

I. Evaluate each inverse expression.

7. $\arcsin\left(\frac{\sqrt{3}}{2}\right)$

$\frac{\pi}{3}$

8. $\arctan\left(-\frac{\sqrt{3}}{3}\right)$

9. $\arccos\left(-\frac{1}{2}\right)$

$\frac{2\pi}{3}$

10. $\arctan\sqrt{3}$

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

$\frac{\pi}{2}$

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

13. $\cot^{-1}(-1)$

$\frac{3\pi}{4}$

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

(Range: think about the graph)

15. $\cos^{-1}\left(\frac{1}{2}\right)$

$\frac{\pi}{3}$

16. $\sin^{-1}\left(-\frac{\sqrt{2}}{2}\right)$

17. $\arccos\left(-\frac{\sqrt{2}}{2}\right)$

$\frac{3\pi}{4}$

18. $\arcsin\left(-\frac{3}{2}\right)$

II. Evaluate each composition.

19. $\sin(\sin^{-1}(1.2))$

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

21. $\tan\left(\cos^{-1}\left(\frac{\sqrt{2}}{2}\right)\right)$

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22. $\cos^{-1}\left(\sin\left(\frac{5\pi}{3}\right)\right)$

$$23. \sin(\tan^{-1}(-1))$$

$$-\frac{\sqrt{2}}{2}$$

$$24. \sin^{-1}\left(\cos\left(\frac{7\pi}{6}\right)\right)$$

$$25. \cos\left(\tan^{-1}\left(-\frac{4}{5}\right)\right)$$

$$\frac{5\sqrt{41}}{41}$$

$$26. \tan(\cos^{-1}x)$$

$$27. \sin\left(\cos^{-1}\left(\frac{1}{x}\right)\right)$$

$$\frac{\sqrt{x^2-1}}{x}$$

$$28. \tan\left(\sin^{-1}\left(\frac{x}{2}\right)\right)$$

$$29. \cos(\sin^{-1}2x)$$

$$\sqrt{1-4x^2}$$

$$30. \sec\left(\cos^{-1}\frac{1}{x}\right)$$

$$31. \sin\left(\tan^{-1}\frac{x}{\sqrt{3}}\right)$$

$$\frac{x\sqrt{x^2+3}}{x^2+3}$$

$$32. \tan\left(\sin^{-1}\frac{x}{\sqrt{x^2+4}}\right)$$