KZN-MATHEMATICS INVESTIGATION TERM 2

Investigating the angles of a triangle

Marking memorandum

Grade 8

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| **Question Parts** | **Response** | **Marks allocation** | **Description** |
| **Part 1** |  | | |
| 1. (a)   (b)    (c) | (Candidates are expected to paste correctly)  The three angles pasted next to each other form a straight line.  180⁰ | 3 marks  2 marks  1 mark | For each angle pasted correctly.  🗸A  🗸A  🗸A  For the correct response.  🗸A  🗸A  Correct answer.  🗸A |
| 1. (a)     (b)    (c) | (Candidates are expected to paste correctly)  The three angles pasted next to each other form a straight line.  180⁰  X  Z  Y | 3 marks  2 marks  1 mark | For each angle pasted correctly.  🗸A  🗸A  🗸A  For the correct response.  🗸A  🗸A  Correct answer.  🗸A |
| 1. (a)       (b)  (c)  (d) | Right-angled triangle.  The answer depends on the size of the sketch above.  180⁰ | 2 marks  1 mark  2 marks  1 mark | A mark for angle ∠ Y=90⁰ and a mark for the shape.  🗸A  🗸A  🗸A  For angles measured correctly.  🗸A  🗸A  🗸A    7 cm  8 cm  6 cm  C  B  A |
| 1. (a)       (b)    (c)  (d)  (e) | ∠A=75⁰  ∠B=58⁰  ∠C=47⁰  Acute angled-triangle  180⁰  The sum of the angles of any triangle is 180⁰. | 3 marks  3 marks  1 mark  1 mark  2 marks | A mark for each side with correct measurement.  🗸A  🗸A  🗸A  A mark for each angle.  🗸A  🗸A  🗸A  🗸A  🗸A    For the correct answer.  🗸A  🗸A |
| **Part 2** |  | | |
| 1. (a)   (b)  2. (a)  (b)  3. (a)  (b) | (Candidates are expected to paste correctly)    ∠4 is equal to the sum of ∠1 and ∠2.  (Candidates are expected to paste correctly)    ∠7 is equal to the sum of angle ∠4 and ∠5.    (Candidates are expected to paste correctly)    ∠is equal to the sum of angle ∠P and ∠Q. | 2 marks  2 marks  2 marks  2 marks  2 marks  2 marks | For each angle pasted correctly.  🗸A  🗸A  For the correct response.  🗸A  🗸A  For each angle pasted correctly.  🗸A  🗸A  For the correct response.  🗸A  🗸A  For each angle pasted correctly.  🗸A  🗸A  For the correct response.  🗸A  🗸A |
| **Part 3** |  | | |
| 1. (a)   (b) | 180⁰  The sum of the interior angles of a triangle.  ∠  The exterior angle is equal to the sum of the opposite interior angles. | 2 marks  2 marks | 🗸A For the statement  🗸A For the reason  🗸A For the statement  🗸A For the reason |
| **Part 4** |  | | |
| 1. (a)   (b) | 180⁰  The sum of the interior angles of a triangle.  80⁰70⁰180⁰  150180⁰  30⁰  The exterior angle is equal to the sum of the opposite interior angles.  100⁰ | 3 marks  3 marks | 🗸A For the statement  🗸A For the reason  🗸CA For the answer  🗸A For  🗸A For the reason  🗸A For 100⁰ |
| 1. (a)   (b)   1. (a)   (b)   1. (a)   (b) | 76⁰180⁰ (The sum of interior angles of a triangle)  276⁰180⁰  2180⁰76⁰  2 104⁰  52⁰  55⁰120⁰ (Exterior angle of a triangle is equal to the sum of the opposite interior angles)  55⁰    ∠A∠B∠C180⁰ (The sum of interior angles of a triangle)  75⁰25⁰∠C180⁰  100⁰∠C180⁰  ∠C180⁰100⁰  ∠C80⁰  ∠DEF60⁰100⁰ (Exterior angle of a triangle is equal to the opposite interior angles)  ∠DEF100⁰60⁰  ∠DEF40⁰  ∠A∠B∠C180⁰ (The sum of interior angles of a triangle)  10⁰30⁰20⁰180⁰  360⁰180⁰  3180⁰60⁰  3120⁰    Therefore ∠A40⁰10⁰  ∠A50⁰  ∠A∠B∠ACD (Exterior angle of a triangle is equal to the opposite interior angles)  280⁰  2  40⁰  Therefore ∠ACD40⁰80⁰  ∠ACD120⁰ | 3 marks  3 marks  3 marks  2 marks  5 marks  4 marks | 🗸A For both the statement and the reason.      🗸CA For 2104⁰  🗸CA For the answer  🗸A For the statement  🗸A For the reason  🗸CA For the answer  🗸A For both the statement and the reason.  🗸A For correct substitution.  🗸A For the answer.  🗸A For both the statement and the reason.  🗸A answer  🗸A For both the statement and the reason.  🗸A Addition of like terms.  🗸A  🗸A For substitution of 40⁰  🗸A ∠A50⁰    🗸A For both the statement and the reason.  🗸A Addition of like terms.  🗸A 40⁰  🗸A Answer |
| **TOTAL [70]** | | | |