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| Year  9 | | *Area of Plane Shapes* | Non Calculator |
| **Skills and Knowledge Assessed:**   * Find perimeters and areas of parallelograms, trapeziums, rhombuses and kites (ACMMG196) * Calculate the areas of composite shapes (ACMMG216) | | | Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Section 1** Short Answer Section | | | |
| Write all working and answers in the spaces provided on this test paper. | | | |
|  | Find the area of the triangle.  .........................................................................  .........................................................................    .........................................................................  ......................................................................... | | |
|  | A sketch of an irregular garden plot is shown. Find the area of the plot.  ...........................................................................  ...........................................................................    ...........................................................................  ........................................................................... | | |
|  | A sign is in the shape of a rhombus.  What is the area of the sign?  ………………………………………………  ……………………………………………….  ………………………………………………  ………………………………………………. | | |
|  | A rectangular airstrip measures 3 km by 500 m. What is its area in hectares?  ……………………………………………………………………………………………….  ………………………………………………………………………………………………. | | |
|  | Give the area of the circle shown in terms of  ………………………………………………  ……………………………………………….  ………………………………………………  ………………………………………………. | | |
|  | A grate at the end of a storm water drain is trapezoidal in shape. What is the area of the grate?  ……………………………………………  …………………………………………….  ……………………………………………  ……………………………………………. | | |
|  | The kite shown has diagonals which measure 45 cm and 200 cm.  Find the area of the kite.  ………………………………………………  ……………………………………………….  ………………………………………………  ………………………………………………. | | |
|  | A parallelogram has opposite sides which measure 12 cm.  The area of the parallelogram is 108 cm2.  What is the shortest distance between the 12 cm opposite sides?    ……………………………………………………………………………………………….  ………………………………………………………………………………………………. | | |
|  | A triangle has been cut out of a rectangular piece of card. What area of card remains?  ………………………………………………  ……………………………………………….  ………………………………………………  ………………………………………………. | | |
|  | Aaron’s back yard is rectangular with triangular garden beds in each corner.  The remainder of the yard is sown to lawn.  What is the area of lawn?  ………………………………………………  ……………………………………………….  ………………………………………………  ………………………………………………. | | |

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| Year  9 | | *Area of Plane Shapes* | 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. | | | |
|  | Ben calculates the area of a table top to be 6 500 mm2. What is the area in cm2?  A. 0.65 cm2 B. 6.5 cm2 C. 65 cm2 D. 650 cm2 | | |
|  | What is the area of the parallelogram shown?  A. 33.0 m2  B. 39.6 m2  C. 43.2 m2  D. 86.4 m2 | | |
|  | A board game has square pieces and two different sized triangular pieces. The triangular pieces fit against the square pieces as shown.  If the area of the smaller triangular pieces is 18 cm2, what is the combined area of the four pieces shown?  A. 90 cm2 B. 108 cm2 C. 126 cm2 D. 144 cm2 | | |
|  | What is the area of the triangle shown?  A. 3 600 cm2  B. 4 560 cm2  C. 5 520 cm2  D. 7 200 cm2 | | |
|  | Find the area of the rhombus *ABCD*, given that  .  A. 480 cm2  B. 1 920 cm2  C. 2 704 cm2  D. 3 840cm2 | | |
|  | The distances *a, b, c* and *d* are measured from the point of intersection of the diagonals of this kite, to the nearest vertex. The area of the kite could be found using the calculation:  A.  B.  C.  D. | | |
|  | What is the area of the circle, correct to the nearest cm2?  A. 1 963 cm2  B. 3 142 cm2  C. 6 283 cm2  D. 7 854 cm2 | | |
|  | What is the area of the shaded section?    A. 193.4 cm2  B. 675.0 cm2  C. 723.3 cm2  D. 852.9 cm2 | | |
|  | A regular octagon is shown, in which *AB* = 20 cm, *CO* =24.2 cm and *AO* = *BO* = 26.1 cm.  What is the area of the hexagon?  A. 968 cm2  B. 1 936 cm2  C. 2 088 cm2  D. 2 526 cm2 | | |
|  | What is the area of the shaded region in the diagram?  A. 103 cm2  B. 148 cm2  C. 247 cm2  D. 494 cm2 | | |

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| Year  9 | | *Area of Plane Shapes* | Calculator Allowed | |
|  | Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| **Section 3** Longer Answer Section | | | | |
| Write all working and answers in the spaces provided on this test paper. | | | | |
|  | | | | **Marks** |
|  | Find the areas of the composite shapes below. | | |  |
|  | ……………………………………………  …………………………………………….  ……………………………………………  ……………………………………………. | | | **2** |
|  | b)  ……………………………………………  …………………………………………….  ……………………………………………  ……………………………………………. | | | **2** |
|  | c)  ……………………………………………  …………………………………………….  ……………………………………………  …………………………………………….  …………………………………………….  ……………………………………………. | | | **3** |

*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

*Area of Plane Shapes*

ANSWERS

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| Section 1 | |
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| Section 2 | |
|  | C |
|  | B |
|  | D |
|  | A |
|  | B |
|  | D |
|  | A |
|  | C |
|  | B |
|  | C |

|  |  |
| --- | --- |
| Section 3 | |
| 1. | a) |
|  | b) |
|  | c) |

*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