

Trigonometric Expressions

Name: _____

Date: _____

Evaluate the following trigonometric expressions.

1) $\sec^{-1}\left(\frac{1}{2}\tan\left(\frac{3\pi}{4}\right)\right)$

2) $\cot^{-1}\left(\tan\left(\frac{3\pi}{4}\right)\right)$

3) $\cos^{-1}\left(2\sin\left(\frac{5\pi}{6}\right)\right)$

4) $\sin^{-1}\left(\frac{1}{2}\tan(-3\pi)\right)$

5) $\tan^{-1}(\cos(4\pi))$

6) $\sec^{-1}\left(\frac{1}{2}\tan\left(\frac{4\pi}{3}\right)\right)$

7) $\tan^{-1}(\sec(-5\pi))$

8) $\sec^{-1}\left(\frac{1}{2}\tan\left(-\frac{\pi}{3}\right)\right)$

9) $\cot^{-1}(-2\cos\left(\frac{\pi}{3}\right))$

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

11) $\sec^{-1}(\sqrt{2}\sin\left(\frac{5\pi}{4}\right))$

12) $\operatorname{cosec}^{-1}\left(\tan\left(\frac{\pi}{4}\right)\right)$

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Name: _____

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Evaluate the following trigonometric expressions.

1) $\sec^{-1}\left(\frac{1}{2}\tan\left(\frac{3\pi}{4}\right)\right)$

$$\underline{-\frac{\pi}{3}}$$

2) $\cot^{-1}\left(\tan\left(\frac{3\pi}{4}\right)\right)$

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

3) $\cos^{-1}\left(2\sin\left(\frac{5\pi}{6}\right)\right)$

$$\underline{0}$$

4) $\sin^{-1}\left(\frac{1}{2}\tan(-3\pi)\right)$

$$\underline{0}$$

5) $\tan^{-1}(\cos(4\pi))$

$$\underline{\frac{\pi}{4}}$$

6) $\sec^{-1}\left(\frac{1}{2}\tan\left(\frac{4\pi}{3}\right)\right)$

$$\underline{-\frac{\pi}{6}}$$

7) $\tan^{-1}(\sec(-5\pi))$

$$\underline{-\frac{\pi}{4}}$$

8) $\sec^{-1}\left(\frac{1}{2}\tan\left(-\frac{\pi}{3}\right)\right)$

$$\underline{-\frac{\pi}{6}}$$

9) $\cot^{-1}(-2\cos\left(\frac{\pi}{3}\right))$

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

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

$$\underline{\frac{\pi}{4}}$$

11) $\sec^{-1}(\sqrt{2}\sin\left(\frac{5\pi}{4}\right))$

$$\underline{\pi}$$

12) $\operatorname{cosec}^{-1}\left(\tan\left(\frac{\pi}{4}\right)\right)$

$$\underline{\frac{\pi}{2}}$$