

Accelerated Math 3 – Inverse Trig FUNCTIONS Practice

Use the properties (domain and range) of inverse trig functions to find the exact value of the following expressions.

1. $\sin(\sin^{-1}(0.7))$
2. $\cos(\cos^{-1}(-0.3))$
3. $\sin^{-1}(\sin(3\pi))$
4. $\tan^{-1}\left(\tan\left(\frac{11\pi}{6}\right)\right)$
5. $\sin^{-1}\left(\sin\left(\frac{5\pi}{2}\right)\right)$
6. $\sin^{-1}\left(\tan\left(\frac{5\pi}{4}\right)\right)$
7. $\cos^{-1}\left(\cos\left(\frac{3\pi}{2}\right)\right)$
8. $\cos^{-1}\left(\tan\left(\frac{3\pi}{4}\right)\right)$

Find the exact value of the expression (sketch of a right triangle to help).

9. $\sin\left(\tan^{-1}\left(\frac{4}{3}\right)\right)$
10. $\cos\left(\sin^{-1}\left(\frac{24}{25}\right)\right)$
11. $\sec\left(\tan^{-1}\left(-\frac{3}{5}\right)\right)$
12. $\sin\left(\cos^{-1}\left(-\frac{2}{5}\right)\right)$

Write an algebraic expression that is equivalent to the following expression (sketch a right triangle).

13. $\cot(\tan^{-1}(x))$
14. $\sin(\cos^{-1}(x+2))$
15. $\tan\left(\cos^{-1}\left(\frac{x}{5}\right)\right)$

Sketch a graph of the following functions.

16. $y = 2\cos^{-1}(x)$
17. $y = \sin^{-1}\frac{x}{2}$
18. $f(x) = \cos^{-1}(x-2)$
19. $f(x) = \tan^{-1} 2x$