

1.(1 pt) Evaluate the following expressions. Your answer must be an angle $-\pi/2 \leq \theta \leq \pi$ in radians.

$\sin^{-1}(\frac{\sqrt{2}}{2})$ _____

$\sin^{-1}(\frac{\sqrt{3}}{2})$ _____

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

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

2.(1 pt) Evaluate the following expressions. Your answer must be an angle in radians and in the interval $[-\frac{\pi}{2}, \frac{\pi}{2}]$.

(a) $\sin^{-1}(0) =$ _____

(b) $\sin^{-1}(\frac{\sqrt{3}}{2}) =$ _____

(c) $\sin^{-1}(-1) =$ _____

3.(1 pt) Evaluate the following expressions. Your answer must be in radians.

(a) $\tan^{-1}(1) =$ _____

(b) $\tan^{-1}(-1) =$ _____

(c) $\tan^{-1}(0) =$ _____

4.(1 pt) Evaluate the following expressions.

$\sin(\sin^{-1}(\frac{1}{2}))$ _____

$\cos(\cos^{-1}(0))$ _____

$\tan(\tan^{-1}(\frac{1}{2}))$ _____

5.(1 pt) Evaluate the following expressions.

(a) $\sin(\sin^{-1}(\frac{1}{2})) =$ _____

(b) $\tan(\tan^{-1}(0)) =$ _____

6.(1 pt) Evaluate the following expressions.

$\cos(\sin^{-1}(\frac{\sqrt{3}}{2}))$ _____

$\tan(\sin^{-1}(0))$ _____

7.(1 pt) Evaluate the following expressions.

$\sin(\cos^{-1}(\frac{\sqrt{2}}{2}))$ _____

$\tan(\cos^{-1}(\frac{\sqrt{3}}{2}))$ _____

8.(1 pt) Evaluate the following expressions.

$\sin(\tan^{-1}(0))$ _____

$\cos(\tan^{-1}(1))$ _____

9.(1 pt) Evaluate the following expressions.

$\sin(\cos^{-1}(\frac{3}{5}))$ _____

$\tan(\sin^{-1}(\frac{5}{13}))$ _____

10.(1 pt) Match each of the trigonometric expressions below with the equivalent non-trigonometric function from the following list. Enter the appropriate letter (A,B,C,D, or E) in each blank.

- A. $\tan(\arcsin(x/2))$
- B. $\cos(\arcsin(x/2))$
- C. $(1/2)\sin(2\arcsin(x/2))$
- D. $\sin(\arctan(x/2))$
- E. $\cos(\arctan(x/2))$

- 1. $\frac{x}{\sqrt{4-x^2}}$
- 2. $\frac{\sqrt{4-x^2}}{x}$
- 3. $\frac{2}{\sqrt{4+x^2}}$
- 4. $\frac{\sqrt{4+x^2}}{2}$
- 5. $\frac{x}{4}\sqrt{4-x^2}$

11.(1 pt) Simplify the expression

$\tan(2\cos^{-1}(x/3))$

answer = _____