

Student: \_\_\_\_\_  
Date: \_\_\_\_\_

Instructor: Joe Better  
Course: Pre-Calculus Pre AP (Master Course)

Assignment: 7.2 Classwork (Day 1)

1. Find the exact value of the expression.

$$\cot \left[ \sin^{-1} \left( -\frac{\sqrt{2}}{7} \right) \right]$$

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

A.  $\cot \left[ \sin^{-1} \left( -\frac{\sqrt{2}}{7} \right) \right] =$  \_\_\_\_\_

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

- B. There is no solution.

2. Find the exact value of the expression.

$$\cos^{-1} \left( \sin \frac{7\pi}{6} \right)$$

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

A.  $\cos^{-1} \left( \sin \frac{7\pi}{6} \right) =$  \_\_\_\_\_

(Simplify your answer. Type an exact answer, using  $\pi$  as needed. Use integers or fractions for any numbers in the expression.)

- B. There is no solution.

3. Write the trigonometric expression as an algebraic expression in  $u$ .

$$\sec \left( \cos^{-1} u \right)$$

$\sec \left( \cos^{-1} u \right) =$  \_\_\_\_\_ (Type an exact answer, using radicals as needed.)

$$1. \text{ A. } \cot \left[ \sin^{-1} \left( -\frac{\sqrt{2}}{7} \right) \right] = \underline{-\frac{\sqrt{94}}{2}}$$

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

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$$2. \text{ A. } \cos^{-1} \left( \sin \frac{7\pi}{6} \right) = \underline{\frac{2\pi}{3}}$$

(Simplify your answer. Type an exact answer, using  $\pi$  as needed. Use integers or fractions for any numbers in the expression.)

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$$3. \frac{1}{u}$$

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# 7.2 Classwork day 1

①  $\cot \left[ \sin^{-1} \left( -\frac{\sqrt{2}}{7} \right) \right]$

\*  $\sin \theta = -\frac{\sqrt{2}}{7} = \frac{y}{r}$

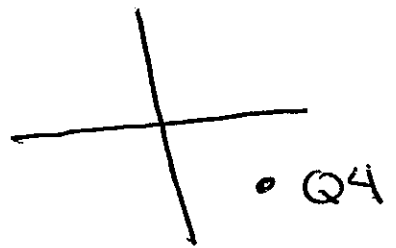
$x^2 + y^2 = r^2$

$x^2 + (-\sqrt{2})^2 = (7)^2$

$x = \sqrt{47}$

$\cot [\theta] = \frac{-x}{y} = \frac{\sqrt{47}}{-\sqrt{2}}$

$= \boxed{\frac{-\sqrt{94}}{2}}$



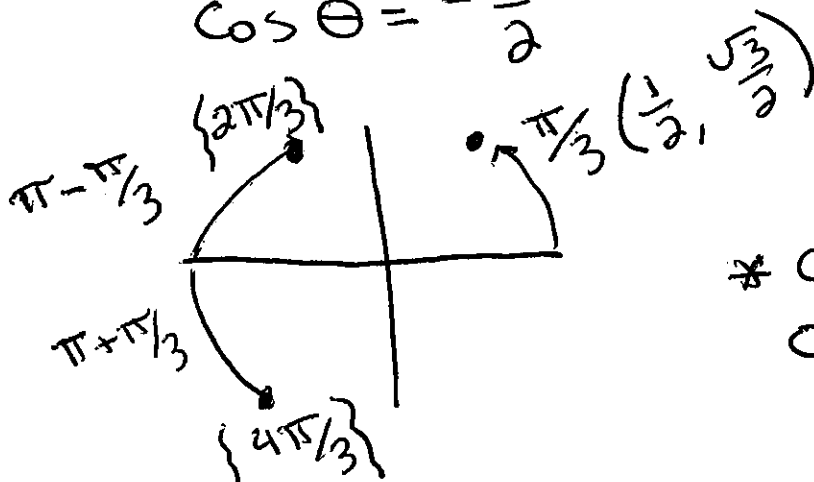
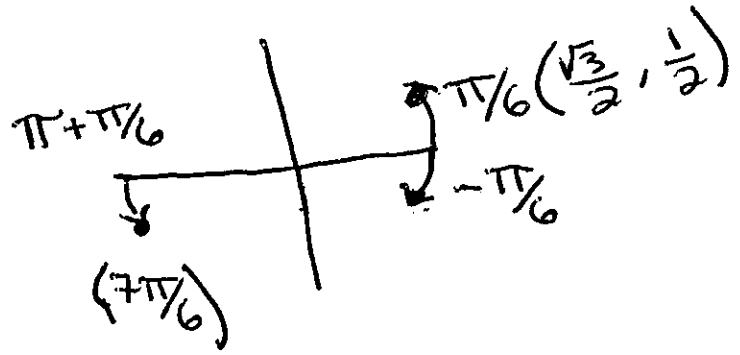
\*  $\sin \theta$

$-\frac{\pi}{2} \leq \theta \leq \frac{\pi}{2}$

②  $\cos^{-1} \left( \sin \frac{7\pi}{6} \right)$

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

$\cos \theta = -\frac{1}{2}$



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

$\boxed{\frac{2\pi}{3}}$

7.2 classwork continued  
day 1

$$\textcircled{3} \sec(\cos^{-1} u)$$

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

$$\cos \theta = u$$

$$\sec \theta = \frac{1}{\cos \theta} = \boxed{\frac{1}{u}}$$