

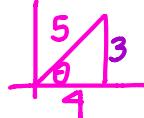
Name: \_\_\_\_\_

# Insides First

## Compositions of Functions

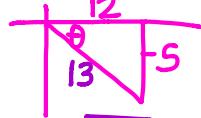
Find the exact values of each expression using radicals or radians if necessary. **Draw triangle!**

1.  $\tan\left(\cos^{-1}\left(\frac{4}{5}\right)\right)$



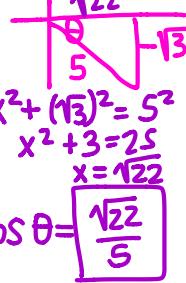
$$\tan \theta = \frac{3}{4}$$

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

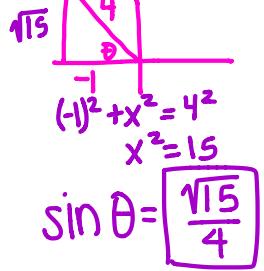


$$\sin \theta = \frac{-5}{13}$$

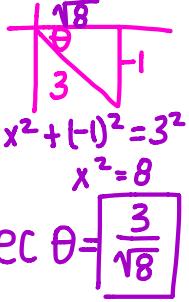
3.  $\cos\left(\arcsin\left(-\frac{\sqrt{3}}{5}\right)\right)$



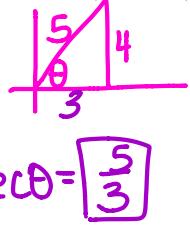
4.  $\sin(\sec^{-1}(-4))$



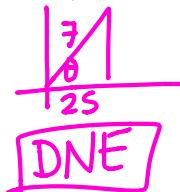
5.  $\sec(\csc^{-1}(-3))$



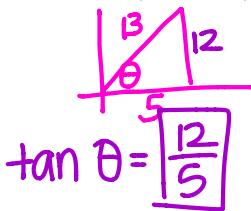
6.  $\sec\left(\sin^{-1}\frac{4}{5}\right)$



7.  $\tan\left(\cos^{-1}\frac{25}{7}\right)$

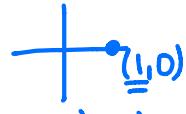


8.  $\tan\left(\sec^{-1}\frac{13}{5}\right)$



Find the exact value of the expression, if it's defined **use principal inverse value**

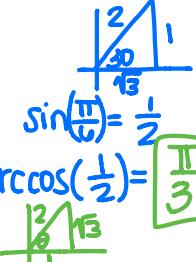
9.  $\sin^{-1}(\cos(0))$



$$\cos(0) = 1$$

$$\sin^{-1}(1) = \frac{\pi}{2}$$

10.  $\arccos\left(\sin\left(\frac{\pi}{6}\right)\right)$

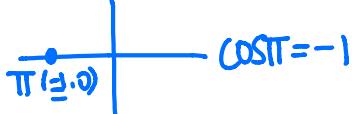


11.  $\cos^{-1}\left(\sin\left(\frac{4\pi}{3}\right)\right)$



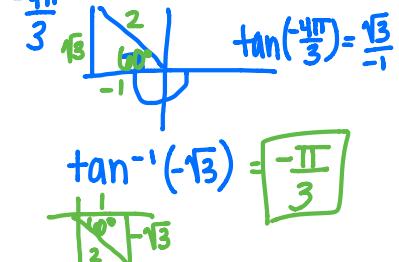
$$\cos^{-1}\left(-\frac{\sqrt{3}}{2}\right) = \frac{5\pi}{6}$$

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



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

13.  $\tan^{-1}\left(\tan\left(-\frac{4\pi}{3}\right)\right)$

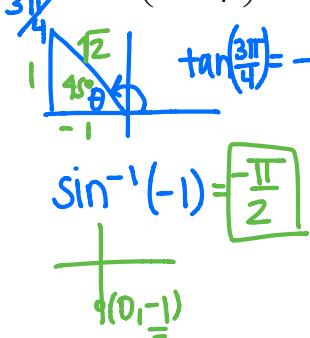


14.  $\cos^{-1}(\sin \pi)$

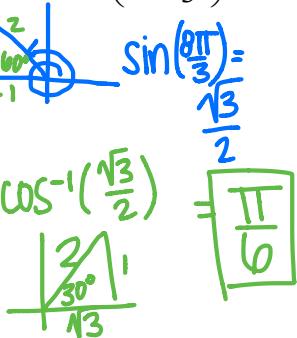


$$\cos^{-1}(0) = \frac{\pi}{2}$$

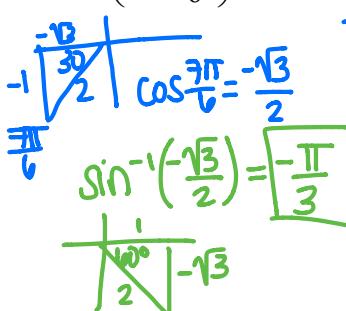
15.  $\sin^{-1}\left(\tan\frac{3\pi}{4}\right)$



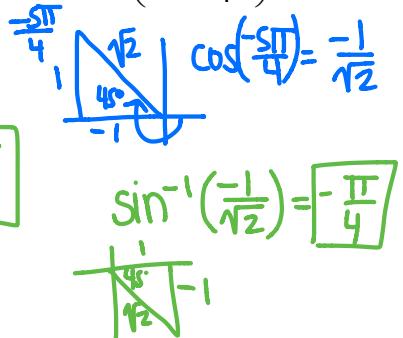
16.  $\cos^{-1}\left(\sin\frac{8\pi}{3}\right)$



17.  $\arcsin\left(\cos\frac{7\pi}{6}\right)$

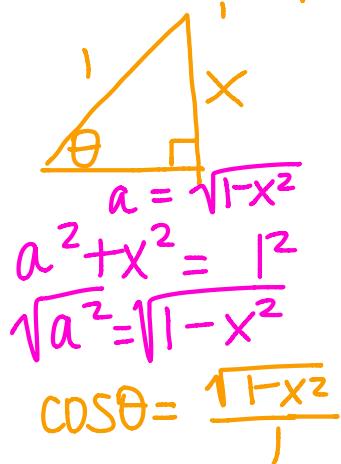


18.  $\sin^{-1}\left(\cos\frac{-5\pi}{4}\right)$

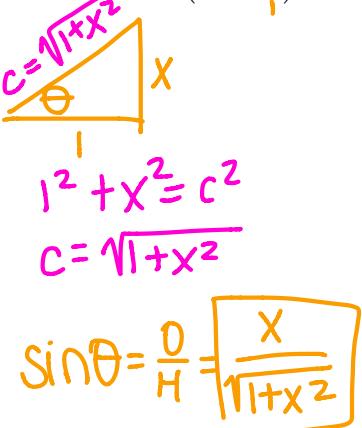


Rewrite as an algebraic expression **DRAW THE TRIANGLE!! SOH CAH TOA**

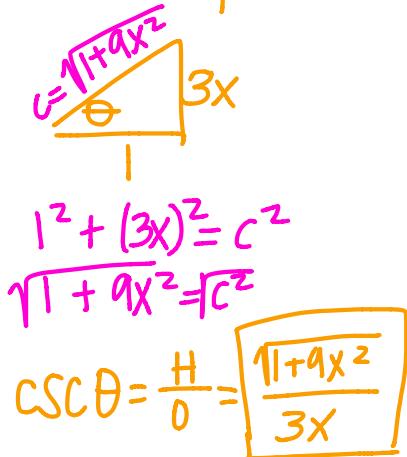
19.  $\cos(\sin^{-1} x) = \sqrt{1-x^2}$



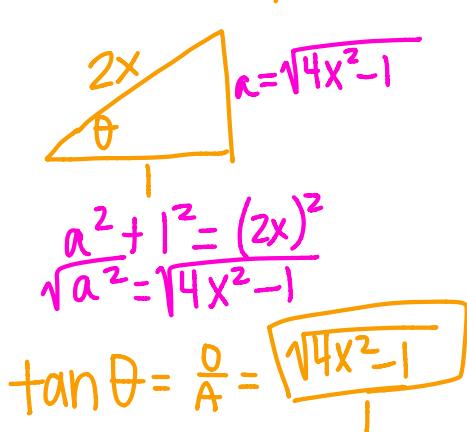
20.  $\sin(\tan^{-1} x)$



22.  $\csc(\tan^{-1} 3x)$



23.  $\tan(\sec^{-1} 2x)$



24.  $\cos\left(\arcsin \frac{x}{\sqrt{3}}\right)$

