Review 1. Evaluate $\cos 150^\circ$

Review 2. Evaluate $\csc \frac{5\pi}{4}$

Review 3. Evaluate $\cos \frac{\pi}{2}$

A1. Solve $\sin x = \frac{\sqrt{3}}{2}$ for $0 \le x < 2\pi$.

B1. Solve $\tan^2 x - 3 = 0$ for $0 \le x < 2\pi$.

A2. Solve $\cos x = \frac{-1}{\sqrt{2}}$ for $0 \le x < 2\pi$.

A3. Solve $\cos^2 x - 2\cos x - 3 = 0$ for $0 \le x < 2\pi$.

B2. Solve $2\sin^2 x - \sin x = 0$ for $0 \le x < 2\pi$.

C1. Solve $\cos 2x = \frac{1}{2}$ for $0 \le x < 2\pi$.

A4. Solve $2\sin^2 x + 3\sin x + 1 = 0$ for $0 \le x < 2\pi$.

C2. Solve $\sin 3x = -\frac{1}{\sqrt{2}}$ for $0 \le x < 2\pi$.

D1. Verify the identity $\frac{\cot\theta}{\csc\theta\cos\theta}=1$ for $\theta=\frac{\pi}{3}$

E1. State the non-permissible values of θ for the identity above.

F1. Provide a properly formatted algebraic proof for the identity above.

D2. Verify the identity $\cos^2\theta = \frac{\cot\theta \sin\theta}{\sec\theta}$ for $\theta = \frac{\pi}{6}$.

E2. State the non-permissible values for the identity above.

F2. Provide a properly formatted algebraic proof for the identity above.

F3. Provide a properly formatted algebraic proof for the identity $\frac{\cos\theta\sin\theta}{1+\sin\theta} = \frac{1-\sin\theta}{\cot\theta}$.

G1. Solve $2\cos^2 x - 3\sin x = 0$ for $0 \le x < 2\pi$.

F4. Provide a properly formatted algebraic proof for the identity $2\sec\theta = \frac{\cos\theta}{1-\sin\theta} + \frac{\cos\theta}{1+\sin\theta}$.

G2. Solve $1-2\sin^2 x = \cos x$ for $0 \le x < 2\pi$.

H1. Write $\sin 9x\cos 3x - \cos 9x\sin 3x$ as a single trigonometric function in simplest form. Evaluate if possible.

I1.Given $\sin\beta = -\frac{1}{3}$ and $\cos\alpha = \frac{2}{5}$, where angle β is in standard position with its terminal arm in quadrant 3 and angle α is in standard position with its terminal arm in quadrant 4. Determine the exact value for $\cos(\alpha+\beta)$.

J1.Prove algebraically $\cos\left(\frac{\pi}{6}+\theta\right) - \cos\left(\frac{\pi}{6}-\theta\right) = -\sin\theta$.

H2. Write $8\sin 4\theta \cos 4\theta$ as a single trigonometric function in simplest form. Evaluate if possible.

H3. Write $\cos^2\left(\frac{5\pi}{12}\right) - \sin^2\left(\frac{5\pi}{12}\right)$ as a single trigonometric function in simplest form. Evaluate if possible.

I2. Given $\sin\theta = -\frac{3}{7}$, where angle θ is in standard position with its terminal arm in quadrant 3, determine the exact value for $\cos 2\theta$.

J2. Expand $\cos\left(\frac{\pi}{2} - \frac{\pi}{3}\right)$ and simplify.

G3. Solve $\frac{1}{2}\sin 2\theta - \cos^2\theta = 0$ for $0 \le x < 2\pi$.

G4. Solve $\cos 2\theta = 1 - 2\sin\theta$ for $0 \le x < 2\pi$.