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| Year  8 | | *Area* | Non Calculator  Section |
| **Skills and Knowledge Assessed:**   * Find perimeters and areas of parallelograms, trapeziums, rhombuses and kites (ACMMG196) * Investigate the relationship between features of circles such as circumference, area, radius and diameter. Use formulas to solve problems involving circumference and area (ACMMG197) * Choose appropriate units of measurement for area and volume and convert from one unit to another (ACMMG195) * Establish the formulas for areas of rectangles, triangles and parallelograms and use these in problem solving (ACMMG159) | | | Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Answer all questions in the spaces provided on this test paper by:**  ***Writing the answer in the box provided.***  **or**  ***Shading in the bubble for the correct answer from the four choices provided.***  **Show any working out on the test paper. *You will need a ruler.*** | | | |
|  | A square has sides which are 0.9 m long. Its area in square centimetres is:  0.81 cm2 81 cm2 810 cm2 8 100 cm2 | | |
|  | Which unit would be the most appropriate to measure the area of carpet in a room.  Hectares Square centimetres  Square metres Square millimetres | | |
|  | A rectangular curtain measures 2 m by 3.5 m. What is its area in square metres?  m2 | | |
|  | By measuring the dimensions, find the area of the shaded rectangle below.    Area = cm2 | | |
|  | Which calculation could be used to find the area of the triangle? | | |
|  | Calculate the area of the triangle *ABC*.  Area = m2 | | |
|  | Find the area of the parallelogram shown.  1 600 cm2  2 400 cm2  3 200 cm2  4 800 cm2 | | |
|  | A pendant is made in the shape of a rhombus with a stone set inside it.  The rhombus has inner diagonals of 24 mm and 16 mm.  What is the area of the rhombus in which the stone is set?  Area = mm2 | | |
|  | A sign is in the shape of a trapezium with parallel sides 100 cm and 140 cm, which are 60 cm apart. The area of the trapezium is:  5 600 cm2 7 200 cm2 10 000 cm2 14 400 cm2 | | |
|  | What is the area of the circle (in terms of π)? | | |
|  | Which calculation could be used to find the area of the semicircle? | | |
|  | A sheet of paper has an area of 250 000 cm2.  What is its area in m2?  25 m2 250 m2 2 500 m2 25 000 m2 | | |
|  | A wheat crop is planted in this field.  The field can be divided into a rectangle and an isosceles triangle as shown.  Find the area of the field.  Area = km2 | | |
|  | A local park is in the shape of a trapezium, with the measurements shown.  What is the area of the park in hectares? (1 hectare = 10 000 m2)  Area = hectares | | |

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| Year  8 | | *Area* | Calculator Allowed  Short Answer  Section |
|  | | | Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Answer all questions in the spaces provided on this test paper by:**  ***Writing the answer in the box provided.***  **or**  ***Shading in the bubble for the correct answer from the four choices provided.***  **Show any working out on the test paper. Calculators are allowed.** | | | |
|  | A paddock has an area of 0.6 hectares. What is its area in square metres?  60 m2 600 m2 6 000 m2 60 000 m2 | | |
|  | An advertising sign at a cricket game 12 m long and 855 mm wide. Its measurements in centimetres is  120 cm by 8.55 cm 120 cm by 85.5 cm  1 200 cm by 8.55 cm 1 200 cm by 85.5 cm | | |
|  | The two rectangles have the same area.  Which statement is true?  Their perimeters must be the same.  Rectangle 2 has a height of 4.5cm.  Rectangle 1 has a greater perimeter.  Rectangle 2 has a greater perimeter. | | |
|  | What is the area of this triangle?  Area = cm2 | | |
|  | A paddock on a cattle station is in the shape of a parallelogram with the dimensions shown.  Find the area of the paddock.  Area = km2 | | |
|  | A window in a museum of modern art is in the shape of a kite, as shown. Find the area of glass needed for the window.  Area = m2 | | |
|  | The rhombus shown has an area of:  **Drawing not to scale.**  136 m2 240 m2 255 m2 480 m2 | | |
|  | A trapezium is shown below. Calculate its area.  Area = cm2 | | |
|  | A window on a ship is shown.  What is the area of glass needed for the window?    13.7 m2 14.0 m2 21.4 m2 28.0 m2 | | |
|  | What is the area of the circle shown?  Area = cm2 | | |
|  | What is the area of the sector of the circle (correct to one decimal place)?  11.2 cm2  16.8 cm2  33.5 cm2  201.1 cm2 | | |
|  | The triangle *UVW* has an area of 11.52 cm2.  What is the length of *VX*?  *VX* = cm | | |
|  | A block of suburban land is in the shape shown.  All of the boundaries meet at right angles.  Find the area of the block.  144 m2  1 707 m2  1 727 m2  1 992 m2 | | |
|  | Theo is ordering glass for the arched window shown.  What area of glass will be needed? (Answer to one decimal place)    Area = m2 | | |

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| Year  8 | | *Area* | | Calculator Allowed  Longer Answer  Section | |
|  | | | | Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| ***Write all working and answers in the spaces provided on this test paper.***  ***Marks may not be awarded if working out and/or answers are not clear.***  ***Marks allocated are shown beside each question.***  ***Calculators are allowed.*** | | | | | |
|  | | | | | **Marks** |
|  | Sally paints an artwork on an irregular shaped canvas.  It has a central section (shaded) in the shape of a kite, surrounded by four isosceles triangles. | | | |  |
|  | 1. What is the area of the shaded section?   …………………………………………………………………………………….. | | | | **1** |
|  | 1. What is the total area of all the isosceles triangles?   ……………………………………………………………………………………..  …………………………………………………………………………………….. | | | | **2** |
|  | 1. What is the total area of the canvas?   ……………………………………………………………………………………..  …………………………………………………………………………………….. | | | | **1** |
| Year  8 | | | *Area* | | |

ANSWERS

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| Non Calculator Section |

|  |  |
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|  | 8 100 cm2 |
|  | Square metres |
|  | 7 m2 |
|  | 21 cm2 |
|  |  |
|  | 150 m2 |
|  | 3 200 cm2 |
|  | 192 mm2 |
|  | 7 200 cm2 |
|  |  |
|  |  |
|  | 25 m2 |
|  | 360 km2 |
|  | 90 hA |

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| Calculator Allowed Section |

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|  | 6 000 m2 |
|  | 1 200 cm by 85.5 cm |
|  | Rectangle 2 has a greater perimeter |
|  | 0.84 cm2 |
|  | 9 250 km2 |
|  | 6.6 m2 |
|  | 240 m2 |
|  | 40.6 cm2 |
|  | 14.0m2 |
|  | 254.5 m2 |
|  | 16.8 cm2 |
|  | 3.6 cm |
|  | 1 707 m2 |
|  | 3.7 m2 |

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| Calculator Allowed  Longer Answer Section | | |
|  | a) |  |
|  | b) |  |
|  | c) |  |