**Trigonometry - finding sides and angles**

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| Name : | Class : | Date : |

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| **1)** Identify which sides are the *hypotenuse*, *adjacent* and *opposite* to the given angle ABC http://www.mathster.com/course/simgs/8809943688_1.png | [1] |
| **2)** Express the cosine of angle ACB as a ratio of the sides of triangle ABC http://www.mathster.com/course/simgs/8809943688_2.png | [1] |
| **3)** Find   in the triangle below, giving your answer to 3 significant figures.        http://www.mathster.com/course/simgs/8809943688_3.png | [1] |
| **4)** Find   in the triangle below, giving your answer to 3 significant figures        http://www.mathster.com/course/simgs/8809943688_4.png | [1] |
| **5)** Find angle   in the triangle below, giving your answer to 1 decimal place.        http://www.mathster.com/course/simgs/8809943688_5.png | [1] |
| **6)** Find   in the triangle below, giving your answer to 3 significant figures        http://www.mathster.com/course/simgs/8809943688_6.png | [1] |
| **7)** Find   in the triangle below, giving your answer to 3 significant figures        http://www.mathster.com/course/simgs/8809943688_7.png | [1] |
| **8)** Find   in the triangle below, giving your answer to 3 significant figures.        http://www.mathster.com/course/simgs/8809943688_8.png | [1] |
| **9)** Find angle   in the triangle below, giving your answer to 1 decimal place.        http://www.mathster.com/course/simgs/8809943688_9.png | [1] |
| **10)** Find   in the triangle below, giving your answer to 3 significant figures.        http://www.mathster.com/course/simgs/8809943688_10.png | [1] |
| **11)** Find angle   in the triangle below, giving your answer to 1 decimal place.        http://www.mathster.com/course/simgs/8809943688_11.png | [1] |
| **12)** A safe angle for a ladder is about 75 ° from the ground. If you have a 7.8 metre ladder, how far from a wall should you place the base of the ladder? Give your answer to 3 significant figures. | [1] |
| **13)** A safe angle for a ladder is about 75 ° from the ground. If you have a 4.5 metre ladder, how high can it reach up a wall? Round your answer to 3 significant figures. | [1] |
| **14)** Luke is looking up at a spaceship. The direct distance from Luke to the spaceship is 13 km. The vertical distance from Luke to the spaceship is 9 km. Calculate the angle of elevation from Luke to the spaceship, giving your answer to 1 decimal place. | [1] |
| **15)** The angle of elevation from Austin to a balloon is 44 °. The horizontal distance from Austin to the balloon is 4 km. Calculate the direct distance from Austin to the balloon, giving your answer to 3 significant figures. | [1] |

**Solutions for the assessment Trigonometry - finding sides and angles**

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| **1)** Hypotenuse is BC, Adjacent is AB, Opposite is AC | **2)** cosine of angle ACB =   = |
| **3)**   = 4.10 cm | **4)**   = 5.09 cm |
| **5)**   = 66.8 ° | **6)**   = 6.39 cm |
| **7)**   = 8.65 cm | **8)**   = 6.25 cm |
| **9)**   = 60 ° | **10)**   = 5.34 cm |
| **11)**   = 36.9 ° | **12)** Distance = 2.02 m |
| **13)** Height = 4.35 m | **14)** Angle of elevation = 43.8 ° |
| **15)** Distance = 5.56 km |  |