**Objective:** calculating a missing length on a right-angled triangle: **Pythagoras’ Theorem**

**STANDARD QUESTION 1:** For each of these triangles, work out the length of the hypotenuse

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| --- | --- | --- |
| Macintosh HD:Users:bwilliamsyale:Desktop:1.tiff | Macintosh HD:Users:bwilliamsyale:Desktop:2.tiff | Macintosh HD:Users:bwilliamsyale:Desktop:3.tiff |
| Macintosh HD:Users:bwilliamsyale:Desktop:4.tiff | Macintosh HD:Users:bwilliamsyale:Desktop:5.tiff | Macintosh HD:Users:bwilliamsyale:Desktop:6.tiff |
| Macintosh HD:Users:bwilliamsyale:Desktop:7.tiff | Macintosh HD:Users:bwilliamsyale:Desktop:8.tiff | Macintosh HD:Users:bwilliamsyale:Desktop:9.tiff |

**STANDARD QUESTION 2:** Use what you have learnt to work out the length of one of the shorter sides

|  |  |
| --- | --- |
| Macintosh HD:Users:bwilliamsyale:Desktop:10.tiff | Macintosh HD:Users:bwilliamsyale:Desktop:13.tiff |

**ACCELERATING QUESTION 3:** For each of the following triangles, calculate the length of the missing side, giving your answers to one decimal place when needed.

|  |  |  |
| --- | --- | --- |
| 3*cm*  6*cm* | 9*cm*  4*cm* | 5*cm*  10*cm* |
| 7*cm*  8*cm* | 8*cm*  13*cm* | 4*cm*  4*cm* |
| 10*cm*  10*cm* | 8*cm*  12*cm* | 10*cm*  *x cm*  *x cm* |

**ACCELERATED QUESTION 4:** How long is the diagonal of a square with a side of 6 metres?

**ACCELERATED QUESTION 5:** A ship going from a port to a lighthouse steams 20 km east and 15 km north. How far is the lighthouse from the port?

**ACCELERATED QUESTION 6:** Calculate the area of these isosceles triangles

|  |  |  |
| --- | --- | --- |
| Triangle1 | Triangle2 | Triangle3 |

**ACCELERATED QUESTION 7:** Calculate the area of an equilateral triangle of side 7cm.

**ANSWERS (Left to Right):**

Question 1: 37, 11.7, 18.9, 13.9, 9.4, 8.5, 7.1, 13.4, 17

Question 2: 7.5, 9

Question 3: 6.7, 9.8, 11.2, 10.6, 15.3, 5.7, 14.1, 14.4, 7.1

Question 4: 8.5

Question 5: 25

Question 6: 58, 9.8, 105.5

Question 7: 42.4

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|  |  |  |
| --- | --- | --- |
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| 7*cm*  8*cm* | 8*cm*  13*cm* | 4*cm*  4*cm* |
| 10*cm*  10*cm* | 8*cm*  12*cm* | 10*cm*  *x cm*  *x cm* |

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