

Province of the

**EASTERN CAPE**

EDUCATION

**NATIONAL**

**SENIOR CERTIFICATE**

**GRADE 11**

**NOVEMBER 2010**

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| **MATHEMATICAL LITERACY − PAPER 1**  **MEMORANDUM** |

**MARKS: 100**

**TIME: 2½ hours**

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| This memorandum consists of 6 pages. |

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| **SYMBOL** | **EXPLANATION** |
| **M** | Method |
| **MA** | Method with Accuracy |
| **CA** | Consistent Accuracy |
| **A** | Accuracy |
| **C** | Conversion |
| **S** | Simplification |
| **RT / RG** | Reading from a table / graph |
| **F** | Choosing the correct formula |
| **SF** | Substitution in a formula |
| **O** | Opinion |
| **P** | Penalty: e.g. for: no units, incorrect rounding off etc. |
| **R** | Rounding off |
| **G** | Plotting/Drawing Graph |

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| **QUESTION 1** | |  |  |
|  | |  |  |
| 1.1 | Trapezium ✓✓  Quadrilateral | A:1 A:1  (*only 1 Mark*) | (2) |
|  |  |  |  |
| 1.2 | ½ (10 m)(3 m + 1,5 m) ✓ ✓  = 5 m x 4,5 m ✓  = 22,5 m2 ✓ | SF:1 (*for 10 m*)  SF:1 (*for 3 m and 1,5 m*)  S:1  A:1 | (4) |
|  |  |  |  |
| 1.3 | GHEF ✓ | A:1 | (1) |
|  |  |  |  |
| 1.4.1 | Area of ABHG = 4 m x 3 m ✓  = 12 m2 ✓ | M:1  A:1 | (2) |
|  |  |  |  |
| 1.4.2 | Area of CEFD = 4m x 1,5m ✓  = 6 m2 ✓ | M:1  A:1 | (2) |
|  |  |  |  |
| 1.5.1 | (22,5 m2 x 2) + 12 m2 + 6 m2 ✓✓  = 63 m2 ✓  **OR**  (22,5 m2 + 22,5 m2) + 12 m2 + 6 m2 ✓✓  = 63 m2 ✓ | M:1,  M:1  A:1 | (3) |
|  |  |  |  |
| 1.5.2 | 20 cm x 10 cm ✓  = 200 cm2 ✓  200 ÷ 10 000 ✓  = 0,02 m2 ✓ | SF: 1  A: 1 | (4) |
|  |  |  |  |
| 1.5.3 | 63 m2 ÷ 0,02 m2 ✓  = 3 150 tiles ✓ | M:1  A:1 | (2) |
|  |  |  |  |
| 1.5.4 | 3 150 ÷ 24 ✓  = 131,25 boxes ✓  ≈ 132 boxes ✓ | M:1  A:1  R:1 | (3) |
|  |  |  |  |
| 1.5.5 | 132 x R127,75 ✓  = R16 863 ✓ | M:1  A:1 | (2) |
|  |  |  |  |
| 1.6.1 | 22,5 m2 x 4 m ✓  =90 m3 ✓ | M:1  A:1 | (2) |
|  |  |  |  |
| 1.6.2 | 90 kℓ ✓ | A:1 | (1) |
|  |  |  |  |
| 1.7 | 90 x R11,89 ✓  = R1 070,10 ✓ | M:1  A:1 | (2) |
|  |  |  |  |
| 1.8 | ½ (3 m + 1,5 m) ✓  = 2,25 m ✓ | M:1  A:1 | (2) |
|  |  |  | **[32]** |

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| **QUESTION 2** | |  |  |
|  | |  |  |
| 2.1.1 | 4 hours ✓ | A:1 | (1) |
|  |  |  |  |
| 2.1.2 | 10 hours ✓ | A:1 | (1) |
|  |  |  |  |
| 2.2.1 | 10 + 9 + 8 + 8 + 7 + 4 ✓  = 46 hours ✓ | RG:1  A:1 | (2) |
|  |  |  |  |
| 2.2.2 | 4 + 6 + 8 + 9 + 9 + 10 ✓  = 46 hours ✓ | RG:1  A:1 | (2) |
|  |  |  |  |
|  |  |  |  |
| 2.3.1 | Thursday ✓and Friday ✓ | A:1, A:1 | (2) |
|  |  |  |  |
| 2.3.2 | Wednesday ✓and Thursday ✓ | A:1, A:1 | (2) |
|  |  |  |  |
| 2.3.3 | Wednesday ✓ | A:1 | (1) |
|  |  |  |  |
| 2.4 | 46 ÷ 6 ✓  = 7,67 Hours ✓  = 7 Hours and 40 minutes ✓  ***(Accept 7 hours and 40,2 minutes)*** | M:1  A:1  C:1 | (3) |
|  |  |  | **[14]** |
| **QUESTION 3** | |  |  |
|  | |  |  |
| 3.1.1 | ✓✓  = 9 teachers ✓ | RG:1 **(*for 25 and 36*)**  M: 1  A:1 | (3) |
|  |  |  |  |
| 3.1.2 | 100% – 84% ✓  = 16% ✓ | RG: 1 **(*for 84%*)**  A: 1 | (2) |
|  |  |  |  |
| 3.1.3 | 25 – 23 ✓  = 2 teachers ✓ | RG: 1  A: 1 | (2) |
|  |  |  |  |
| 3.2 | 36 : 28 ✓  9 **:** 7 ✓ | A: 1  CA: 1 | (2) |
|  |  |  |  |
| 3.3 | 25 **:** 950 ✓  1 **:** 38 ✓ | M: 1  A: 1 | (2) |
|  |  |  |  |
| 3.4.1 | R5 000 **÷** 25 ✓  = R200 ✓ | M: 1  A: 1 | (2) |
|  |  |  |  |
| 3.4.2 | ✓ ✓  = 4 % ✓ | M: 1 (*for 200 and*  *5 000*)  M:1  A: 1 | (3) |
|  |  |  | **[16]** |

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| **QUESTION 4** | |  |  |
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| 4.1 | R230 000 – R50 000 – R40 000 ✓  R140 000 ✓ | M:1  A: 1 | (2) |
|  |  |  |  |
|  |  |  |  |
| 4.2.1 | Amount = ✓✓  = R244 861 ✓  Interest = R244 861 – R140 000 ✓  = R104 861 ✓ | SF: 1 (*for R140 000*)  SF: 1 (*for 15 and 4*)  A: 1  M:1  A: 1 | (5) |
|  |  |  |  |
| 4.2.2 | Interest = ✓✓  = R100 800 ✓ | SF: 1 (*for R140 000*)  SF: 1 (*for 18 and 4*)  A: 1 | (3) |
|  |  |  |  |
| 4.2.3 | Option 2 ✓  Less interest or any valid answer ✓ | A: 1  A: 1 | (2) |
|  |  |  |  |
|  |  |  | **[12]** |
| **QUESTION 5** | |  |  |
|  | |  |  |
| 5.1 | 323 **÷**  25 ✓✓  = 12,92 ✓ | M:1 (*for 323*)  M:1  A: 1 | (3) |
|  |  |  |  |
| 5.2 | 3; 4; 5; 6; 7; 8; 9; 9; 10; 11; 12; 13; 14; 14 ✓  15; 15; 15; 16; 17; 18; 18; 19; 20; 21; 24 ✓ | M: 1  M:1 | (2) |
|  |  |  |  |
| 5.3 | Median is 14 ✓ | A: 1 | (1) |
|  |  |  |  |
| 5.4 | Mode is 15 ✓ | A: 1 | (1) |
|  |  |  |  |
| 5.5 | |  |  |  |  | | --- | --- | --- | --- | | **Interval** | **Tally Marks** | **Frequency** |  | | 0 – 5 | lll | 3 | ✓ | | 6 – 10 | l | 6 | ✓ | | 11 – 15 | lll | 8 | ✓ | | 16 – 20 | l | 6 | ✓ | | 21 – 25 | ll | 2 | ✓ | | ***Each row one mark*** | (5) |

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| 5.6  *frequency* | *Mark interval* | *Each bar one mark* | (5) |
|  |  |  | **[17]** |
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| **QUESTION 6** | |  |  |
|  |  |  |  |
| 6.1 | C4 | RG: 1 | (1) |
|  |  |  |  |
| 6.2 | Distance = 20 km/h x 12 **÷** 60  = 4 km | SF: 1  M: 1 (*dividing by 60*)  A: 1 | (3) |
|  |  |  |  |
| 6.3 | Start from Azalea Street into Frederic Street  Proceed through Connaught Avenue  Enter Amalinda Drive and turn right  Turn left to Union Avenue  Turn right to Dawson Road  Turn right to Selborne College | RG: 1  RG: 1  RG: 1  RG: 1  RG: 1 | (5) |
|  |  |  | **[9]** |
|  |  |  |  |
|  | **TOTAL:** | | **100** |