

Algebra II/Trig Honors
Chapter 5 Sections 1 - 3

Name _____

Use the given values to evaluate (if possible) all six trigonometric functions.

1. $\cot x = -3, \quad \sin x = \frac{\sqrt{10}}{10}$

$\sin x =$

$\csc x =$

$\cos x =$

$\sec x =$

$\tan x =$

$\cot x =$

2. $\csc x = -5, \quad \cos x < 0$

$\sin x =$

$\csc x =$

$\cos x =$

$\sec x =$

$\tan x =$

$\cot x =$

Verify the identity. You must show all steps in order to get credit!!! **Choose only 6 to be graded.**

3. $\cot^2 x (\sec^2 x - 1) = 1$

4. $\cos x + \sin x \tan x = \sec x$

5. $\frac{1+\sin x}{\cos x} + \frac{\cos x}{1+\sin x} = 2 \sec x$

6. $(1 + \sin x)(1 + \sin(-x)) = \cos^2 x$

$$7. \quad \frac{1}{\sin x} - \frac{1}{\csc x} = \csc x - \sin x$$

$$8. \quad \cos^2 x - \sin^2 x = 2\cos^2 x - 1$$

$$9. \quad \sec x - \cos x = \sin x \tan x$$

$$10. \quad \cos x - \frac{\cos x}{1 - \tan x} = \frac{\sin x \cos x}{\sin x - \cos x}$$

Find all solutions of the equation in the interval $[0, 2\pi)$.

$$11. \quad 2 \sin x + 1 = 0$$

$$12. \quad 3 \cot^2 x - 1 = 0$$

13. $\sin^2 x = 3\cos^2 x$

14. $2\sin^2 x = 2 + \cos x$

15. $2\sin^2 x + 3\sin x + 1 = 0$

16. $\sin x - 2 = \cos x - 2$

17. $\sec 4x = 2$

18. $6\sin^2 x - 7\sin x + 2 = 0$