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| Year  9 | | *Pythagoras Theorem* | Non Calculator |
| **Skills and Knowledge Assessed:**   * Investigate Pythagoras’ Theorem and its application to solving simple problems involving right angled triangles (ACMMG222) | | | Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Section 1** Short Answer Section | | | |
| Write all working and answers in the spaces provided on this test paper. | | | |
|  | State Pythagoras Theorem for the triangle shown.  …………………………………………………  …………………………………………………. | | |
|  | Find the value of *y* in the triangle.  …………………………………………………  ………………………………………………….  ………………………………………………… | | |
|  | What is the length of PQ?  …………………………………………………  ………………………………………………….  …………………………………………………  …..……………………………………………. | | |
|  | Give the exact value of *x*.  ………………………………………………….  …………………………………………………  …..……………………………………………. | | |
|  | Find the length of *ST*, correct to the nearest 10th of a centimetre.  …………………………………………………  ………………………………………………….  …………………………………………………  …..……………………………………………. | | |
|  | Marcus has three pieces of toy construction equipment whose lengths are given.  When connected through the last holes at each end to from a triangle, will the three pieces form a right triangle?  …………………………………………………  ………………………………………………….    …………………………………………………  …..……………………………………………. | | |
|  | Determine if a triangle with sides 39 cm, 80 cm and 89 cm, is right angled or not. (Show calculations to explain your answer.)  …………………………………………………………………………………………………….  ……………………………………………………..……………………………………………. | | |
|  | What is the perimeter of the triangle shown?  …………………………………………………  ………………………………………………….  …………………………………………………  …..……………………………………………. | | |
|  | What is the area of the triangle?  …………………………………………………  ………………………………………………….  …………………………………………………  …..……………………………………………. | | |
|  | What is the height of the wall, marked *h*?  …………………………………………………  ………………………………………………….  …………………………………………………  …..……………………………………………. | | |

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| Year  9 | | *Pythagoras Theorem* | 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. | | | |
|  | Find the length of *AB* in the triangle below.  A. 29 m  B. 31 m  C. 36 m  D. 41 m | | |
|  | What is the value of *b*, in this diagram?  A. 33  B. 45  C. 56  D. 75 | | |
|  | Which expression describes the length of MN?  A.  B.  C.  D. | | |
|  | What is the value of *d*, correct to two decimal places?  A. 13.04 cm  B. 34.00 cm  C. 76.03 cm  D. 122.59 cm | | |
|  | Which statement is not correct in relation to  A.  B.  C.  D. | | |
|  | Which of these triangles are right angled?  A.  B.  C.  D. | | |
|  | Which of the triangles does not have a hypotenuse of 65 m?  A. B. C. D. | | |
|  | is isosceles, with *KL* = *LM*.  Find the area of  A. 1 500 cm2  B. 2 160 cm2  C. 2 340 cm2  D. 2 808 cm2 | | |
|  | The ladder shown, leans against the top of the wall.  What is the height of the wall, correct to the nearest 10th of a metre?  A. 1.8 metres  B. 2.4 metres  C. 2.6 metres  D. 3.0 metres | | |
|  | What is the perimeter of this shape?  A. 87 m  B. 110 m  C. 122 m  D. 124 m | | |

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| Year  9 | *Pythagoras Theorem* | Calculator Allowed |
|  | Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Section 3** Longer Answer Section | | |
| Write all working and answers in the spaces provided on this test paper. | | |

|  | | **Marks** |
| --- | --- | --- |
|  |  |  |
|  | 1. Find the length of AC.   ……………………………………………………………………………………………….  ………………………………………………………………………………………………. | **1** |
|  | 1. Find the length of BC.   ……………………………………………………………………………………………….  ………………………………………………………………………………………………. | **2** |

*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

*Pythagoras Theorem*

ANSWERS

|  |  |
| --- | --- |
| Section 1 | |
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|  |  |
|  |  |
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|  |  |
|  |  |
|  | Find height of roof above lower wall, say *d*. |

|  |  |
| --- | --- |
| Section 2 | |
|  | A |
|  | B |
|  | C |
|  | D |
|  | C |
|  | C |
|  | A |
|  | B |
|  | D |
|  | D |

|  |  |
| --- | --- |
| Section 3 | |
|  | a) |
|  | b) |

*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