

# ASSIGNMENT

**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**

**This question paper consists of 8 pages**

**NAME:**

**GRADE 9:**

**INSTRUCTIONS**

**Read the following instructions carefully before answering the questions.**

1. This Assignment consists of 3 questions.
2. **Answer ALL questions on this task sheets.**
3. Write your name and surname as well as your class section in the spaces provided and hand in the whole answer sheet.
4. Clearly show all your calculations.
5. Answers only will not necessarily be awarded full marks.
6. An approved scientific calculator (non-programmable and non-graphical) may be used, unless stated otherwise.
7. If necessary, answers should be rounded off to TWO decimal places, unless stated otherwise.
8. Write legibly, neatly and use black or blue ink.

**QUESTION 1**

|  |  |
| --- | --- |
| 1.1 | Write 0,000 000 000 098 in scientific notation. |
|  |  (2) |
|
|
| 1.2 | Simplify and leave answer in decimal form: $\left(3,6×10^{6}\right)-(5,2×10^{5})$ – show steps of calculations  |
|  | (2) |
| 1.3 | Simplify, without the use of a calculator. Show all steps of calculation in each case.  |
| 1.3.1  | 1$ \frac{2}{3}$ : 2 $ \frac{2}{3}$ | (2) |
| 1.3.2  | $2(\sqrt[3]{64}$ + $\sqrt{25}$ )  | (3) |
| 1.3.3  | $$3^{-1}-4^{-1}$$ | (2) |
| 1.3.4 | $$\frac{1}{2}+2\frac{3}{4}-\frac{3}{8}$$ |  (3) |
| 1.4 | Between which two consecutive integers does $\sqrt{150}$ lie?  |
|  | (3) |
| 1.5 | Determine the sum of all the factors of 100 |
|  |  (2) |
| 1.6 | Show through factorising that 899 is not a prime number. |
|  |   (2) |
| 1.7 | Divide 240 g in the ratio 5 : 3 : 4 |
|  |  (3) |

|  |  |
| --- | --- |
| 1.8 | Allan’s car uses 1 litre of fuel to travel 12 km. How much fuel will be needed to travel 420km? |
|  |   (2) |

 **[26]**

**QUESTION 2**

|  |  |
| --- | --- |
| 2.1 | Simplify, without using a calculator: |
| 2.1.1 | $\left(2\frac{1}{2}\right)^{2}$+ $(0,5)^{2}$ |  (3) |
| 2.1.2 | $$\frac{2^{x+1}. 4 . 8^{x}}{16^{x+1}}$$ |  (5) |
| 2.2 | Consider the figures below which were built using black and white tiles: |
| Figure 1Figure 2Figure 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 | 6 | 10 |  |  |

 (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. |
|  |    (2) |

|  |  |
| --- | --- |
| 2.2.3 | How many white tiles will be in figure 15? |
|  |   (2) |

 **[14]**

**QUESTION 3**

|  |  |  |  |
| --- | --- | --- | --- |
| 3.1 |

|  |  |
| --- | --- |
| **SA Credit Bank**Mia ParkerP. O. Box 472KensingtonMaitland7405Dear Ms ParkerWe know it is important to you to manage your finances responsibly. Here’s an offer you would want to use. | R9 000,00Cash already approvedYOUR LOAN OFFERAMOUNT 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. | (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?  | (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**
 | (7) |

 **[10]**