

Quiz 7 (20 pts.)

Name: _____

True or False (1 pt. each)

Answer the following by circling TRUE or FALSE. If the answer is false you must explain why in the space provided for full credit.

1.) **T F** _____ The domain of $\sin^{-1} x$ is $(-1, 1)$.2.) **T F** _____ $\arctan x$ is defined when the domain of $\tan x$ is restricted to $\left(-\frac{\pi}{2}, \frac{\pi}{2}\right)$ 3.) **T F** _____ The range of $\cos^{-1} x$ is $[0, \pi]$.4.) **T F** _____ The domain of $\tan^{-1} x$ is $[-1, 1]$.5.) **T F** _____ $\cos^{-1} x = \frac{1}{\cos x}$ **Short Answer** (4 pts. each)

11.) Find the exact value of the following:

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

(b.) $\arcsin\left(\tan\left(\frac{3\pi}{4}\right)\right)$

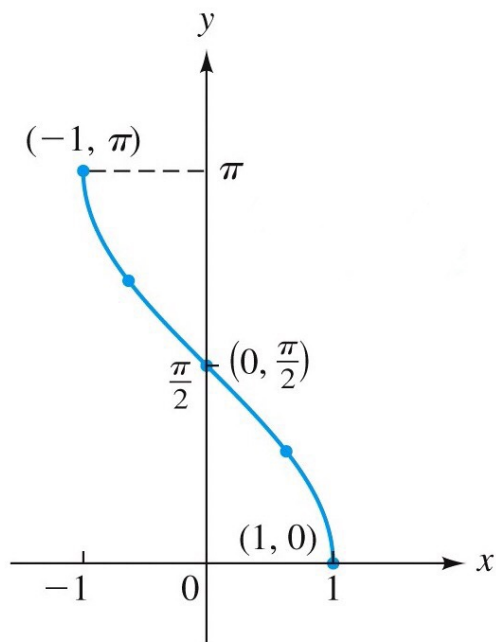
12.) Write $\cos(\arctan x)$ as an algebraic expression in x . (*Your answer should be free of trigonometric or inverse trigonometric functions.*)

13.) Find the exact value of $\sin\left(2 \sin^{-1}\left(\frac{4}{5}\right)\right)$.

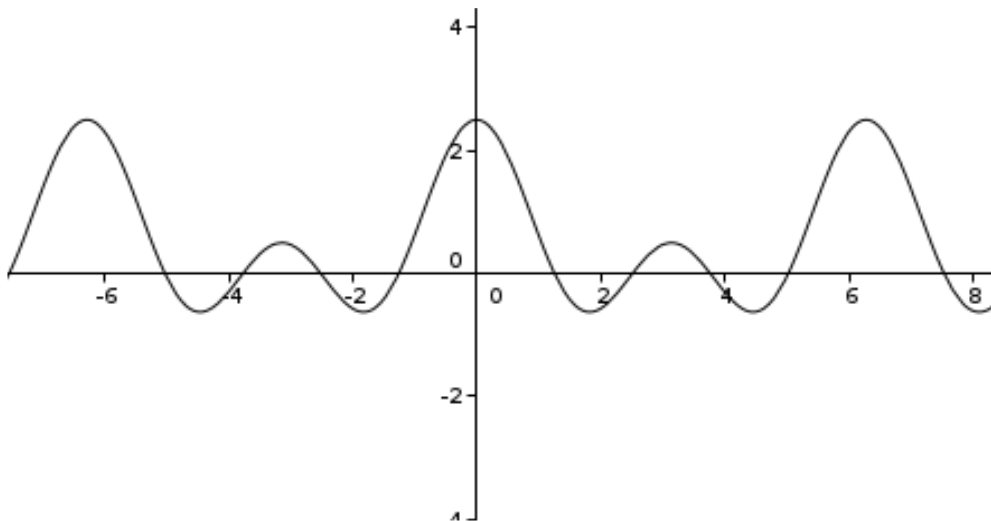
Multiple Choice (1 pt. each)

1.) Which equation best describes the graph?

- (a) $y = \sin x$
- (b) $y = \cos x$
- (c) $y = \tan x$
- (d) $y = \sin^{-1} x$
- (e) $y = \cos^{-1} x$
- (f) $y = \tan^{-1} x$

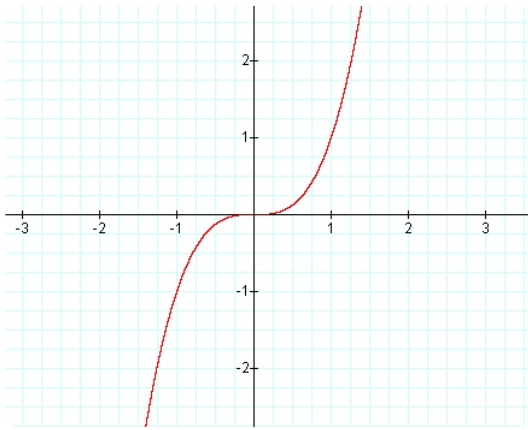


2.) The following graph is one-to-one on all of the following intervals except:

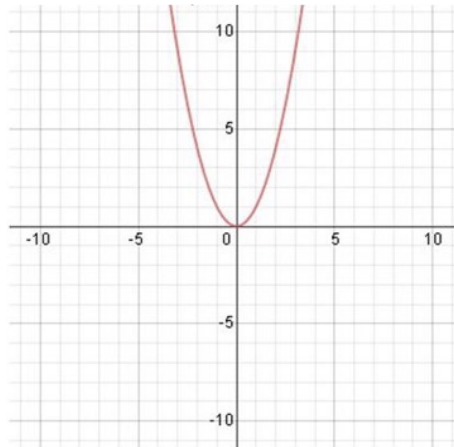


- (a) $[-2, 0]$
- (b) $[2, 3]$
- (c) $[-6, -4]$
- (d) $[5, 6]$

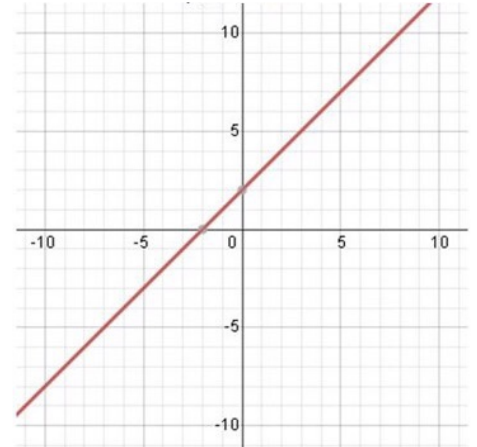
3.) Which of the following functions does not have an inverse?



Function A



Function B



Function C

- (a) Function A
- (b) Function B
- (c) Function C
- (d) None of the above