

Name: _____

Problem 1. [5 points] Circle either True or False for each of the following statements.

(a) $\sin^{-1}\left(-\frac{\sqrt{2}}{2}\right) = \frac{7\pi}{4}$ ~~$\frac{7\pi}{4}$~~ $\frac{-\pi}{4}$ True False

(b) $\cos(\cos^{-1}(2)) = 2$
 DNE True False

(c) $\cos^{-1}(\cos(0)) = 0$
 = 1 True False

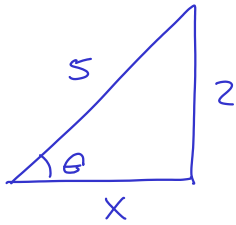
(d) $\tan(\tan^{-1}(x)) = x$ for all real numbers x . True False

(e) $\tan^{-1}(\tan(x)) = x$ for all real numbers x .
 $\frac{\pi}{2}$ not in domain True False

Problem 2. [3 points] Complete the table.

	Domain	Range
$y = \sin^{-1}(x)$	$[-1, 1]$	$[-\frac{\pi}{2}, \frac{\pi}{2}]$
$y = \cos^{-1}(x)$	$[-1, 1]$	$[0, \pi]$
$y = \tan^{-1}(x)$	$(-\infty, \infty)$	$(-\frac{\pi}{2}, \frac{\pi}{2})$

Problem 3. [3 points] Find the exact value of $\sec\left(\underbrace{\arcsin\left(\frac{2}{5}\right)}_{\theta \text{ in } Q1}\right)$.

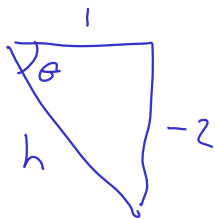


$$25 = x^2 + 4$$

$$x = \sqrt{21}$$

$$\sec \theta = \frac{5}{\sqrt{21}}$$

Problem 4. [4 points] Find the exact value of $\sin\left(\underbrace{\tan^{-1}(-2)}_{\theta \text{ in } Q4}\right)$.



$$h^2 = 1 + 4$$

$$h = \sqrt{5}$$

$$\sin \theta = \frac{-2}{\sqrt{5}}$$