**Composition of Trig Values** Name:_____

Find the exact values of each expression using radicals or radians if necessary.

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

$3/4$

2. $\cos\left(\arctan\left(\frac{4}{3}\right)\right)$

$3/5$

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

$-5/13$

4. $\sec\left(\arcsin\left(-\frac{4}{7}\right)\right)$

$\frac{7}{\sqrt{33}}$ or $\frac{7\sqrt{33}}{33}$

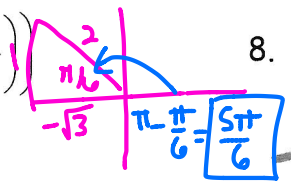
5. $\sin^{-1}(\cos(0))$

$\pi/2$

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

$\pi/3$

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

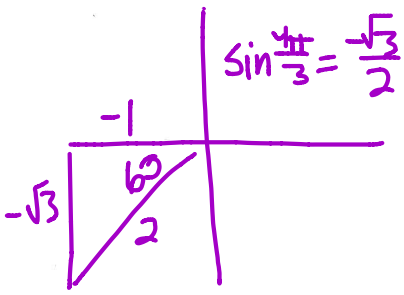



$\pi - \frac{\pi}{6} = \boxed{\frac{5\pi}{6}}$

$\frac{5\pi}{6}$

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

$\sin\frac{4\pi}{3} = \frac{-\sqrt{3}}{2}$




8. $\cot\left(\csc^{-1}\left(-\frac{5}{3}\right)\right)$

$-4/3$

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

$-\pi/3$

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

$-\pi/4$

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

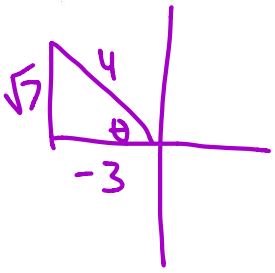
$-\pi/3$

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

$\frac{\sqrt{22}}{5}$

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

$\frac{\sqrt{7}}{4}$




14. $\operatorname{arcsec}\left(\sec\left(-\frac{\pi}{3}\right)\right)$

$\pi/3$

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

$-\pi/2$

16. $\tan\left(\operatorname{arcsec}\left(-\sqrt{2}\right)\right)$

$-1$

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

$\frac{\sqrt{15}}{4}$

18. $\sec\left(\csc^{-1}(-3)\right)$

$\frac{3\sqrt{2}}{4}$ or $\frac{3}{\sqrt{8}}$

19. $\csc\left(\cot^{-1}(2)\right)$

$\sqrt{5}$

20. $\arcsin(\cos(\pi))$

$-\pi/2$ $\cos\pi = 1$

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

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

Undefined