

Math 1613 - Trigonometry

Quiz #10 - 2010.11.23

Solutions

1. Find an exact value for y if $y = \sin^{-1}\left(\frac{1}{\sqrt{2}}\right)$.

If

$$y = \sin^{-1}\left(\frac{1}{\sqrt{2}}\right)$$

then

$$\sin(y) = \frac{1}{\sqrt{2}}.$$

Clearly $y = \frac{\pi}{4}$ works.

2. Find an exact value for θ if $\theta = \tan^{-1}(-1)$.

If

$$\theta = \tan^{-1}(-1)$$

then

$$\tan(\theta) = -1.$$

Note that $\theta = -\frac{\pi}{4}$ will suffice.

3. Find an exact value for ω if $\omega = \csc^{-1}(\sqrt{2})$.

If

$$\omega = \csc^{-1}(\sqrt{2})$$

then

$$\csc(\omega) = \sqrt{2},$$

or

$$\sin(\omega) = \frac{1}{\sqrt{2}}$$

thus $\omega = \frac{\pi}{4}$.