

# CYCLE TEST

**TERM 1**

**D9 JE**

**GRADE 9**

MATHEMATICS

# 2014

# SCHOOL BASED ASSESSMENT TASK

# MARKS: 50

# WEIGHTED MARK: 10

# SUGGESTED TIME: 1 hour

# TERM 1: Investigation

**INVESTIGATION**

**MARKS: 50 EXAMINER :**

**TIME: 1 hour MODERATOR:**

**This question paper consists of 7 pages**

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| **MATHEMATICS** |

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| **INSTRUCTIONS AND INFORMATION**  1. This question paper consists of **SECTION** A and **SECTION B** based on the prescribed content framework in the CAPS document.  **SECTION A: MULTIPLE CHOICE**  QUESTION 1: TEN MULTIPLE CHOICE QUESTIONS BASED ON ALL  TOPICS COVERED  **ANSWER ALL SECTIONS ON THE SPACE PROVIDED**.  **SECTION B: THREE QUESTIONS BASED ON TOPICS COVERED**  QUESTION 2: ALGEBRAIC EXPRESSIONS AND EXPONENTS  QUESTION 3: RATIO AND RATE AND FINANCIAL MATHEMATICS  QUESTION 4: FUNCTIONS  2. Answer ALL questions in both SECTIONS.  3. A non-programmable calculator may be used unless otherwise stated.  4. In **SECTION A** **circle** the letter of the correct answer; and if you change your decision cross out the circled letter and circle your new choice  5. In **SECTION B** show all necessary steps in your working unless otherwise stated.  6. When answering questions, apply your knowledge, skills and insight.  7. Number the answers correctly according to the numbering system used in this question paper.  8. Write neatly and legibly. |

**SECTION A: MULTIPLE CHOICE**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **QUESTION 1**  Choose the correct answers | | | | | | |
| 1.1 | Write 0,003 56 in scientific notation. | | | |  | (1) |
|  | A. |  | | |  |  |
|  | B. |  | | |  |  |
|  | C. |  | | |  |  |
|  | D. |  | | |  |  |
| 1.2 | In scientific notation, | | | |  | (1) |
|  | A. | |  | |  |  |
|  | B. | |  | |  |  |
|  | C. | |  | |  |  |
|  | D. | |  | |  |  |
| 1.3 | Divide R2 400 in the ratio 2: 3: 4. | | | |  | (1) |
|  | A. |  | | |  |  |
|  | B. |  | | |  |  |
|  | C. |  | | |  |  |
|  | D. |  | | |  |  |
| 1.4 |  | | | |  |  |
|  | A. | -5 | | |  |  |
|  | B. | 9 | | |  |  |
|  | C. | -1 | | |  |  |
|  | D. | 3 | | |  |  |
| 1.5 | Simplify : + 2 | | | |  | (1) |
|  | A. |  | | |  |  |
|  | B. |  | | |  |  |
|  | C. |  | | |  |  |
|  | D. |  | | |  |  |
| 1.6 | Simplify | | | |  | (1) |
|  | A. |  | | |  |  |
|  | B. |  | | |  |  |
|  | C. |  | | |  |  |
|  | D. |  | | |  |  |
| 1.7 | If then | | | |  |  |
|  | A. | -1 | | |  |  |
|  | B. | 1 or -2 | | |  |  |
|  | C. | 0 or -2 | | |  |  |
|  | D. | -2 | | |  |  |
| 1.8 | Solve for  if | | | |  | (1) |
|  | A. |  | | |  |  |
|  | B. |  | | |  |  |
|  | C. |  | | |  |  |
|  | D. |  | | |  |  |
| 1.9 | Study this growing pattern.      If you grow this pattern further the next diagram will be: | | | |  | (1) |
|  | A. |  | | |  |  |
|  | B. |  | | |  |  |
|  | C. |  | | |  |  |
|  | D. |  | | |  |  |
| 1.10 | The equation defining the graph is | | | |  | (1) |
|  | A. |  | |  |  |  |
|  | B. |  | |  |  |
|  | C. |  | |  |  |
|  | D. |  | |  |  |
|  | | | | | | **[10]** |
| **SECTION B:**  **QUESTION 2** | | | | | | |
| 2.1 | Simplify | | | |  |  |
|  |  | | | |  | (3) |
| 2.2 | If  and , find the value of | | | |  | (3) |
| 2.3 | Solve for | | | |  |  |
|  | 2.3.1 |  | | |  | (4) |
|  | 2.3.2 |  | | |  | (3) |
|  | 2.3.3 |  | | |  | (3) |
|  | | | | | | **[16]** |
| **QUESTION 3** | | | | | | |
| 3.1 | If your car can go 350 kilometres on 20 litres of fuel, at that rate, how much fuel would you have to purchase to take a cross country trip that was 3000 kilometres long? | | | |  | (3) |
| 3.2 | A desk was bought for R2 500 and sold for R3 600. Calculate the percentage profit. | | | |  | (3) |
| 3.3 | An agent earns 6% commission on the selling price of a house. Calculate the commission that he earns if a house was sold for R1,75 million rands. | | | |  | (2) |
| 3.4 | R2 500 is invested for 24 monthe at 5,5% simple interest per year.Calculate: | | | |  |  |
|  | 3.4.1 | The interest | | |  | (3) |
|  | 3.4.2 | The value of the investment after 24 months. | | |  | (2) |
|  | | | | | | **[13]** |
| **QUESTION 4** | | | | | | |
| 4.1 | Study the flow diagram below and answer questions that follow. | | | |  |  |
|  | 4.1.1 | Complete the flow diagram. | | |  | (4) |
|  | 4.1.2 | Represent the relationship graphically. | | |  | (2) |
| 4.2 | Study the table below: | | | |  |  |
|  | 4.2.1 | The rule for the relationship between and is: To get multiply by and add . Write the rule in the form: | | |  | (2) |
|  | 4.2.2 | Use the rule to complete the table. | | |  | (3) |
|  |  |  | | |  | **[11]** |

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|  | **TOTAL: 50** |  |