Pre-Calculus 12 Name:_____

Ch. 9 Extra Practice

A. Two solutions to the equation $\sin 3x + 2 = 3\sin 3x + 1$ are x = 0.17 and 0.87. Write a general solution to represent all the solutions to the equation.

B. Solve for $0 \le x < 2\pi$: B1. $\tan x = \sqrt{3}$ B2. $\cos x = -\frac{\sqrt{3}}{2}$

C. Solve for $0 \le x < 2\pi$: C1. $\sin^2 x - 2\sin x - 3 = 0$ C2. $2\cos^2 x - 5\cos x + 2 = 0$

D. Solve for $0 \le x < 2\pi$: D1. $\sin 2x = -\frac{1}{2}$ D2. $\cos 3x = \frac{1}{\sqrt{2}}$

E1. Verify the identity $\frac{\tan\theta}{\sin\theta} = \sec\theta$ for $\theta = \frac{\pi}{3}$.

F1. Determine the non-permissible values for the identity $\tan\theta\sin\theta+\cos\theta=\sec\theta$.

G1. Prove the identity: $\dfrac{\tan\theta}{\sin\theta}=\sec\theta$

G2. Prove the identity: $\dfrac{\tan\theta}{\sec\theta}+\dfrac{\cot\theta}{\csc\theta}=\sin\theta+\cos\theta$

G3. Prove the identity: $\dfrac{1}{\tan\theta}+\tan\theta=\csc\theta\sec\theta$

G4. Prove the identity: $\tan\theta\sin\theta+\cos\theta=\sec\theta$

H. Solve for $0\le x<2\pi$:

H1. $\cos x+\sec x=2$

H2. $2\cos^2 x=\sin x+1$