**GRADE: 9**

**SUBJECT: MATHEMATICS**

**TERM FOUR**

**FORMAL ASSESSMENT TASK - INVESTIGATION**

**MARKS: 55**

**TIME: 2hrs**

Name and Surname: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Class: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

School: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| --- | --- | --- |
| **Activity/Form:** INVESTIGATION | **Learner’s mark** | **Learner’s %** |
| **TOTAL** |  |  |

**Instruction:**

* Use instruments to draw and measure as required.
* Calculators may be used.

A: Draw AEO of your own choice.

B: Then draw line CAD // EO.

**NB: Answer the following questions based on the figure that you have drawn.**

* 1. What can you say about the sizes of DÂO and EÔA? Give a reason.
  2. Measure CÂE, EÂO and DÂO
  3. CÂE EÂO DÂO \_\_\_\_o
  4. Complete: The sum of adjacent angles on a line is \_\_\_\_\_\_\_\_\_\_

2.1 What are the sizes of angles E and O? Give reasons for answers. (Do not measure)

2.2 Add the sum of angles of AEO.

2.3 The sum of the interior angles of AEO is \_\_\_\_\_\_\_\_\_\_ o

2.4 Does the answer in QUESTION 2.3 depend on the shape or size of the triangle you have

drawn? Explain.

Extend line EO to F

3.1 Measure AÔF. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3.2 EÂO AÊO \_\_\_\_\_o

3.3 What can you say about AÔE and EÂO AÊO?

3.4 Therefore, the exterior angle AÔE of AEO is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

3.5 Does the answer in QUESTION 3.4 depend on the shape or size of the triangle you have

drawn? Explain.

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**MARKING RUBRIC**

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| --- | --- | --- | --- | --- | --- |
|  | **0** | **1** | **3** | **4** | Marks obtained |
| A: Drawing of the triangle | No attempt done . | Drawn and labelled a 2D shape other than a triangle. | Drawn but did not or incorrectly labellled a triangle. | Drawn and cotrrectly labelled an accurate triangle |  |
| B: Drawing parallel lines | Parallel lines are not drawn | Drawn unlabelled parallel line | Drawn and labelled parallel lines | Drawn, labelled and used arrows to show parallel lines |  |
| * 1. Sizes of DÂO and EôA | No answer is given | Unable to give correct answer and reason | Gave correct answer with wrong reason or wrong answer but a correct reason | Able to state that the angles are equal, and they are alternate angles. |  |
| * 1. Sizes of angles on a line | Did not measure the angles or all angles incorrect. | One angle is correctly measured | Two angles are correctly measured | All three angles are measured correctly. |  |
| * 1. The sum of the three angles | No answer | Incorrect answer is given for incorrect measurement | Correct answer for incorrect measurements | Correct answer for correct measurements |  |
| * 1. The answer for the sum of the adjacent angles | No answer is given | Incorrect answer is given | Correct answer is given |  |  |
| * 1. Sizes of angles E and O | Did not respond to the question. | Gave incorrect sizes of the 2 angles and incorrect or no reasons. | Gave correct sizes of the 2 angles but incorrect or no reasons. | Gave correct sizes of the 2 angles and correct reasons. |  |
| * 1. Sum of angles of a triangle. | No answer is given | Incorrect answer is given | Correct answer is given. |  |  |
| * 1. Sum of the angles of a triangle sentence | Sentence is not completed. | Incorrect angle size is given | Correctly completed the sentence. |  |  |
|  | No response or incorrect one word answer | Correct one word answer but no explanation, or incorrect explanation | Correct one word answer and partially correct explanation. | Correct one word answer with full and correct explanation. |  |
| * 1. Measurement of AÔF. | No size of angle is given | Incorrect measurement is given | Correct measurement is given |  |  |
| * 1. BÂO AÊO | No sum of angles is given | Incorrect sum of angles is given or correct sum of incorrect angles is given | The sum of angles given is correct |  |  |
| * 1. Comparison of the angles | There is no response to the question | The response to the question in incorrrect | Partially correct response to the question asked is given | Full and correct response is given |  |
| * 1. Response to the theorem given | There is no response to the question | The statement is incorrect | The statement is correct |  |  |
|  | No response or incorrect one word answer | Correct one word answer but no explanation, or incorrect explanation | Correct one word answer and partially correct explanation. | Correct one word answer with full and correct explanation. |  |
| **TOTAL** | | | | |  |