|  |  |  |  |
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| Year  9 | | *Basic Geometry* | Non Calculator |
| **Skills and Knowledge Assessed:**   * Identify corresponding, alternate and co­interior angles when two straight lines are crossed by a   transversal (ACMMG163)   * Investigate conditions for two lines to be parallel and solve simple numerical problems using reasoning (ACMMG164) * Demonstrate that the angle sum of a triangle is 180° and use this to find the angle sum of a quadrilateral (ACMMG166) * Classify triangles according to their side and angle properties and describe quadrilaterals (ACMMG165) * Establish properties of quadrilaterals using congruent triangles and angle properties, and solve related numerical problems using reasoning (ACMMG202) | | | Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Section 1** Short Answer Section | | | |
| **In all questions, give reason(s) for your answer.**  Write all working and answers in the spaces provided on this test paper.  **DIAGRAMS ARE NOT TO SCALE.** | | | |
|  | Find the value of *x*.  ………………………………………………  ………………………………………………. | | |
|  | Find the size of.  ………………………………………………  ……………………………………………….  ……………………………………………… | | |
|  | Find the size of  .  ………………………………………………  ……………………………………………….  ……………………………………………… | | |
|  | Find the value of  ………………………………………………  ………………………………………………  ………………………………………………  ……………………………………………… | | |
|  | What is the size of  ………………………………………………  ……………………………………………….  ………………………………………………  ………………………………………………. | | |
|  | What is the value of  ………………………………………………  ………………………………………………  ……………………………………………… | | |
|  | What is the size of  ………………………………………………  ……………………………………………….  ………………………………………………  ………………………………………………. | | |
|  | What is the value of  ………………………………………………  ………………………………………………  ……………………………………………… | | |
|  | What is the size of  ………………………………………………  ……………………………………………….  ………………………………………………  ………………………………………………. | | |
|  | *EFGH* is a parallelogram with its diagonal *FH* drawn.  *IJ* is perpendicular to *GH*.  What is the size of  ………………………………………………  ……………………………………………….  ………………………………………………  ……………………………………………….  ………………………………………………. | | |

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| Year  9 | | *Basic Geometry* | Calculator Allowed |
|  | Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Section 2** Multiple Choice Section | | | |
| Mark all your answers on the accompanying multiple choice answer sheet, not on this test paper. You may do any working out on this test paper. Calculators are allowed for this section.  **DIAGRAMS ARE NOT TO SCALE.** | | | |
|  | What is the value of *x* ?  A. 36  B. 54  C. 72  D. 108 | | |
|  | What is the value of *y* ?  A. 44  B. 46  C. 82  D. 128 | | |
|  | What is the value of *k* ?  A. 17  B. 43  C. 51  D. 153 | | |
|  | Which is the most accurate description of  A. An acute isosceles triangle.  B. An acute scalene triangle.  C. An obtuse isosceles triangle.  D. An obtuse scalene triangle. | | |
|  | What is the size of  A. 27o  B. 54o  C. 63o  D. 117o | | |
|  | What is the value of *b* ?  A. 18  B. 36  C. 85  D. 175 | | |
|  | Which of these is not a property of all rhombuses?  A. All sides are equal.  B. The diagonals are equal in length.  C. The diagonals are perpendicular.  D. The opposite sides are parallel. | | |
|  | The figure shown is a kite.  The diagonals of the kite have been drawn.  What is the value of *w*?  A. 34  B. 56  C. 90  D. 124 | | |
|  | What is the size of  A. 32o  B. 74o  C. 106o  D. 148o | | |
|  | Quadrilateral ABCD is a rhombus and quadrilateral AEFD is a parallelogram.  What is the value of *s* ?  A. 32  B. 52  C. 84  D. 96 | | |

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| Year  9 | | *Basic Geometry* | Calculator Allowed | |
|  | Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| **Section 3** Longer Answer Section | | | | |
| For these constructions, complete the diagrams in the spaces provided on this test paper.  Leave all construction lines in place to show how you obtained your result. | | | | |
|  | | | | **Marks** |
|  | Complete the constructions below using only a pair of compasses and rule (straight edge). | | |  |
|  | 1. Draw the perpendicular bisector of AB. | | | **2** |
|  | 1. Construct a triangle whose sides are the three intervals below. Label it as | | | **2** |

*Multiple Choice Answer Sheet*

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Completely fill the response oval representing the most correct answer.

1. A B C D

2. A B C D

3. A B C D

4. A B C D

5. A B C D

6. A B C D

7. A B C D

8. A B C D

9. A B C D

10. A B C D

*Basic Geometry*

ANSWERS

|  |  |
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| Section 1 | |
|  |  |
|  |  |
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|  |  |
|  | You may wish to award 2 marks for this question. |
|  | You may wish to award 2 marks for this question. |

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| --- | --- |
| Section 2 | |
|  | B |
|  | C |
|  | A |
|  | C |
|  | D |
|  | A |
|  | B |
|  | B |
|  | C |
|  | D |

|  |  |
| --- | --- |
| Section 3 | |
|  | a) |
|  | b) |

*Multiple Choice Answer Sheet*

Name Marking Sheet

Completely fill the response oval representing the most correct answer.

1. A B C D

2. A B C D

3. A B C D

4. A B C D

5. A B C D

6. A B C D

7. A B C D

8. A B C D

9. A B C D

10. A B C D