

# ASSIGNMENT MEMO

**GRADE 9**

MATHEMATICS

# 2014

# SCHOOL BASED ASSESSMENT TASK

# MARKS: 50

# WEIGHTED MARK: 10

# SUGGESTED TIME: 1 hour

# TERM 1: Investigation

**INVESTIGATION**

**MARKS: 50**

**TIME: 1 hour**

**The principle of CA marking must be applied throughout this memo.**

**CA – Consistent accuracy**

**M – Method**

**A - Accuracy**

**QUESTION 1**

|  |  |  |  |
| --- | --- | --- | --- |
| 1.1 | | Write 0,000 000 000 098 in scientific notation. | |
|  | | **✓✓A**  (2) | |
|
|
| 1.2 | | Simplify and leave answer in decimal form: – show steps of calculations | |
|  | | **✓A**  **✓CA**  (2) | |
| 1.3 | | Simplify, without the use of a calculator. Show all steps of calculation in each case. | |
| 1.3.1 | 1 : 2 | | = **✓A**  = 5 : 8 **✓CA**  (2) |
| 1.3.2 | + ) | | **+ ) ✓ A**  **✓A**    **✓CA**  (3) |
| 1.3.3 |  | | **✓M/A**    **✓CA**  (2) |
| 1.3.4 |  | | **✓A**  **✓A**  **✓ CA**  (3) |

|  |  |
| --- | --- |
| 1.4 | Between which two consecutive integers does lie? |
|  | **✓A ✓A**  **✓CA**  (3) |
| 1.5 | Determine the sum of all the factors of 100 |
|  | 100 = **1 + 2 + 4 + 5 + 10 + 20 + 25 + 50 + 100** **✓A**  = **217 ✓CA**  (2) |
| 1.6 | Show through factorising that 899 is not a prime number. |
|  | **899 = 29 31** OR Factors of **899 = 1; 29; 31; 899**  any one **✓A**  OR **899 = 900 – 1 = (30 + 1)(30 -1) = 31**  **∴ NOT PRIME ✓A**  (2) |
| 1.7 | Divide 240 g in the ratio 5 : 3 : 4 |
|  | total parts = 12 ⇒ 1 part = 20  ; ;  ∴ 100 : 60 : 80 **✓A ✓A ✓A**  (3) |

|  |  |
| --- | --- |
| 1.8 | Allan’s car uses 1 litre of fuel to travel 12 km. How much fuel will be needed to travel 420km? |
|  | Number of litres =    = 35 litres **✓ CA**    (2) |

**[26]**

**QUESTION 2**

|  |  |  |  |
| --- | --- | --- | --- |
| 2.1 | Simplify, without using a calculator: | | |
| 2.1.1 | + | | 6 OR 6,25 + 0,25 **✓A✓A**  = 6 OR 6,5**✓**  (3) |
| 2.1.2 |  | | **✓A**(numerator)  **✓A✓A** (denominator)  **✓ CA** (exponential law)  = ½ **✓ CA**  (5) |
| 2.2 | | Consider the figures below which were built using black and white tiles: | |
| Figure 1  Figure 2  Figure 3 | | | |
| 2.2.1 | Complete the following table: | | |
|  | |  |  |  |  |  | | --- | --- | --- | --- | --- | | Figure | 1 | 2 | 3 | 4 | | Number of black tiles | 1 | 2 | 3 | 4 | | Number of white tiles  **✓A✓A** | 6 | 10 | **14** | **18** |   (2) | | |
| 2.2.2 | Write down an expression for the general term, T*n*, showing the number of white tiles in the *n*-th figure. | | |
|  | T*n* = 4*n* + 2 **✓A ✓A**  (2) | | |

|  |  |
| --- | --- |
| 2.2.3 | How many white tiles will be in figure 15? |
|  | T15 = 4(15)+ 2 **✓CA**  = 62 **✓CA**  (2) |

**[14]**

**QUESTION 3**

|  |  |  |  |
| --- | --- | --- | --- |
| 3.1 | |  |  | | --- | --- | | **SA Credit Bank**  Mia Parker  P. O. Box 472  Kensington  Maitland  7405  Dear Ms Parker  We know it is important to you to manage your finances responsibly.  Here’s an offer you would want to use. | R9 000,00  Cash already approved  YOUR LOAN OFFER  AMOUNT ALREADY APPROVED R 9 000,00   * Payable over 48 months * Monthly installments R 318,92   EXPIRY DATE: 16 January | |

|  |  |  |
| --- | --- | --- |
| 3.1.1 | Calculate the TOTAL amount that Mia has to pay back if she takes the loan. | **✓✓A**  (2) |
| 3.1.2 | Why, do you think, do banks and other financial institutions offer cash loans to people that did not apply for it? | Part of their marketing strategy/ **to attract clients.** **✓A**  *Any relevant answer*  (1) |
| 3.2 | Which investment is the most profitable? Show al calculations. | |
|  | 1. R560 invested at 8% p.a. simple interest for 3 years   OR   1. R 560 invested at 7% p.a. compound interest for 3 years | Simple interest:  **CA**  Compound interest:  **𝑴𝐀**  **Simple interest** option is the most profitable.  **CA**  (7) |

**[10]**