PreCalculus **Name_____**
WS: 4.7 **Date_____Block _____**

Find the exact value of each expression without using a calculator.

1. $\cos^{-1}\left(-\frac{\sqrt{2}}{2}\right)$
2. $\arcsin\left(\frac{\sqrt{3}}{2}\right)$
3. $\cos^{-1} 1$
4. $\arccos\left(\tan\left(\frac{\pi}{4}\right)\right)$
5. $\cos^{-1} 0$
6. $\arccos\left(-\frac{\sqrt{3}}{2}\right)$
7. $\sin^{-1}\left(\sin\frac{5\pi}{6}\right)$
8. $\sin\left(\tan^{-1} 1\right)$
9. $\tan^{-1}\left(\tan\frac{3\pi}{4}\right)$
10. $\cos\left(\sin^{-1}\left(\frac{1}{2}\right)\right)$
11. $\cos^{-1}\left(\cos\frac{5\pi}{4}\right)$
12. $\sin^{-1}\left(\cos\left(\frac{\pi}{4}\right)\right)$
13. $\arctan(-1)$
14. $\sin[\arcsin(-0.2)]$
15. $\arccos\left[\cos\left(\frac{7\pi}{2}\right)\right]$

Find the exact value of the expression. (Hint: Sketch a right triangle.)

16. $\csc\left[\arctan\left(-\frac{5}{12}\right)\right]$
17. $\sin\left[\cos^{-1}\left(\frac{\sqrt{5}}{5}\right)\right]$

Write an algebraic expression that is equivalent to the expression. (Hint: Sketch a right triangle.)

18. $\cot\left(\arctan\frac{1}{x}\right)$
19. $\sin(\arccos x)$