NATIONAL SENIOR CERTIFICATE EXAMINATION
NOVEMBER 2017

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.

Topics

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

QUESTION 1

1.1 R13 200 × 12 = R158 400

1.2 R13 200 × 1% = R132

1.3 R1 273,00 ÷ 2 × 3 = R1 909,50
OR
(R 1273 ÷ 2) + 1273 = R1 909,50
OR
$\frac{2}{3}$ = R1 273

$1\,273 \times \frac{100}{66,67}$ = R1 909,40

1.4 1.4.1 Tax bracket 1 OR 0 ~ 180 000

1.4.2 R13 500 OR Primary

1.4.3 Tax = R153 180 × 18%
= R27 572,40 – R13 500
= R14 072,40

1.5

TRUSTY BANK

Pay Slip

Pay Date: 22/05/2017

Pay Slip Number: 36

Employer Name: Cool Pharmaceuticals

Occupation/Job title: 1.5.1 Sales Rep

Date of initiation: 01/05/2014

Employee Name: Lebogang Mbete

Identity Number: 800507 5005 089

Marital Status: Single

Address: 73 Forwards Road, Bassonia, Jhb

Earnings	Amount	Deductions	Amount
Cash Component	R 13 200,00	Medical Aid	1.5.2 R 1 273,00
		UIF	1.5.3 R 132,00
		Income Tax	1.5.4 R 1 172,70
Total Earnings	R 13 200,00	Total Deductions	1.5.5 R 2 577,70
		Nett Pay	1.5.6 R 10 622,30

1.6 1.6.1 R125 303 ÷ 12 = R10 441,92

1.6.2 1 200 × 132 c
= 158 400 c ÷ 100
= R1 584

1.6.3 R768 ÷ 1 200
= 0,64 × 100
= 64 c/km

QUESTION 2

2.1 2.1.1 Radius = 4 inches ÷ 2 × 2,54 cm/inch
= 5,08 cm
OR
Radius = 4 inches × 2,54 cm/inches ÷ 2
= 5,08 cm

2.1.2 245 g : 205 g
49 : 41

2.1.3 100 g = 100 ml
∴ 205 g = 205 ml

1 000 ml = 1 000 cm^3
∴ 205 ml = 205 cm^3

2.1.4 $\frac{205\ cm^3}{550\ cm^3} \times 100\%$
= 37,27272%
= 37%

2.2 2.2.1 4 inches × 14%
= 0,56 inches

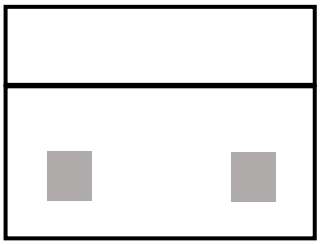
2.2.2 3 × 4 inches – 2 × 0,56
= 12 inches – 1,12 inches
= 10,88 inches
OR
3 × 10,16 cm – 2 × 1,4224
= 27,64 cm

2.3 2.3.1 $\frac{1}{525}$

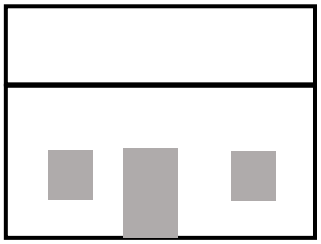
2.3.2 $\frac{524}{525} \times 3\,150 = 3\,144$
OR
$\frac{3\,150}{525} = 6$ defective
$\therefore 3\,150 - 6 = 3\,144$

QUESTION 3

3.1



OR



3.2 3.2.1 12×8
$= 96\ m^2$

3.2.2 19 cm (accept 18 cm – 20 cm) (If in mm 1 out of 2)

3.2.3 59×64
$= 3\ 776 \div 1\ 000$
$=3,776$ m or 3,78 m or 3 m or 3,7 m or 3,77m or 3,8 m or 4 m

3.2.4 NW OR NNW

3.2.5 $94,4 \times 3 = 283,2$ cm

QUESTION 4

4.1 4.1.1 $1\ 000 \div 8$ OR $1000 \div 7,6 = 131,58$
$= 125$

4.1.2 $8 \times 138\% = 11,04 \approx 11$ out of every 1 000
OR
$8 \times 38\% = 3,04 + 8 = 11,04 \approx 11$ per 1 000
OR
$7,6 \times 138\% = 10,49 \approx 10$ per 1000

4.2 4.2.1 (a) 1,5 people per 1 000 people (If 1 or 2, give 1 mark)
OR
1 person per 667 people

(b) 3,1 – 2,9
= 0,2 per 1 000 people
OR
200 people

4.2.2 (a) 7,6 per 1 000 people

(b) $4 \times 2 = 8 + 4 \times 0,5 = 2 = 10$ OR $2,5 \times 4 = 10$

4.2.3 $\text{Mean} = \dfrac{7,6 + 7,4 + 6 + 4,6 + 4,6 + 4,3 + 4 + 3,1 + 2,9 + 1,5}{10}$

$= \dfrac{46}{10}$

= 4,6 per 1 000 people

4.2.4 (a) Bar graph OR Horizontal Bar graph

(b) Discrete data can only take particular values whereas continuous data are not restricted to defined separate values.

(c) Discrete

4.3 $\frac{1}{9} \times \frac{14}{25} = \frac{14}{225}$ OR 0,0622

QUESTION 5

5.1 5.1.1 January 2014

5.1.2 15 years

5.1.3 4 500 hrs ÷ 15
= 300 hrs/year

5.1.4 4 500 hrs + (300 hrs × 3) OR 300 × 18
= 4 500 hrs + 900 hrs = 5 400 hrs
= 5 400 hrs^{ca}

5.1.5 €44 000 : R624 360
€1 : $\frac{\text{R624 360}}{\text{44 000}}$
€1 : R14,19
Accept 4 decimal places as currency uses 4 decimal places.
OR
€53 680 : R711 770,40 (incl tax)
€1 : $\frac{\text{711770,40}}{\text{53680}}$
€1 : R13,26

5.2 5.2.1 12 × 6
= 72 months or 6 years

5.2.2 R1 774,00 + R68,40
= R 1 842,40

5.2.3 R1 842,40 × 72^{ca}
= R132 652,80

5.3 5.3.1 R132 652,80 + R1 197
= R133 849,80

5.3.2 15:38 → 24:00 = 8 hours 22 minutes
+ 10 hours 55 minutes
= 19 hours 17 minutes OR 19,28 hours
OR
15:38 – 3:38 = 12 hours
3:38 – 10:55 = 7 hours 15 minutes
= 19 hours 17 minutes

5.4 $3 × 5 × 4 × 12
= $720

5.5 5.5.1 65 700 000 × 88% OR 65,7 × 88%
= 57 816 000 57,816 million × 1 000 000
= 57 816 000

5.5.2 2,75 × 50% OR 2,75 ÷ 2
= 1,375 million OR 1 375 000
OR 1,38 million

5.6 5.6.1 2 trillion kCal × 1 000 × 1 000 000 000 000
= 2 000 000 000 000 000 Cal OR 2×10^{15}

5.6.2 2 000 000 000 000 000 ÷ 2 000
= 1 000 000 000 000

5.6.3 1,2 Trillion kCal (Accept 1,1 – 1,4)
1 Trillion kCal 1 Trillion

5.7 5.7.1 Bloemfontein OR Johannesburg OR Pretoria (any one)

5.7.2 Cape Town

5.7.3 Cotton

5.7.4 Fruit, peanuts, vegetables, vineyards (OR vineyards, wine, grapes)
(Afrikaans script any 4 products including cotton and tobacco)

5.8 500 cm ÷ 15 cm
= 33,33
= 33 + 1
= 34 seeds

Total: 150 marks