

Assignment 3.3 - More Trig Equations and Trig Identities Intro

Date _____ Period _____

Solve each equation for $0 \leq \theta < 2\pi$.

1) $2\sin \theta = \sqrt{3}\cos \theta + 5\sin \theta$

2) $\sec^2 \theta = 2\tan \theta$

3) $3\sin \theta = \cos \theta - \sqrt{3}\sin \theta + 3\sin \theta$

4) $0 = \sin^2 \theta - 2\cos \theta - 2$

Verify each identity.

5) $\frac{\cot^2 x}{\sec x \csc^2 x} = \cos^3 x$

6) $\frac{1 + \cot^2 x}{\csc x} = \csc x$

7) $\frac{\cot^2 x + 1}{\sin^2 x} = \csc^4 x$

8) $\frac{1}{\sin x \csc^2 x} = \csc x \sin^2 x$

9) $\frac{\sin^2 x}{\sec^2 x} = \frac{\cos^2 x}{\csc^2 x}$

10) $-\sin x \cot x = -\cos x$