

Transition to College Math

Guided Practice Unit 3 Lesson 4 Inverse Trigonometric Functions

Name _____ Date _____ Period _____

Find the exact angle of each inverse trigonometric function, if possible. If not, round to three significant digits. Give your answer in both degrees and radians.

1. $\cos^{-1} \frac{1}{2}$

4. $\csc^{-1} 2$

7. $\sin^{-1} -\frac{\sqrt{2}}{2}$

2. $\sin^{-1} \frac{1}{2}$

5. $\sec^{-1} 2$

8. $\cos^{-1} -\frac{\sqrt{3}}{2}$

3. $\tan^{-1} \frac{1}{2}$

6. $\cot^{-1} 2$

9. $\tan^{-1} 0$

Evaluate each expression. If possible, give an exact answer. If not, round your answer to three decimal places.

10. $\cos(\cos^{-1} 0.5)$

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

16. $\cos^{-1}(\tan -60^\circ)$

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

14. $\cot(\tan^{-1} 0)$

17. $\cot^{-1}(\tan 0)$

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

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

18. $\tan^{-1}(\sin 60^\circ)$

Solve each equation for x . Give an exact answer, if possible. If not, round to three decimal places.

19. $\sin^{-1} x = 1$

22. $\csc^{-1} x = 2$

25. $\sin^{-1} x = -\frac{\sqrt{3}}{2}$

20. $\cos^{-1} x = \frac{\sqrt{3}}{2}$

23. $\sec^{-1} x = \frac{1}{2}$

26. $\cot^{-1} x = 3\pi$

21. $\tan^{-1} x = 42$

24. $\tan^{-1} x = -1$

27. $3(\sin^{-1} x)^2 + \sin^{-1} x = \frac{2}{3}$