**Sine Rule, Cosine Rule and Area Rule**

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| **1)** Find the value of   in the triangle below, giving your answer to 3 significant figures.        http://www.mathster.com/course/simgs/14683250910_1.png | [1] |
| **2)** Find   in the triangle below, giving your answer to 3 significant figures.        http://www.mathster.com/course/simgs/14683250910_2.png | [1] |
| **3)** Find   in the triangle below, giving your answer to 3 significant figures.        http://www.mathster.com/course/simgs/14683250910_3.png | [1] |
| **4)** Find   in the triangle below, rounding your answer to 1 decimal place.        http://www.mathster.com/course/simgs/14683250910_4.png | [1] |
| **5)** Find the size of angle  , giving your answer to 1 decimal place.        http://www.mathster.com/course/simgs/14683250910_5.png | [1] |
| **6)** The path of a satellite orbiting the earth causes it to pass directly over two tracking stations A and B, which are 60 km apart. When the satellite is on one side of the two stations, the angles of elevation at A and B are measured to be 86.4 ° and 85 °, respectively. Find how far the satellite is from station A and how high the satellite is above the ground. Round your answers to 2 decimal places. | [1] |
| **7)** Find   in the triangle below, giving your answer to 3 significant figures.        http://www.mathster.com/course/simgs/14683250910_6.png | [1] |
| **8)** Find the value of   in the triangle below, giving your answer to 3 significant figures.        http://www.mathster.com/course/simgs/14683250910_7.png | [1] |
| **9)** Points *A* and *B* are separated by a building. To find the distance between them, a surveyor locates a point *C* such that angle CAB =42.9 °. The distance AC = 400 m and BC = 471 m. Find the distance from *A* to *B*, giving your answer to 3 significant figures. | [1] |
| **10)** Find the area of the triangle below, giving your answer to 3 significant figures.          http://www.mathster.com/course/simgs/14683250910_8.png | [1] |
| **11)** The area of triangle ABC is 140 cm2. Find the length of  , giving your answer to 3 significant figures.        http://www.mathster.com/course/simgs/14683250910_9.png | [1] |
| **12)** The area of triangle ABC is 280  . Find the size of angle  , giving your answer to 3 significant figures.        http://www.mathster.com/course/simgs/14683250910_10.png | [1] |
| **13)** The area of triangle ABC is 109  . Find the perimeter of triangle ABC, giving your answer to 3 significant figures.   http://www.mathster.com/course/simgs/14683250910_11.png | [1] |

**Solutions for the assessment Sine Rule, Cosine Rule and Area Rule**

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| **1)**   = 16.9 cm | **2)**   = 63.6 ° |
| **3)**   = 24.4 cm | **4)**   = 45.3 ° |
| **5)** acute angle   = 34.3 °, obtuse angle   = 145.7 ° | **6)** Distance = 2446.43 km, Height = 2441.6 km |
| **7)**   = 17.4 cm | **8)**   = 42.8 ° |
| **9)** Distance = 325 m | **10)** Area = 167 |
| **11)**   = 12.6 cm | **12)**   = 76.9 ° |
| **13)** Perimeter = 52.9 cm |  |