|  |  |  |  |
| --- | --- | --- | --- |
| 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. Calculators are* ***not*** *allowed.* | | | |
|  | What is the area of the square shown?    Area = cm2. | | |
|  | Find the area of this rectangle.  46 cm2  60 cm2  90 cm2  120 cm2 | | |
|  | What is the area of the triangle?    Area = cm2. | | |

|  |  |
| --- | --- |
|  | **Questions 4 and 5 refer to the following:**  A rectangular block of land measures 100 m by 250 m. |
|  | What is its area in square metres?  7 000 m2  25 000 m2  50 000 m2  250 000 m2 |
|  | What is the area of the block of land in hectares?    Area = hA. |
|  | What is the area of the parallelogram shown?    Area = cm2. |
|  | What is the area or the rhombus?  80 cm2  160 cm2  320 cm2  480 cm2 |
|  | A trapezium has the dimensions shown.  What is its area?  45 cm2  90 cm2  180 cm2  360 cm2 |
|  | Tempe builds a kite from sticks and fabric in the dimensions shown.  What area of fabric is needed?    Area = cm2. |
|  | Find the area of this semicircle in terms of    cm2  cm2  cm2  cm2 |
|  | What is the area of the quadrilateral?  150 m2  192 m2  264 m2  384 m2 |
|  | What is the area between the two circles?  cm2  cm2  cm2  cm2 |
|  | The front of a barn is in the shape shown.  The door measures 2m by 2.5 m and is not to be painted.  What is the area to be painted?    Area = m2. |
|  | A warning sign is in the shape of an arrow made up of two parallelograms, as shown.  The length of one edge of the sign is 1.5 m and it has an area of 1.8 m2.  What is the width of the sign (marked *w*)?    Width = m |
|  | A rectangular garden which measures 20 m by 30 m has flower beds which surround a diamond shaped lawn.  What is the area of flower beds?    Area = m2. |

|  |  |  |  |
| --- | --- | --- | --- |
| 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 square field has an area of 2 304 m2.  What is the length of the sides of the field?  48 m  96 m  288 m  576 m | | |
|  | What is the area of this rectangle?  m2. | | |
|  | Find the area of this triangle.  28 cm2  36 cm2  96 cm2  192 cm2 | | |
|  | What is the area of this shape?  38 m2  172 m2  188 m2  252 m2 | | |
|  | How many square metres are there in a square kilometre?  1 000 m2  10 000 m2  100 000 m2  1000 000 m2 | | |
|  | What is the area of the parallelogram shown?  198 m2  216 m2  414 m2  2 376 m2 | | |
|  | A sign is in the shape of a rhombus.  What is its area?  240 cm2  480 cm2  720 cm2  1 440 cm2 | | |
|  | The window shown is in the shape of a trapezium  What is its area?    cm2. | | |
|  | What is the area of the kite ABCD?    Area = cm2. | | |
|  | The circular plate has a diameter of 18 cm.  What is its area?  127 cm2  254 cm2  509 cm2  1 018 cm2 | | |
|  | A circle has an area of 18 m2.  What is its radius, correct to the nearest half centimetre?    Radius = cm | | |
|  | Find the area of the plot of land which is shaded (to the nearest tenth of a hectare).    Area = ha | | |
|  | What is the area of this sector of a circle (correct to one decimal place)?  56.5 cm2  113.1 cm2  226.2 cm2  453.4 cm2 | | |
|  | A greeting card is moulded in the shape of a trapezium with a rhomboid window in it.    The card is shown as it is produced, before folding along the line indicated.  It is shown overlaid by a 1 cm grid.  What is the area of the card?    Area = cm2. | | |
|  | The rear wall of a chapel is in the shape shown.  What is the area of the wall (correct to two decimal places)?  62.34 m2  68.04 m2  124.69 m2  130.38 m2 | | |

Area

ANSWERS

|  |  |
| --- | --- |
| Non Calculator Section ( 1 mark each) | |
|  | | What is the area of the square shown?      144  cm2. | |
|  | | Find the area of this rectangle.  46 cm2  60 cm2  90 cm2  120 cm2 | |
|  | | What is the area of the triangle?      56  cm2. | |

|  |  |
| --- | --- |
|  | **Questions 4 and 5 refer to the following:**  A rectangular block of land measures 100 m by 250 m. |
|  | What is its area in square metres?  7 000 m2  25 000 m2  50 000 m2  250 000 m2 |
|  | What is the area of the block of land in hectares?      2.5  Area = hA. |
|  | What is the area of the parallelogram shown?      114  Area = cm2. |
|  | What is the area or the rhombus?  80 cm2    160 cm2    320 cm2  480 cm2 |
|  | A trapezium has the dimensions shown.    What is its area?  45 cm2  90 cm2  180 cm2  360 cm2 |
|  | Tempe builds a kite from sticks and fabric in the dimensions shown.  What area of fabric is needed?    1 200  cm2. |
|  | Find the area of this semicircle in terms of      cm2  cm2  cm2  cm2 |
|  | What is the area of the quadrilateral?  150 m2  192 m2  264 m2  384 m2 |
|  | What is the area between the two circles?  cm2  cm2    cm2  cm2 |
|  | The front of a barn is in the shape shown.  The door measures 2m by 2.5 m and is not to be painted.    What is the area to be painted?    101  Area = m2. |
|  | A warning sign is in the shape of an arrow made up of two parallelograms, as shown.  The length of one edge of the sign is 1.5 m and it has an area of 1.8 m2.  What is the width of the sign (marked *w*)?      1.2  Width = m |
|  | A rectangular garden which measures 20 m by 30 m has flower beds which surround a diamond shaped lawn.  What is the area of flower beds?      392  Area = m2. |

|  |  |
| --- | --- |
| Calculator Allowed Short Answer Section ( 1 mark each) | |
|  | | A square field has an area of 2 304 m2.  What is the length of the sides of the field?  48 m  96 m  288 m  576 m | |
|  | | What is the area of this rectangle?    90  m2. | |
|  | | Find the area of this triangle.  28 cm2  36 cm2  96 cm2  192 cm2 | |
|  | | What is the area of this shape?  38 m2    172 m2  188 m2  252 m2 | |
|  | | How many square metres are there in a square kilometre?  1 000 m2    10 000 m2  100 000 m2  1000 000 m2 | |
|  | | What is the area of the parallelogram shown?  198 m2    216 m2  414 m2  2 376 m2 | |
|  | | A sign is in the shape of a rhombus.  What is its area?  240 cm2    480 cm2  720 cm2  1 440 cm2 | |
|  | | The window shown is in the shape of a trapezium    What is its area?    192  cm2. | |
|  | | What is the area of the kite ABCD?    56  Area = cm2. | |
|  | | The circular plate has a diameter of 18 cm.  What is its area?    127 cm2  254 cm2  509 cm2  1 018 cm2 | |
|  | | A circle has an area of 18 m2.  What is its radius, correct to the nearest half centimetre?      2.5  Radius = cm | |
|  | | Find the area of the plot of land which is shaded (to the nearest tenth of a hectare).      4.6  Area = ha | |
|  | | What is the area of this sector of a circle (correct to one decimal place)?  56.5 cm2    113.1 cm2  226.2 cm2  453.4 cm2 | |
|  | | A greeting card is moulded in the shape of a trapezium with a rhomboid window in it.    The card is shown as it is produced, before folding along the line indicated.  It is shown overlaid by a 1 cm grid.  What is the area of the card?    188  Area = cm2. | |
|  | | The rear wall of a chapel is in the shape shown.  What is the area of the wall (correct to two decimal places)?    62.34 m2  68.04 m2  124.69 m2  130.38 m2 | |