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| *School Name*  *Mathematics Test 2017* | | | |
| Year 7 | | *Area of Plane Shapes* | 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. | | | |
|  | A rectangle measures 5 cm by 8 cm.  What is the area of the rectangle?  (Remember to give the units as a part of your answer.) | | |
|  | What is the area of this shape?  14 cm2  28 cm2  35 cm2  49 cm2 | | |
|  | Find the area of this triangle.  38 m2  180 m2  360 m2  724 m2 | | |
|  | The shaded shape is drawn on 1 cm grid.  What is the area of the shape? | | |
|  | What is the area of this shape?  75 cm2  92 cm2  93 cm2  110 cm2 | | |
|  | Which unit would be best to use for the area of a room in a house?  Hectares  Square centimetres  Square millimetres  Square metres | | |
|  | What is the area of the parallelogram shown?    128 m2  176 m2  256 m2  352 m2 | | |
|  | What is the area of this trapezium?  300 cm2  600 cm2  900 cm2  1200 cm2 | | |
|  | What is the area of the kite? | | |
|  | What is the area of this rhombus?  240 cm2  360 cm2  400 cm2  480 cm2 | | |
|  | What is the area of this circle, in terms of ? | | |
|  | Find the area of the side of the building which is shown. | | |
|  | What is the area of this sector of a circle, in terms of ? | | |
|  | The rectangular wall shown, has five identical windows.  Each window is a rhombus with diagonals which measure 2 m by 4 m.  The wall is to be painted, leaving the windows untouched,  What is the area to be painted? | | |
|  | One side of a boogie board has the dimensions shown below.  What is the area of the side shown (in terms of  )? | | |

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|  | | | 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 this test paper. Calculators are allowed. | | | |
|  | Find the area of this rectangle. | | |
|  | What is the area of the square shown? | | |
|  | What is the area of the triangle in square metres? | | |
|  | What is the area of the parallelogram? | | |
|  | What is the area of the shaded section? | | |
|  | What is the area of this rhombus? | | |
|  | The figure shows a triangle with a square section cut from it.  Calculate the area of the resulting polygon. | | |
|  | A kite is constructed with the dimensions shown.  What is the area of the kite?  3780 cm2  5841 cm2  7560 cm2  16 209 cm2 | | |
|  | A trapezium has the dimensions shown.  What is its area? | | |
|  | What is the area of the circle shown?  Answer to the nearest cm2. | | |
|  | The field shown has been divided into two triangles.  What is the area of the field? | | |
|  | Find the area of this sector, to the nearest square centimetre.    452 cm2  576 cm2  905 cm2  1810 cm2 | | |
|  | What is the shaded area between the two semicircles?  Answer to the nearest square centimetre. | | |
|  | The rhombus shown has an area of 1350 cm2.  One diagonal is 45 cm and the other is *x* cm.  What is the value of *x*? | | |
|  | A rhombus and a triangle share a common side as shown.  What is the area of the combined shape? | | |

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ANSWERS

| Question | Working and Answer |
| --- | --- |
|  |  |
|  | **4th Answer** |
|  | **2nd Answer** |
|  |  |
|  | **1st Answer** |
|  | Hectares would be too large a unit (used for areas of land 1 ha = 10 000 m2 ) , square centimetres and square millimetres are too small a unit, so square metres would be best.  **4th Answer** |
|  | **3rd Answer** |
|  | **2nd Answer** |
|  |  |
|  | **1st Answer** |
|  | **3rd Answer** |
|  |  |
|  | **3rd Answer** |
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|  | **2nd Answer** |

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ANSWERS

|  |  |
| --- | --- |
| Question | Working and Answer |
|  |  |
|  | **1st Answer** |
|  | **2nd Answer** |
|  |  |
|  | **3rd Answer** |
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|  |  |
|  | **1st Answer** |
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|  | **1st Answer** |
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