

Trig/Pre-Cal
Ch 5 Review

Verify (Prove one side)

1. $\frac{1}{1 - \sin^2 x} = 1 + \tan^2 x$

2. $\frac{\cos^2 x}{1 - \sin x} = \frac{\cos x}{\sec x - \tan x}$

3. $\frac{\sin 2x}{1 + \cos 2x} = \tan x$

Solve $[0, 2\pi)$

4. $\cos x \sin x - \sin x = 0$

5. $2 \sin^2 x - 5 \sin x + 2 = 0$

6. $\tan^3 x + \tan^2 x - 3 \tan x - 3 = 0$

7. $\sin 2x - \cos x = 0$

Find the exact value w/o calculators

8. $\cos 15^\circ$

9. $2 \sin \frac{\pi}{12} \cos \frac{\pi}{12}$

10. $\frac{\tan 66^\circ - \tan 6^\circ}{1 + \tan 66^\circ \tan 6^\circ}$

11. $\cos^2 \left(\frac{\pi}{8} \right) - \sin^2 \left(\frac{\pi}{8} \right)$

12. $\csc 15^\circ$

Find the following given that $\sec x = \frac{3}{2}$,
 $\csc y = 3$, $\angle x$ and $\angle y$ are in Quadrant I.

13. $\sin(x + y)$

14. $\cos(x - y)$

15. $\tan(x + y)$

16. $\sin 2x$

17. $\cos \frac{y}{2}$

18. $\tan \frac{y}{2}$

19. $\sin(x - y)$

Solve

20. $\tan^2 2x - 9 = 0$

21. $2 \cos 3x - 1 = 0$

22. $\sqrt{2} \sin 2x + 1 = 0$