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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) * 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) * 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. | | | |
|  | What is the area of this rectangle?  …………………………………………  …………………………………………  ………………………………………… | | |
|  | A square field has an area of 25 m2.  What is the length of the sides of the field?  ……………………………………………………………………………………………....  ………………………………………………………………………………………………. | | |
|  | The shaded shape is drawn on 1 cm grid.  What is the area of the shape?  ………………………………………………  ……………………………………………....  ……………………………………………… | | |
|  | What is the area of the triangle?  ……………………………………………  ……………………………………………  …………………………………………… | | |
|  | *ABCD* is a parallelogram.  What is its area in square metres?  ……………………………………………  ……………………………………………  …………………………………………… | | |
|  | A window in a building is in the shape of a kite with the dimensions shown.  What is the area of the window?  ……………………………………………  ……………………………………………  …………………………………………… | | |
|  | What is the area of the trapezium shown?    ……………………………………………  ……………………………………………  …………………………………………… | | |
|  | What is the area of this rhombus?  ……………………………………………  ……………………………………………  …………………………………………… | | |
|  | Two blocks of land are shown.  The area of Block A is 1 hectare.  What is the area of Block B in hectares?  ……………………………………………  ……………………………………………  …………………………………………… | | |
|  | Find the area of the pentagon shown.    ………………………………………………  ………………………………………………  ……………………………………………....  ……………………………………………… | | |
|  | A silk banner is in the shape of a blue kite with a smaller inner white kite.  What is the area of blue silk?    ………………………………………………  ………………………………………………  ……………………………………………....  ……………………………………………… | | |
|  | The logo for a company is made up of two parallelograms and a trapezium, as shown.  The logo is to be made from sheet metal.  What area of metal would be needed?  ……………………………………………  ……………………………………………  …………………………………………....  …………………………………………… | | |
|  | What is the area between the two circles?  Answer in terms of  ……………………………………………  …………………………………………....  ……………………………………………  …………………………………………… | | |
|  | The trapezium shown has an area of 480 cm2.  The perpendicular height is *x* cm.  What is the value of *x*?  ……………………………………………  ……………………………………………  …………………………………………… | | |
|  | What is the area of this sector of a circle?  Answer in terms of    ……………………………………………  ……………………………………………  …………………………………………… | | |

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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. | | | |
|  | What is the area of this square?  A. 2.25 cm2  B. 2.5 cm2  C. 3.0 cm2  D. 6.25 cm2 | | |
|  | How many square centimetres are there in 0.5 square metres?  A. 50 B. 500 C. 5 000 D. 50 000 | | |
|  | Find the area of this rectangle.  A.  B.  C.  D. | | |
|  | Find the area of this triangle.  A. 320 cm2  B. 6 000 cm2  C. 12 000 cm2  D. 24 000 cm2 | | |
|  | What is the area of the shaded section between the two squares?    A.  B.  C.  D. | | |
|  | What is the area of the parallelogram shown?  A. 200 m2  B. 240 m2  C. 400 m2  D. 480 m2 | | |
|  | What is the area of this kite?  A. 1 530 cm2  B. 2 420 cm2  C. 3 060 cm2  D. 6 120 cm2 | | |
|  | A trapezium has the dimensions shown.  What is its area?  A. 237.5 cm2  B. 275.5 cm2  C. 313.5 cm2  D. 551 cm2 | | |
|  | What is the area of this shape?  A. 82 m2  B. 88 m2  C. 118 m2  D. 142 m2 | | |
|  | What is the area of a circle with radius 14 cm?  A.  B.  C.  D. | | |
|  | A circle has an area of 113 m2.  What is its radius (to the nearest half metre)?  A. 4.5 cm B. 5.0 cm C. 5.5 cm D. 6.0 cm | | |
|  | What is the area of the quadrilateral?  A. 434 m2  B. 644 m2  C. 658 m2  D. 868 m2 | | |
|  | Find the area of this semicircle, correct to 1 decimal place.  A. 77.0 cm2  B. 88.0 cm2  C. 153.9 cm2  D. 307.9 cm2 | | |
|  | A canvas tent has a front with the dimensions shown.  The door is made from insect mesh and measures 0.8 m by 2.0 m.  What area of canvas is needed for the front of the tent?  A. 6.3 m2  B. 13.2 m2  C. 15.5 m2  D. 15.9 m2 | | |
|  | The rear wall of a storage shed is in the shape shown.  What is the area of the wall (in terms of  )?  A.  B.  C.  D. | | |

*Multiple Choice Answer Sheet*

*Area of Plane Shapes*

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

11. A B C D

12. A B C D

13. A B C D

14. A B C D

15. A B C D

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| Year 9 | | *Area of Plane Shapes* | Non Calculator |
| **Section 1** Short Answer Section | | | |
| ANSWERS | | | |
| No. | WORKING | | ANSWER |
|  |  | | 63.0 m2 |
|  |  | | 5 m |
|  | 15 whole squares and 6 half squares.  = 15 + 3 squares.  = 18 cm2 | | 18 cm2 |
|  |  | | 660 m2 |
|  |  | | 7.2 m2 |
|  |  | | 10 000 cm2 |
|  |  | | 580 cm2 |
|  |  | | 1 600 cm2 |
|  |  | | 5 hectares |
|  |  | | 378 cm2 |
|  |  | | 10 m2 |
|  |  | | 19 200 cm2 |
|  |  | |  |
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|  |  | |  |

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| Year 9 | | *Area of Plane Shapes* | Calculator Allowed | |
| **Section 2** Multiple Choice Section | | | | |
| ANSWERS | | | | |
| No. | WORKING | | | ANSWER |
|  |  | | | A |
|  |  | | | C |
|  |  | | | B |
|  |  | | | C |
|  |  | | | B |
|  |  | | | C |
|  |  | | | A |
|  |  | | | D |
|  |  | | | B |
|  |  | | | D |
|  |  | | | D |
|  |  | | | A |
|  |  | | | A |
|  |  | | | B |
|  |  | | | C |

*Multiple Choice Answer Sheet*

*Area of Plane Shapes*

Name \_\_\_\_\_\_\_ANSWERS\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

11. A B C D

12. A B C D

13. A B C D

14. A B C D

15. A B C D