



Province of the
EASTERN CAPE
EDUCATION

NATIONAL SENIOR CERTIFICATE

GRADE 12

JUNE 2016

MATHEMATICAL LITERACY P2 MEMORANDUM

MARKS: 100

Symbol	Explanation
M	Method
MA	Method with accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RT/RG	Reading from a table/Reading from a graph
F	Choosing the correct formula
SF	Substitution in a formula
J	Justification
P	Penalty, e.g. for no units, incorrect rounding off etc.
R	Rounding Off/Reason

This memorandum consists of 7 pages.

QUESTION 1

- 1.1 1.1.1 Transfer cost ✓✓
Registration of deed of sale ✓✓
Accept any other relevant answer 2A Additional Cost
- 1.1.2 Amount borrowed = $980\,000 \times 1,1$ ✓
= R 1 078 000 ✓
OR
= $980\,000 + (980\,000 \times 0,1)$ ✓
= $980\,000 + 98\,000$
= R 1 078 000 ✓
OR
= $0,98 \times 1,1$
= R 1,078 million
OR
= $0,98 + (0,98 \times 0,1)$
= $0,98 + 0,098$
= R 1,078 million
1M using 980 000
1M using 110%
1CA
PS: If learners use 0,98, penalise with 1 mark if final answer is not in million
- 1.1.3 It is accessible ✓✓ **OR** close to shops ✓✓, hospital and schools **OR** the house has a lot of features ✓✓
Accept any other relevant answer 2A Reason for an ideal place
- 1.2 1.2.1 (a) Monthly repayment = $\frac{\text{Bond Amount}}{1\,000} \times \text{Factor}$
= $1\,078 \times 8,41$ ✓
= R 9 065,98 ✓
CA from 1.1.2
1M Amount divided by 1 000
1RT using correct factor
1CA
- (b) Real Cost = $9\,065,98 \times 30 \times 12$ ✓✓
= R 3 263 752,80 ✓
2MA multiplying with 30 and 12
1CA
- (c) Interest = $R\,3\,263\,752,80 - R\,1\,078\,000$ ✓
= R 2 185 752,80 ✓
1M Subtracting
1CA
- 1.2.2 Percentage interest = $\frac{2\,185\,752,80}{3\,263\,752,80} \times 100$ ✓
= 66,97% ✓
Accept 67% **CA from 1.2**
1M
1A

- 1.2.3 At the same interest rate, the longer the loan period, the smaller the factor value which imply that the monthly repayment will be less ✓✓ and the real cost will be higher. ✓✓

2A Monthly repayments less
2A Real cost more
Learner must refer to both repayments and real cost

Accept any logical explanation

- 1.2.4 At different interest rates, the factor values increase, therefore the monthly repayments ✓✓ will increase as well as the real cost ✓✓

2A Monthly repayments more
2A Real cost more
Learner must refer to both repayments and real cost

Accept any logical explanation

- 1.3 1.3.1 It means that 90% of the house prices for each of the years shown was lower than the price indicated on that line ✓✓

2A

- 1.3.2 30% ✓✓

2A

- 1.3.3 25% ✓✓

2A

- 1.3.4 Over the various years the house prices remained more or less the same. ✓✓

2A

- 1.3.5 Price prediction for 2016 = 1 200 000 ✓ x 1,066
= R 1 279 200 ✓

$$2017 = 1\,279\,200 \times 1,066 \\ = R\,1\,363\,627,20 \quad \checkmark$$

OR

$$2016 = 1\,200\,000 + (1\,200\,000 \times 0,066) \\ = 1\,200\,000 + 79\,200 \\ = R\,1\,279\,200$$

$$2017 = 1\,279\,200 + (1\,279\,200 \times 0,066) \\ = 1\,279\,200 + 84\,427,20 \\ = R\,1\,363\,627,20$$

1RG Correct value
1CA Price for 2016
1CA Price for 2017

[36]

QUESTION 2

2.1 2.1.1 Length of 1 post = $0,4 \text{ m} + 8 \text{ cm} + 1,3 \text{ m} + 6 \text{ cm} \checkmark$
 $= 40 \text{ cm} + 8 \text{ cm} + 130 \text{ cm} + 6 \text{ cm} \checkmark$
 $= 184 \text{ cm} \checkmark$

1A Using
correct
values
1C
Conversion
1A Total of
values

2.1.2 For the gate to open en close properly without any
obstructions. $\checkmark \checkmark$

2R

2.1.3 Vertical height = Vertical plank – $(18 \text{ cm} \times 2) \checkmark$
 $= 130 \text{ cm} - 36 \text{ cm} \checkmark$
 $= 94 \text{ cm} \checkmark$

1SF
1M
Subtracting
 18×2 from
the vertical
plank
1CA
1SF
1S
1A finding
the square
root
1CA answer
in meters

Length of diagonal plank = $\text{Vertical height}^2 + \text{Width of gate}^2 \checkmark$

$$= 94^2 + 126^2$$

$$= 8\,836 + 15\,876 \checkmark$$

$$= \sqrt{24\,712}$$

$$= 157,200\dots \text{ cm} \checkmark$$

$$= 1,572 \text{ m} \checkmark$$

- 2.1.4
- Dig the holes for the posts \checkmark
 - Plant the poles in the holes \checkmark
 - Attach the horizontal and diagonal planks with screws \checkmark
 - Attach the vertical planks to the horizontal and diagonal planks with screws \checkmark
 - Attach the gate to the posts with hinges \checkmark

OR

- Attach the horizontal and diagonal planks with screws \checkmark
- Attach the vertical planks to the horizontal and diagonal planks with screws \checkmark
- Dig the holes for the posts \checkmark
- Plant the poles \checkmark
- Attach the gate to the posts with hinges \checkmark

5A
1 mark for
each
construction

NB The
chronological
order is
important

2.2	2.2.1	Sakhiswa High School	Minimum R 5000	Maximum R 65 000
		Aphiwe Secondary School	Minimum R 15 000	Maximum R 60 000

$$\begin{aligned}\text{Range (Sakhiswa)} &= 65\,000 - 5\,000 \checkmark \\ &= R\,60\,000 \checkmark\end{aligned}$$

$$\begin{aligned}\text{Range (Aphiwe)} &= 60\,000 - 15\,000 \\ &= R\,45\,000 \checkmark\end{aligned}$$

1RD Correct values (all min & max)
1MA Range
1MA Range

2.2.2 The box-and-whisker plot for Sakhiswa is longer than that of Aphiwe ✓✓

2A

2.2.3 The bottom 75% is much more spread out than the top 25% ✓✓

2A

$$\begin{aligned}\text{IQR for Sakhiswa} &= R\,40\,000 - R\,15\,000 \checkmark \\ &= R\,25\,000 \checkmark\end{aligned}$$

$$\begin{aligned}\text{IQR for Aphiwe} &= R\,45\,000 - R\,25\,000 \\ &= R\,20\,000 \checkmark\end{aligned}$$

The IQR for Sakhiswa is greater. ✓✓

OR

The IQR for Aphiwe is smaller.

1M Concept of IQR
1A
1A
2O

2.2.5 Aphiwe Secondary School ✓✓

- The minimum profit is higher ✓✓

OR

- The IQR is smaller ✓✓

OR

- The bottom 75% profits are higher ✓✓

OR

- Range is smaller ✓✓

OR

- Median is greater ✓✓

2A Correct Choice
2R Reason

[33]

QUESTION 3

- 3.1 3.1.1
- It shows a particular route ✓✓
OR
 - It shows places that you can pass through ✓✓
OR
 - It gives distances between places ✓✓
OR
 - It shows places where you can stop at ✓✓
OR
 - It shows the shortest routes ✓✓

2A

3.1.2 Distance = 480 km – 375 km ✓
= 105 km ✓

OR

Distance = 157 km – 52 km ✓
= 105 km ✓

1RM Correct
distances
1A

3.2 3.2.1 Distance to Harare = 532 km + 446 km ✓
= 978 km ✓

1M Adding
1A

Liters used for trip = 7,5 / 100
= 0,075 x 978 km
= 73,35 / ✓

1CA Number
of litres
needed

23 February 2016

Cost = 73,35 x 12,15 ✓
= R 891,20 ✓

1RT correct
fuel price
1A cost in
Rand and
cents
1A fuel cost

2 March 2016

Cost = 73,35 x 11,46
= R 840,59 ✓

Difference = R 891,20 - R 840,59
= R 50,61 ✓

She paid less in March, because the petrol price decreased.
✓

1CA finding
the
difference
10

3.2.2 No ✓

- Fees for travelling through toll plazas or toll ramps ✓✓
- Border post fees ✓

1A
2A first factor
1A Second
factor
[16]

