NATIONAL SENIOR CERTIFICATE EXAMINATION
SUPPLEMENTARY EXAMINATION MARCH 2016

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:

a	accuracy
ca	continued accuracy
m	method
ma	method accuracy
r	rounding
cap	continued accuracy based on previous answer

QUESTION 1

1.1 1.1.1 R12 + R9 + R3 = R24 (3)

1.1.2 12% × R24 = R2,88 (3)

1.1.3 R24 + R2,88 = R26,88 (2)

1.1.4 $\% = \frac{\text{R}36,90 - \text{R}26,88}{\text{R}26,88} \times 100$

$= \frac{\text{R}10,02}{\text{R}26,88} \times 100\%$

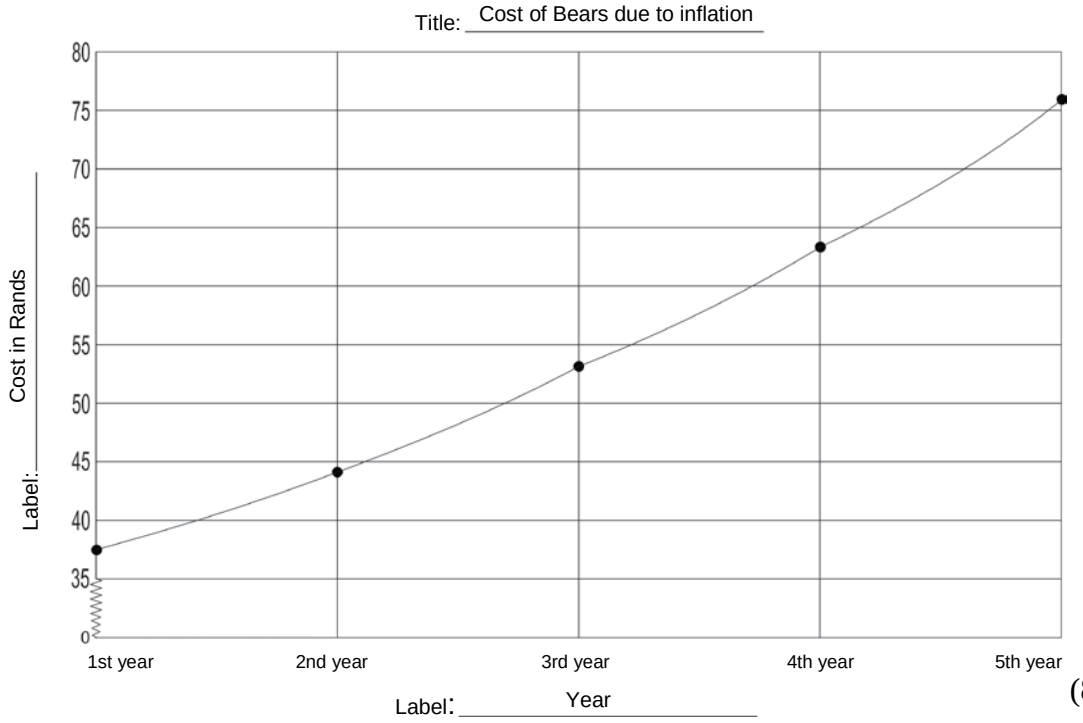
= 37% (3)

1.2 1.2.1

Year	1st year	2nd year	3rd year	4th year	5th year
Selling price of teddy bear	R36,90	R44,28	**R53,14**	**R63,77**	**R76,52**

(6)

1.2.2



(8)

1.3 1.3.1 R270 ÷ 300
= R0,90 (2)

1.3.2 R26,88 × 300 + R270
= R8 064 + R270
= R8 334 (3)

OR

(R26,88 + R0,90) × 300
= R27,78 × 300
= R8 334

[30]

QUESTION 2

2.1 2.1.1 (a) C (2)

(b) D (2)

(c) B (2)

2.1.2

	Departure		Arrival	
Destination	**Day**	**Time**	**Day**	**Time**
Johannesburg to Kimberley	Tues	15:00	**Tues**	**23:03**
Kimberley to Cape Town	Sunday	23:03	Monday	16:16
Cape Town to Johannesburg	Tues	**06:05**	**Wed**	11:03

(4)

2.2 2.2.1 Rhodesdene (2)

2.2.2 (a) East (2)

(b) South East (2)

2.2.3 (a) D3 and E6 (4)

(b) 3,3 cm : 1 km (2)

(c) 9,8 cm – 11 cm (2)

2.3 $\text{Time} = \frac{4{,}2 \text{ km}}{56 \text{ km/h}}$

$= 0{,}075 \text{ hrs} \times 60$

$= 4{,}5 \text{ min}$

$= 5 \text{ min}$ (4)

2.4 2.4.1 $\frac{16}{40} = \frac{2}{5}$ (3)

2.4.2 $\frac{24}{40} \times 100$

$= 60\%$ (4)

[35]

QUESTION 3

3.1 3.1.1 $60 \times 2{,}54$ cm
$= 152{,}4$ cm (2)

3.1.2 Area $= 151{,}1$ cm $\times 152{,}4$ cm
$= 23\,027{,}64$ cm^2 (2)

3.1.3 (a) Area $= (240$ cm $\times 710$ cm$) - 9\,698{,}78$ cm$^2 - 18\,900$ cm$^2 -$
$23\,027{,}64$ cm^2
$= 170\,400$ cm$^2 - 9\,698{,}78$ cm$^2 - 18\,900$ cm$^2 - 23\,027{,}64$ cm^2
$= 118\,773{,}58$ cm^2 (5)

(b) $118\,773{,}58$ cm$^2 \div 110\,000$ cm^2
$= 1{,}08\ \ell$
$= 2$ cans (3)

(c) $1\ \ell - 0{,}08\ \ell$
$= 0{,}92\ \ell$

OR

$2\ \ell - 1{,}08\ \ell$
$= 0{,}92\ \ell$ (3)

3.2 3.2.1 $P = 2(\ell + b) - 1$ m
$= 2(12$ m $+ 10$ m$) - 1$ m
$= 44$ m $- 1$ m
$= 43$ m (3)

3.2.2 (a) 4

(b) 11

(c) 9

(d) 44 (5)

3.2.3 $V = \pi \times r^2 \times$ depth
$= 3{,}14 \times (10$ cm$)^2 \times 40$ cm
$= 12\,560$ cm^3 (2)
[25]

QUESTION 4

4.1 4.1.1 100 000 000 (2)

4.1.2 12 : 100 000 000
3 : 25 000 000 (3)

4.1.3 100 000 000 ÷ 366 ÷ 24
= 11 384,33
= 11 400 sharks killed per hour (4)

4.2 4.2.1 6 m (2)

4.2.2 275 m (2)

4.2.3 Whale Shark (2)

4.2.4 6 m (2)

4.3 4.3.1 20 shark attacks × 10 = 200 shark attacks (2)

4.3.2 130 ÷ 20 = 6,5 pictures
(or 7 accepted due to rounding as explained in Question 4.3.3) (3)

4.3.3 30 – 49
Between 30 and 49 attacks (3)
[25]

QUESTION 5

5.1 2015 – 1 824 = 191 years + 1 year
= 192 years (3)

5.2 Eleven billion, three hundred and forty six million, two thousand pounds (2)

5.3 5.3.1 £559 432 200 – £447 545 760
= £111 886 440 (3)

5.3.2 $\frac{£111\,886\,440}{£559\,432\,200} \times 100\%$
= 20% (3)

5.4 5.4.1 71 657 × 1 100
= £78 822 700 (2)

5.4.2 71 657 ÷ 50
= 1 433,14 (2)

5.5 £11 346 002 000 ÷ 0,06
= R189 100 033 333,33 (2)

5.6 5.6.1 Range = 400 – 100
= 300 (2)

5.6.2 $\frac{1}{3}$ = 0,33 (3)

5.7 5.7.1 2003 300 p (4)

5.7.2 600 points (2)

5.8 5.8.1 V = ℓ × b × ht
= 8 cm × 4 cm × 1,5 cm
= 48 cm^3 (2)

5.8.2 48 cm^3 × 0,8 g
= 38,4 g (2)

5.8.3 200 g ÷ 38,4 g
= 5,2
= 5 slabs (3)
[35]

Total: 150 marks