

Answers for 20-27 must be in the inv. fun range

$$19. \quad \cot(\cos^{-1} 0) \\ = \cot(\pi/2) \\ = \frac{1}{\tan(\pi/2)} = \frac{1}{\infty} = 0$$

$$20. \quad \sin^{-1}\left(\cos\left(\frac{7\pi}{6}\right)\right) \\ \sin^{-1}\left(-\frac{\sqrt{3}}{2}\right) = -\frac{\pi}{3}$$

$$21. \quad \cos^{-1}\left(\sin\left(\frac{5\pi}{4}\right)\right) \\ \cos^{-1}\left(-\frac{1}{\sqrt{2}}\right) = \frac{3\pi}{4}$$

$$22. \quad \cos^{-1}\left(\sin\left(\frac{\pi}{6}\right)\right) \\ \cos^{-1}\left(\frac{1}{2}\right) = \frac{\pi}{3}$$

$$23. \quad \sin^{-1}\left(\cos\left(\frac{5\pi}{3}\right)\right) \\ \sin^{-1}\left(\frac{1}{2}\right) = \frac{\pi}{3}$$

$$24. \quad \tan^{-1}\left(\sin\left(\frac{\pi}{2}\right)\right) \\ \tan^{-1}(1) = \frac{\pi}{4}$$

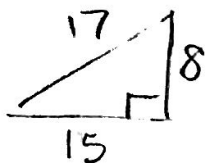
$$25. \quad \tan^{-1}\left(\cos\left(\frac{\pi}{2}\right)\right) \\ \tan^{-1}(0) = 0$$

$$26. \quad \sin^{-1}\left(\sin\left(\frac{3\pi}{4}\right)\right) \\ \sin^{-1}\left(\frac{1}{\sqrt{2}}\right) = \frac{\pi}{4}$$

$$27. \quad \cos^{-1}\left(\sin\left(-\frac{\pi}{3}\right)\right) \\ \cos^{-1}\left(-\frac{\sqrt{3}}{2}\right) = \frac{5\pi}{6}$$

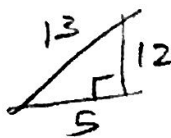


$$28. \quad \cos\left(\sin^{-1}\left(\frac{8}{17}\right)\right) \\ \cos(\theta) = 15/17$$

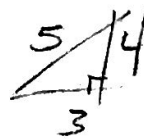


$$\begin{array}{r} 17^2 \\ - 64 \\ \hline 289 - 64 \\ \hline 225 \\ \sqrt{\quad} \\ 15 \end{array}$$

$$29. \quad \sin\left(\cos^{-1}\left(\frac{5}{13}\right)\right) \\ \sin(\theta) = \frac{12}{13}$$



$$30. \quad \tan\left(\cos^{-1}\left(\frac{3}{5}\right)\right) \\ \tan(\theta) = \frac{4}{3}$$



$$31. \quad \sin^{-1}\left(\cos\left(\sin^{-1}\left(\frac{\sqrt{3}}{2}\right)\right)\right)$$

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

$$= \sin^{-1}\left(\frac{1}{2}\right) = \frac{\pi}{6}$$

$$32. \quad \tan\left(\sin^{-1}\left(\cos\left(\frac{\pi}{2}\right)\right)\right)$$

$$\tan\left(\sin^{-1}(0)\right)$$

$$= \tan(0) = 0$$