

MATHEMATICS

# 2014

# SCHOOL BASED ASSESSMENT TASK

# MARKS: 50

# WEIGHTED MARK: 10

# SUGGESTED TIME: 1 hour

# TERM 1: Investigation

**INVESTIGATION**

**GRADE 9**

# Controlled TEST

**TERM 3**

**D9 JE**

**MARKS: 50**

**TIME: 1 hour**

**This question paper consists of 10 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: FIVE MULTIPLE CHOICE QUESTIONS BASED ON ALL  CONTENT AREAS COVERED.  **SECTION B: FIVE QUESTIONS BASED ON COVERED TOPICS**  QUESTION 2: FUNCTIONS AND RELATIONSHIPS.  QUESTION 3: GRAPHS.  QUESTION 4: TRANSFORMATION GEOMETRY.  QUESTION 5: GEOMETRY OF STRAIGHT LINES.  QUESTION 6: GEOMETRY OF 2D.  2. Answer ALL questions in both SECTIONS.  3. A non-programmable calculator may be used unless otherwise stated.  4. In **SECTION A** **choose the correct letter.**  5. In **SECTION B** show all necessary steps in your working unless otherwise stated.  6. **Use ANNEXURE 1 and ANNEXURE 2 to answer Questions 3.1.4 ; 3.1.5; 4.2.1 and Question 6**  7 When answering questions, candidates must apply their knowledge, skills and insight.  8. Number the answers correctly according to the numbering system used in this question paper.  9. Write neatly and legibly. |

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| QUESTION 1  FOR EACH QUESTION, CHOOSE THE CORRECT LETTER OF THE CORRECT ANSWER. | | | | | | |
| 1.1 | | Consider the following flow diagram:    The value of 𝑎 is  A.  B.  C.  D. | | |  | (1) |
| 1.2 | | The gradient of the straight line drawn below is:    A. -1  B. 1  C. 0  D. 2 | | |  | (1) |
| 1.3 | | Look at the sketch below. Pairs of parallel lines are:  A  B  C  F  E  D  A.  B.  C.  D. | | |  | (1) |
| 1.4 | | In  The size of is:    A.  B.  C.  D. | | |  | (1) |
| 1.5 | | The transformation of to is called …    A. a reflection.  B. a reduction.  C. an enlargement.  D. a translation. | | |  | (1) |
|  | | | | | | **[5]** |
| QUESTION 2 | | | | | | |
|  | | Use the rule to complete the table below.   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  |  |  |  | **(a)** | **(b)** | |  | **(c)** | **(d)** | **(e)** |  |  | | | |  | (5) |
|  | |  | | |  | **[5]** |
| QUESTION 3 | | | | | | |
| 3.1 | | A straight-line graph is defined by | | |  |  |
|  | | 3.1.1 | Determine the intercept of the graph. | |  | (2) |
|  | | 3.1.2 | Determine the intercept of the graph. | |  | (1) |
|  | | 3.1.3 | Determine the gradient of the straight-line graph. | |  | (1) |
|  | | 3.1.4. | Draw the graph showing all your intercepts with the axes. Use **ANNEXURE 1** provided. | |  | (3) |
|  | | 3.1.5. | On the same system of axes (use **ANNEXURE 1**) to draw the graph of . | |  | (2) |
|  | | 3.1.6. | Calculate the value of when the graph of and intersect | |  | (2) |
|  | | | | | | **[11]** |
| QUESTION 4 | | | | | | |
| 4.1 | | Complete the table:   |  |  |  | | --- | --- | --- | | Point | Image | Transformation | | (4;11) | (2;15) | **4.1.1.** | | (8; -3) | **4.1.2.** | Reflection in line | | **4.1.3.** | (6; -1) | Reflection in line y | | | |  | (3) |
| 4.2 | | Study the diagram below. | | |  |  |
|  | | 4.2.1. | Using the **ANNEXURE 2**, Draw the reflected object about the from the diagram above. | |  | (3) |
|  | | 4.2.2. | Write the rule that you used to reflect the object in **QUESTION 4.2.1** in the form: | |  | (2) |
|  | |  | | |  | **[8]** |
| QUESTION 5 | | | | | |  |
| 5.1. | Determine the value of angles | | |  | | (9) |
| 5.2. | is a parallelogram. Calculate the size of . | | |  | | (4) |
|  |  | | | | | **[13]** |
|  | QUESTION 6 | | | | |  |
|  | Match the shape in column A with its description in column B and its picture in column C.  **Use ANNEXURE 2 to complete the table.**   |  |  |  |  | | --- | --- | --- | --- | | Column A | Column B | Column C | Answer | | 6.1. Equilateral Triangle | (a) 3 sides, with one angle equal to | (i) |  | | 6.2. Isosceles Triangle | (b). All three sides are different in size. | (ii) |  | | 6.3. Scalene Triangle | (c). A triangle where all three angles are equal to 6 | (iii) |  | | 6.4. Right Angled Triangle | (d).A triangle where the two base angles are equal | (iv) |  | | | | | | (8) |
|  |  | | | | | **[8]** |

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| **Total** | **50 Marks** |

**ANNEXURE 1**

**SURNAME & NAME…………………………………………………….. Grade 9: …**

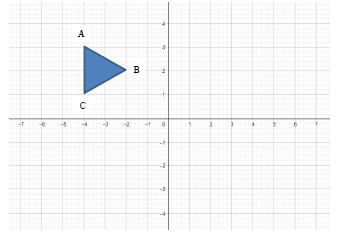
**QUESTION 3.1.4. and 3.1.5.**



**ANNEXURE 2**

**SURNAME & NAME…………………………………………………….. Grade 9: …**

**QUESTION 4.2.1.**



**QUESTION 6**

|  |  |  |  |
| --- | --- | --- | --- |
| Column A | Column B | Column C | Answer |
| 6.1. Equilateral Triangle | (a) 3 sides, with one angle equal to | (i) | ……………. |
| 6.2. Isosceles Triangle | (b). All three sides are different in size. | (ii) | …………… |
| 6.3. Scalene Triangle | (c). A triangle where all three angles are equal to 6 | (iii) | ………. |
| 6.4. Right Angled Triangle | (d).A triangle where the two base angles are equal | (iv) | ………….. |