

The Inverse Cosine and Inverse Sine; Other Inverse Functions

Evaluate each of the following expressions.

1. $\sin^{-1}\left(\sin \frac{2\pi}{3}\right)$ _____

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

5. $\cos^{-1}\left(\cos \frac{13\pi}{6}\right)$ _____

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

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

11. $\cos\left(\sin^{-1}\frac{15}{17}\right)$ _____

13. $\cos\left[\sin^{-1}\left(-\frac{3}{5}\right)\right]$ _____

15. $\sin\left(\csc^{-1}\frac{6}{5}\right)$ _____

17. $\sec\left(\cot^{-1}\frac{12}{5}\right)$ _____

19. $\csc\left[\tan^{-1}\left(-\frac{15}{8}\right)\right]$ _____

21. $\tan\left[\sec^{-1}\left(-\frac{\sqrt{13}}{3}\right)\right]$ _____

23. $\csc\left[\tan^{-1}\left(-\frac{1}{3}\right)\right]$ _____

25. $\cos\left[2 \sin^{-1}\left(-\frac{1}{6}\right)\right]$ _____

27. $\sin\left[\cos^{-1}\left(-\frac{\sqrt{5}}{5}\right) + \tan^{-1}\left(-\frac{1}{3}\right)\right]$ _____

28. $\cos\left[\sec^{-1}\left(-\frac{5\sqrt{2}}{2}\right) + \sin^{-1}\left(-\frac{\sqrt{3}}{10}\right)\right]$ _____

2. $\cos^{-1}\left[\cos\left(-\frac{\pi}{3}\right)\right]$ _____

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

6. $\sin^{-1}\left(\sin \frac{17\pi}{6}\right)$ _____

8. $\cos^{-1}\left[\sin\left(-\frac{\pi}{4}\right)\right]$ _____

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

12. $\sin\left(\cos^{-1}\frac{5}{13}\right)$ _____

14. $\sin\left(\cos^{-1}\frac{\sqrt{3}}{3}\right)$ _____

16. $\cot\left(\tan^{-1}\frac{1}{10}\right)$ _____

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

20. $\tan\left[\sec^{-1}\left(-\frac{13}{12}\right)\right]$ _____

22. $\cos\left[\cot^{-1}\left(-\frac{3}{2}\right)\right]$ _____

24. $\cot\left[\sin^{-1}\left(-\frac{\sqrt{10}}{10}\right)\right]$ _____

26. $\sin\left[2 \cos^{-1}\left(-\frac{5}{13}\right)\right]$ _____