NATIONAL SENIOR CERTIFICATE EXAMINATION
SUPPLEMENTARY EXAMINATION – MARCH 2019

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 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
continuous accuracy rounding
method accuracy

Topics

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

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QUESTION 1

1.1 30 mm = 100 m (Bar Scale measurement)
OR
3 cm = 100 m
Silo diameter = 1,7 cm (accept between 1,6–1,8)
$\frac{1{,}7 \times 100}{3{,}0} = 56{,}67 \approx 57$ m (accept between 53,33–60)

1.2 137 375 = $(3{,}142)(28{,}5)^2$
h = 137 375 ÷ $(3{,}142)(28{,}5)^2$
h = 53,83 m (Accept between 53,89 – 68.47)

1.3 137 375 × 1 000 ÷ 1 000 OR 1 m^3 = 1 kl
= 137 375 kℓ

1.4 100 000 × 42
= 4 200 000 gallons ÷ 0,264
= 15 909 091 ℓ

1.5 1.5.1 Petrol does not always cost more than diesel. In 2008 petrol cost R1,07 less that diesel.

1.5.2 12,48 – 3,29 = R9,19

1.5.3 3, 4, 6, 7, 7, 11, 7, 7, 9, 10, 12
Mode = R 7,00

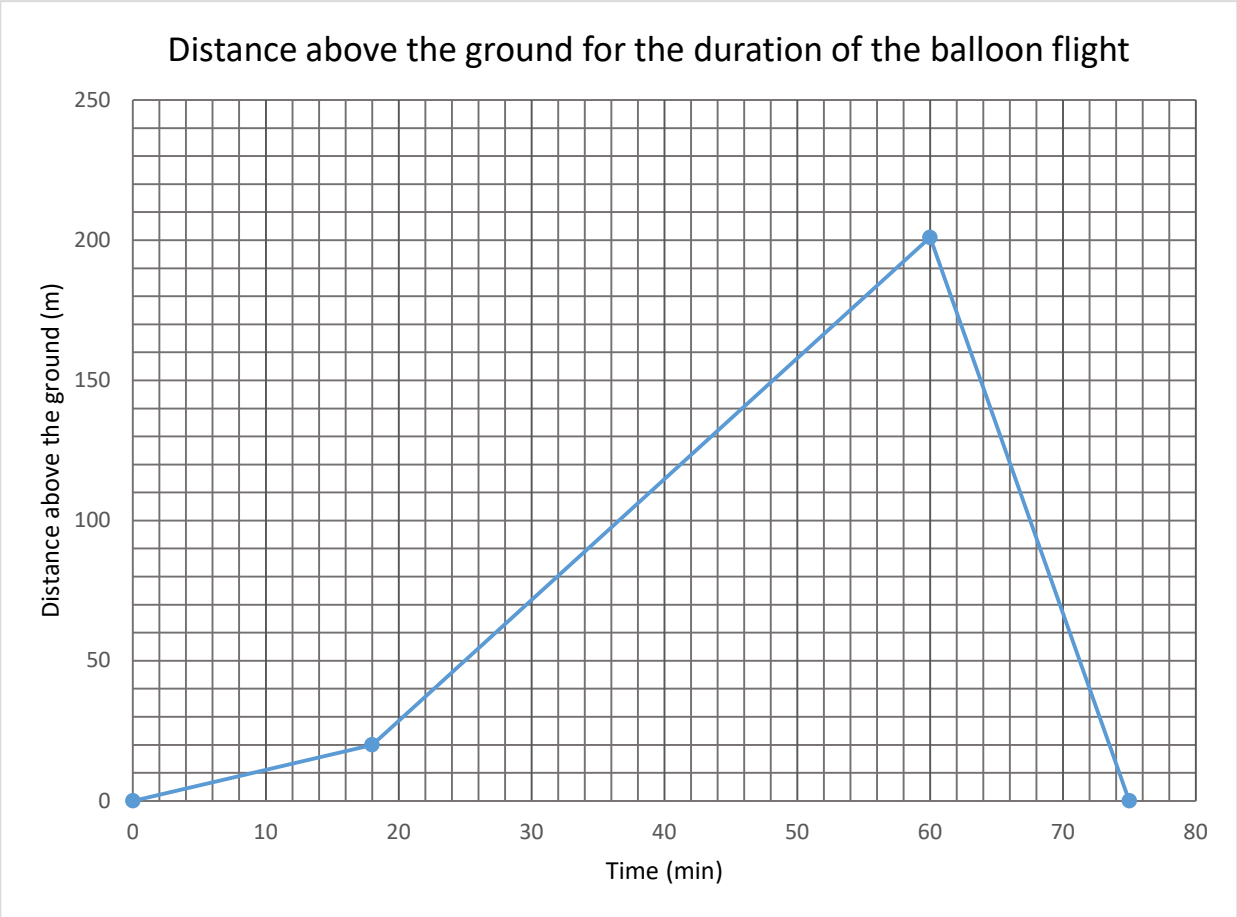
1.5.4 It is an accurate reflection of what happens exactly at the same time in a year, across the years (or any other suitable answer).

1.5.5 The increments on the y-axis must be increased, so that there can be better differentiation on the graph.

QUESTION 2

2.1 1 : 50 000
10,5 cm × 50 000= 525 000 cm (map measurement)
= 5,25 km
≈ 5 km

2.2



Axes increments
Plotted points
Point C correct distance

2.3 (a) Behind him (accept on the right side of him)

(b) To the left of him.

(c) In front of him.

2.4 3,4 km = 3 400 m
45 × 60 = 2 700 sec

$$s = \frac{d}{t} = \frac{3\ 400}{2\ 700} = 1{,}26 \text{ m/s}$$

2.5 2.5.1 $3 \times \frac{1}{4} \times 38$ litres = 28,5 litres

2.5.2 9,5 × 16 = 152 litres OR $16 \times \frac{1}{4}$ = 4 tanks

152 ÷ 38 = 4 tanks

2.6 2.6.1 (a) 3 409,7 – 723,5 = 2 686,2 kg

OR

78,8% × 3 409,7 = 2 686,8 kg

(b) $\frac{22,7}{3\ 409,7} \times 100$ = 0,7% **OR** 0,67%

(c) 3,3 + 1,9 + 0,67 + 5,4 + 10 + 78,8 = 100

2.6.2 $\frac{340,2}{3\ 409,7} \times 360 = 36,42^{o}$ **OR**
10% × 360 = 36 degrees

2.7 2.7.1 (a) 7

(b) 2

(c) 9

(d) 16

2.7.2 $\frac{3}{16} \times \frac{7}{16} = \frac{21}{256}$ **OR** 0,082 **OR** 8,2%

QUESTION 3

3.1 3.1.1 (a) $1\,600\,000\,000 \times 250 = 4 \times 10^{11}$

$4 \times 10^{11} \times 0{,}65 = 260\,000\,000$ litres

Amy is correct

OR

$65\% \times 1\,600\,000\,000 = 1\,040\,000\,000$ cups

$1\,040\,000\,000$ cups $\times$ 250 ml $= 2{,}6 \times 10^{11}$

$= 260\,000\,000\,000 = 260$ billion millilitres = 260 million litres

Amy is correct

(b) $\dfrac{1\,600\,000\,000 \times 250}{7\,600\,000\,000} = 52{,}63$ mℓ/person/day

Ayanda is correct

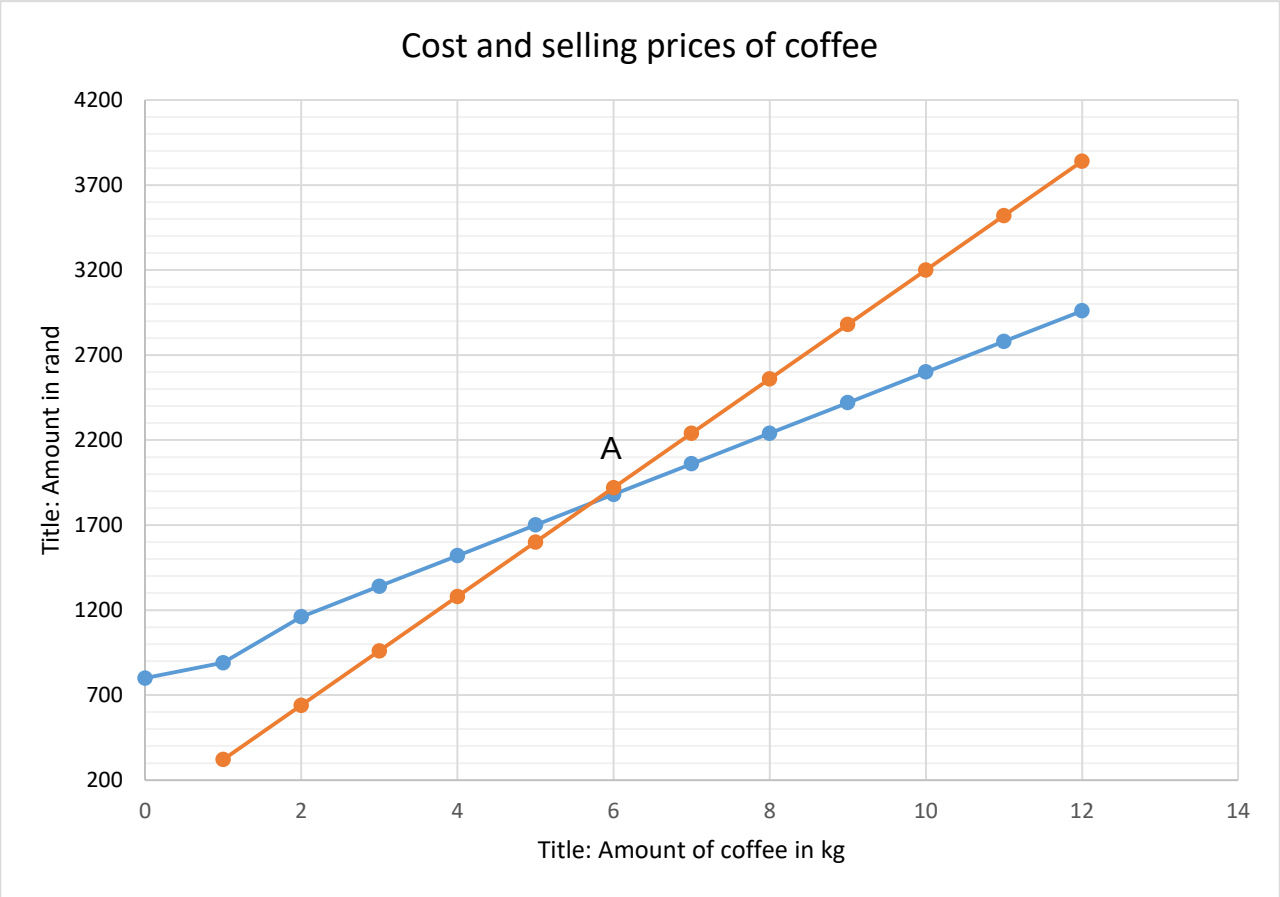
3.1.2 Coffee barista, coffee sales, coffee farmer/worker, transport, import/export, roasters, coffee shop owners, packaging (any 2).
Any suitable answer.

3.2 3.2.1 R180/kg

$\dfrac{320-180}{180} \times 100 = 77{,}78\%$ **OR** 78%

3.2.2 $C = 800 + 180 \times n$

3.2.3

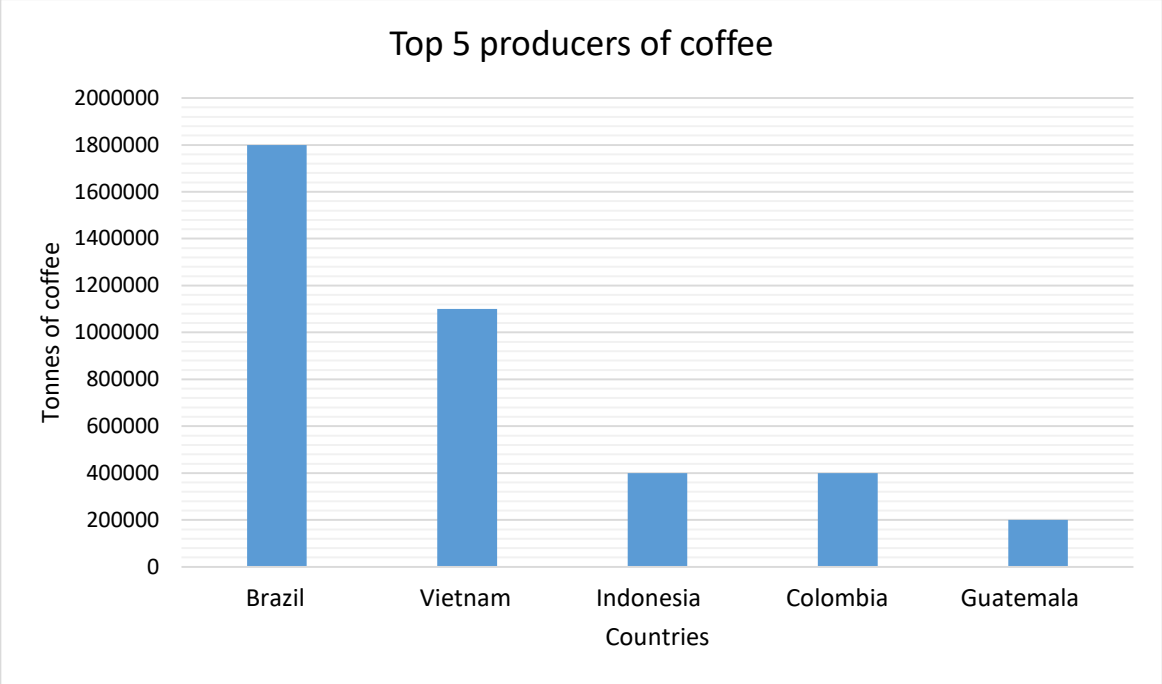


3.2.4 (a) Indicated as A.

(b) 6 kg

3.2.5 16 300 × 0,000 32 = 5,216 GBP
5,216 ÷ 0,05899 = R 88,42
Not R90

3.2.6



3.3 3.3.1 $3{,}142 \times 4{,}5^2 \times 15 = 954{,}383\ cm^3$

$8 \times 16 \times 7 = 896\ cm^3$

Container 1 (Cylinder) closest to $950\ cm^3$

3.3.2 $SA = 2(3{,}142)(4{,}5)^2\ 2(3{,}142)(4{,}5)(15)$

$= 551{,}421\ cm^2$

OR

$3{,}142 \times 4{,}5^2 = 63{,}62\ cm^2$

$63{,}62 \times 2 = 127{,}23\ cm^2$

$3{,}142 \times 9 = 28{,}27\ cm$

$28{,}27 \times 15 = 424{,}12\ cm^2$

$127{,}23\ cm^2 + 424{,}12\ cm^2 = 551{,}35\ cm^2$

QUESTION 4

4.1 4.1.1 45 × 900 = R40 500

4.1.2 End of year 1: 40 500 × 108,9% = R44 104,50
End of year 2: 44 104,50 × 108,9% = R48 029,80

4.1.3 53 000 × 0,78 = R41 340
They will have enough money.

OR

22% × R53 000 = 11 660
53 000 – 11 660 = R41 340

4.2 4.2.1 2 × (203 + 350 + 636 + 530 + 804 + 595) = $6 236
6 236 × 12,29 = R76 640,44

4.2.2 35% × 76 640,44 = R26 824,15

4.2.3 (a) 6 × 80 m^2 = 480 m^2

(b) 480 × 240 = R115 200

4.2.4 320 ÷ 10 = R32/kg
472,50 ÷ 15 = R31,50/kg
654 ÷ 20 = R32,70/kg
Birds R us OR 15 kg cheapest
120 kg ÷ 15 = 8 bags of 15 kg

OR

12 × R320 = R3 840
8 × R472,50 = R3 780
6 × R654 = R3 924
Birds R Us

4.2.5

Cost of birds	R76 640,44	(ca from 4.2.1)
Enclosures	R115 200,00	(ca from 4.2.3b)
Import taxes	R26 824,15	(ca from 4.2.2)
Feed (8 × 472,50)	R3 780,00	(ca from 4.2.4)
	R222 444,59	

Total: 150 marks

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