 × 0,14 = R328,83 (2)

5.2 5.2.1 Four-hundred-and-six-thousand, seven-hundred and thirty-eight (2)

5.2.2

Volume Scale	Amount used	Charge per *kl*	Total
≤ 6 kl	**6**	R0,00	**R0**
6 kl < x ≤ 15 kl	**9**	R8,35	**R75,15**
15 kl < x ≤ 30 kl	**15**	R10,16	**R152,40**
30 kl < x ≤ 45 kl	**6**	R12,53	**R75,18**
45 kl < x ≤ 60 kl	**0**	R12,98	**R0,00**
>60 kl	**0**	R14,34	**R0,00**
		Subtotal	**302,73**
		14% VAT	**42,38**
		TOTAL	**345,11**

(11)

5.3 5.3.1 Albert Falls Dam, 290,1 million m^3 (2)

5.3.2 17 900 000 m^3 (2)

5.3.3 17 900 000 × 37,3% = 6 676 700 m^3 (3)

5.3.4 17 900 000 × 50% (or ÷ 2)^m = 8 950 000 m^3 (2)

5.3.5 8 950 000 m^3 − 6 676 700 m^3 = 2 273 300 m^3 (2)
OR
50% – 37,3% = 12,7%
12,7% × 17 900 000 = 2 273 300

5.3.6 2 273 300 m^3 ÷ 43,9 m^3 = 51 783,599 ≈ 51 784 trucks (3)

5.4 5.4.1 13 mm – 0 mm = 13 mm (accept 12,5 – 13,5) (2)

5.4.2 Mean = $\frac{0+0+2+0+1+13+0+0+0+0+0+3+0+0+11}{15}$

(for 1, 3, 11 and 13 accept 0,5 either side)
(÷ by anything but 15 max 3 marks)

= $\frac{30}{15}$
= 2 mm (5)

[46]

Total: 150 marks