

## Inverse Trigonometric Functions

Evaluate the following quantities **without** using a calculator. To receive full credit, **you must show your work!**

1.  $\sin^{-1}(-1)$

2.  $\arccos\left(-\frac{\sqrt{3}}{2}\right)$

3.  $\arctan(\sqrt{3})$

4.  $\cos^{-1}\left(\frac{1}{2}\right)$

5.  $\tan^{-1}\left(-\frac{\sqrt{3}}{3}\right)$

6.  $\cos\left(\arcsin\left(-\frac{\sqrt{2}}{2}\right)\right)$

7.  $\tan^{-1}(\cos(\pi))$

8.  $\arccos\left(\cos\left(\frac{9\pi}{4}\right)\right)$

9.  $\sin(\arcsin(0.32))$

10.  $\sin^{-1} \left( \sin \left( \frac{7\pi}{6} \right) \right)$

11.  $\cos \left( \arcsin \left( \frac{3}{4} \right) \right)$

12.  $\tan \left( \cos^{-1} \left( \frac{5}{7} \right) \right)$

Find a formula for the following expressions.

1.  $\tan(\arccos(x))$

2.  $\sec(\arcsin(x))$