

Math 1613 - Trigonometry

Quiz #4 - 2012.01.26

Solutions

1. How much information does one need to be given to find the remaining values of the three angles and sides of a right triangle?

One possibility is: the length of one side and the measure of one non-right angle. Another possible answer is the lengths of two sides, although this one is a possibility we have not yet covered.

2. Find the values of $\sin(\theta)$, $\cos(\theta)$ and $\tan(\theta)$ for the angle -510° .

First we need to find the reference angle, to -510° . If we add 720° to -510° , we get 210° , which is located in the third quadrant, and has reference angle of 30° . Note that both sine and cosine are negative in this quadrant. So we have

$$\sin(-510^\circ) = -\sin(30^\circ) = -\frac{1}{2}$$

$$\cos(-510^\circ) = -\cos(30^\circ) = -\frac{\sqrt{3}}{2}$$

$$\tan(-510^\circ) = \tan(30^\circ) = \frac{1}{\sqrt{3}}$$