

Student: _____	Instructor: Joe Batters
Date: _____	Course: Pre-Calculus Pre AP (Master Course) Assignment: 7.2 Classwork (Day 2)

1. Find the exact value of the expression.

$$\sec \left[\sin^{-1} \left(-\frac{1}{2} \right) \right]$$

Select the correct choice and fill in any answer boxes in your choice below.

A. $\sec \left[\sin^{-1} \left(-\frac{1}{2} \right) \right] =$ _____

(Simplify your answer, including any radicals. Use integers or fractions for any numbers in the expression.)

- B. There is no solution.

2. Write the trigonometric expression as an algebraic expression in u .

$$\cot (\cos^{-1} u)$$

$$\cot (\cos^{-1} u) = \text{_____} \text{ (Type an exact answer, using radicals as needed.)}$$

3. Let $f(x) = \sin x$, $g(x) = \cos x$, and $h(x) = \tan x$. Find the exact value of the composite function.

$$g^{-1} \left(f \left(-\frac{5\pi}{4} \right) \right)$$

$$g^{-1} \left(f \left(-\frac{5\pi}{4} \right) \right) = \text{_____}$$

(Simplify your answer, including any radicals. Type an exact answer, using radicals as needed. Type an exact answer, using π as needed. Use integers or fractions for any numbers in the expression.)

1. A. $\sec \left[\sin^{-1} \left(-\frac{1}{2} \right) \right] = \frac{2\sqrt{3}}{3}$

(Simplify your answer, including any radicals. Use integers or fractions for any numbers in the expression.)

2. $\frac{u}{\sqrt{1-u^2}}$

3. $\frac{\pi}{4}$

7.2 classwork day 2

$$\textcircled{1} \sec \left[\sin^{-1} \left(-\frac{1}{2} \right) \right]$$

$$\sin \theta = -\frac{1}{2} = \frac{y}{r}$$

$$y = -1$$

$$x = \sqrt{3}$$

$$r = 2$$

$$\sec \theta = \frac{1}{\cos \theta} = \frac{r}{x} = \frac{2}{\sqrt{3}}$$

$$= \frac{2\sqrt{3}}{3}$$

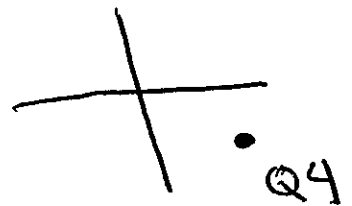
$$x^2 + y^2 = r^2$$

$$x^2 + (-1)^2 = (2)^2$$

$$x = \sqrt{3}$$

$$* \sin \theta$$

$$-\pi/2 \leq \theta \leq \pi/2$$



$$\textcircled{2} \cot(\cos^{-1} u)$$

$$* \text{ let } \cos^{-1} u = \theta$$

$$\cos \theta = u$$

$$* \sin^2 \theta + \cos^2 \theta = 1$$

$$\cot \theta = \frac{\cos \theta}{\sin \theta} = \frac{\cos \theta}{\sqrt{1 - \cos^2 \theta}} = \frac{u}{\sqrt{1 - u^2}}$$

7.2 classwork day 2 continued

$$\textcircled{3} f(x) = \sin x$$

$$g(x) = \cos x$$

$$h(x) = \tan x$$

$$g^{-1}\left(f\left(-\frac{5\pi}{4}\right)\right)$$

$$\cos^{-1}\left(\sin\left(-\frac{5\pi}{4}\right)\right)$$

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

$$\cos \theta = \frac{\sqrt{2}}{2}$$

$$\theta = \left\{ \frac{\pi}{4}, \frac{7\pi}{4} \right\}$$

$$* 0 \leq \theta \leq \pi$$

$$\boxed{\frac{\pi}{4}}$$

