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| Year  9 | | Mathematics Test  Pythagoras Theorem | | Calculator Allowed |
| Short Answer Section | Name : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
|  | Write all working and answers in the spaces provided on this test paper. | | | |
| 1. | Write a statement of Pythagoras Theorem for the triangle shown.  .......................................................................................................................................................... | | | |
| 2. | Find the value of *x* in the triangle.  ...........................................................................    ...........................................................................  ...........................................................................    ........................................................................... | | | |
| 3. | Find the length of *DE* in the triangle.  ...........................................................................    ...........................................................................  ...........................................................................    ........................................................................... | | | |
| 4. | What is the perpendicular height of the triangle, correct to the nearest millimetre?  ...........................................................................    ...........................................................................  ...........................................................................    ........................................................................... | | | |
| 5. | Find the value of *h* in the triangle, correct to 2 significant figures.  ...........................................................................  ...........................................................................  ...........................................................................    ........................................................................... | | | |
| 6. | Show that a triangle with sides 32 cm, 60 cm and 68 cm is right angled.  ..........................................................................................................................................................    .......................................................................................................................................................... | | | |
| 7. | David has the 4 metal rods shown which can be joined at the ends. Which three could he join together to form a right angled triangle?  .........................................................................  ........................................................................    ........................................................................  ......................................................................... | | | |
| 8. | Find the area of the triangle.  ...........................................................................  ...........................................................................  ...........................................................................    ........................................................................... | | | |
| 9. | Find the height of the wall AB in the house shown.  ...........................................................................  ...........................................................................  ...........................................................................    ........................................................................... | | | |
| 10. | Oscar is on a hike. From his starting point he intends to walk 8.4 km west to a large tree.  He discovers, after walking 9.2 km, that he is off course and is now due south of the tree, so he then walks due north to his destination.  How much further did he walk than he originally intended?  ......................................................................................................................................................  ........................................................................... ...........................................................................    ........................................................................... ........................................................................... | | | |

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| Year  9 | | Mathematics Test  Pythagoras Theorem | | Calculator Allowed |
| Multiple Choice Section | Name : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
|  | 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. | | | |
| 1. | ∆ *ABC* is right angled at *C.*  Which statement is not correct?  A.  B.  C.  D. | | | |
| 2. | What is the value of *y*?  A. 21  B. 38  C. 51  D. 69 | | | |
| 3. | What is the length of side *MN*?  A. 18  B. 30  C. 38  D. 50 | | | |
| 4. | What is the length of the side PQ correct to the nearest centimetre?  A. 4  B. 11  C. 21  D. 121 | | | |
| 5. | What is the exact value of *x*?  A.  B.  C.  D. | | | |
| 6. | Which of the following sets of numbers is a Pythagorean Triad? (i.e. the three numbers obey Pythagoras Theorem)  A. {51, 68, 85} B. {51, 72, 90}  C. {51, 70, 85} D. {51, 68, 90} | | | |
| 7. | Which of the triangles below is *not* right angled?  A. B.    C. D. | | | |
| 8. | Peter (*P*) and Quentin (*Q*) both start at the intersection *O* and walk along different roads. How far apart are they when they reach the next intersections?  A. 16 m  B. 40 m  C. 50 m  D. 56 m | | | |
| 9. | A metal gate has the frame shown.  What is the length of the diagonal brace (to the nearest 10 cm)?  A. 3.6 m  B. 4.8 m  C. 4.9 m  D. 5.1 m | | | |
| 10. | A field is in the shape of a trapezium, with the dimensions shown.  What is the length of the fourth side of the field?  A. 650 m  B. 700 m  C. 746 m  D. 842 m | | | |

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| Year  9 | Mathematics Test  Pythagoras Theorem | |  |
| 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

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|  | Mathematics Test  Pythagoras Theorem |
| Answer Sheet |

|  |  |
| --- | --- |
| Short Answer | |
| 1 |  |
| 2 | 20 cm |
| 3 | 75 km |
| 4 | 46.0cm |
| 5 | 29 km |
| 6 | 4624 so it is right-angled. |
| 7 | The three rods measure 20 cm, 21 cm and 29cm. |
| 8 |  |
| 9 | AB = 4 308 mm |
| 10 | Distance North = 3.8 km  Extra distance = 4.6 km |

|  |  |
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| Multiple Choice | |
| 1 | C |
| 2 | C |
| 3 | B |
| 4 | B |
| 5 | C |
| 6 | A |
| 7 | D |
| 8 | D |
| 9 | C |
| 10 | A |