

Inverse Trigonometric Functions

Find the exact value in radians:

- | | | |
|--|--|--|
| 1. $\text{Cos}^{-1}(1)$ | 6. $\text{Cot}^{-1}(-1)$ | 11. $\text{Arccot}(\sqrt{3})$ |
| 2. $\text{Sin}^{-1}(\frac{1}{2})$ | 7. $\text{Cos}^{-1}(\frac{\sqrt{3}}{2})$ | 12. $\text{Arctan}(-\frac{\sqrt{3}}{3})$ |
| 3. $\text{Tan}^{-1}(1)$ | 8. $\text{Sec}^{-1}(2)$ | 13. $\text{Arcsec}(-2)$ |
| 4. $\text{Tan}^{-1}(-1)$ | 9. $\text{Csc}^{-1}(-\sqrt{2})$ | 14. $\text{Arccos}(0)$ |
| 5. $\text{Sin}^{-1}(\frac{\sqrt{2}}{2})$ | 10. $\text{Arcsin}(-\frac{1}{2})$ | 15. $\text{Arccsc}(-1)$ |

Evaluate the following expression with an exact value:

16. $\text{Sin}[\text{Sin}^{-1}(\frac{8}{9})]$

Use a calculator to find the value of the following problems:

17. $\text{Cos}^{-1}(.2256)$

18. $\text{Sin}^{-1}(-.671)$

19. $\text{Tan}^{-1}(13.21)$

20. $\text{Csc}^{-1}(-1.998)$

21. $\text{Cot}^{-1}(3.6)$

Review Questions - - - Find the exact value of each expression:

22. $\text{Cos} \frac{7\pi}{6}$

25. $\text{Cot} 270^\circ$

23. $\text{Tan} \frac{5\pi}{3}$

26. $\text{Csc}(-135^\circ)$

24. $\text{Sin}(-180^\circ)$

27. $\text{Sec} \frac{11\pi}{6}$

Answers for Worksheet #7

1. 0 6. $\frac{3\pi}{4}$ 11. $\frac{\pi}{6}$
2. $\frac{\pi}{6}$ 7. $\frac{\pi}{6}$ 12. $-\frac{\pi}{6}$
3. $\frac{\pi}{4}$ 8. $\frac{\pi}{3}$ 13. $\frac{2\pi}{3}$
4. $-\frac{\pi}{4}$ 9. $-\frac{\pi}{4}$ 14. $\frac{\pi}{2}$
5. $\frac{\pi}{4}$ 10. $-\frac{\pi}{6}$ 15. $-\frac{\pi}{2}$

16. $\frac{8}{9}$

17. 1.343 rad. or 76.962°

18. -0.736 rad. or -42.144°

19. 1.495 rad. or 85.671°

20. $\arcsin\left(-\frac{1}{1.998}\right) = -0.524$ rad. or -30.033°

21. $\arctan\left(\frac{1}{3.6}\right) = 0.271$ rad. or 15.524°

22. $-\frac{\sqrt{3}}{2}$ 25. 0

23. $-\sqrt{3}$ 26. $-\sqrt{2}$

24. 0 27. $\frac{2\sqrt{3}}{3}$