

Name: KEY Quiz Score: \_\_\_\_\_ /20

**Quiz 7**

NO CALCULATORS.

Give the exact value of each of the following or state "undefined."

1.  $\cos^{-1}(0) = \underline{\frac{\pi}{2}}$

2.  $\tan^{-1}\left(\frac{1}{\sqrt{3}}\right) = \underline{\frac{\pi}{6}}$

3.  $\sin^{-1}\left(-\frac{\sqrt{3}}{2}\right) = \underline{-\frac{\pi}{3}}$

4.  $\cos^{-1}\left(-\frac{\sqrt{3}}{2}\right) = \underline{\frac{5\pi}{6}}$

5.  $\tan^{-1}(-1) = \underline{-\frac{\pi}{4}}$

6.  $\tan(\tan^{-1}(100)) = \underline{100}$

7.  $\cos(\cos^{-1}\left(\frac{6}{5}\right)) = \underline{\text{undefined}}$

8.  $\sin^{-1}\left(\sin\left(\frac{5\pi}{3}\right)\right) = \underline{-\frac{\pi}{3}}$

9.  $\cos^{-1}\left(\cos\left(\frac{5\pi}{3}\right)\right) = \underline{\frac{\pi}{3}}$

10.  $\tan^{-1}\left(\tan\left(\frac{5\pi}{3}\right)\right) = \underline{-\frac{\pi}{3}}$

Remember:

range  $(\sin^{-1}x) = [-\frac{\pi}{2}, \frac{\pi}{2}]$

range  $(\cos^{-1}x) = [0, \pi]$

range  $(\tan^{-1}x) = (-\frac{\pi}{2}, \frac{\pi}{2})$

since range  $(\cos x) = [-1, 1]$

