Precalculus Unit 8: Test Review

Reminder: When solving equations make sure that you look to see whether a general solution or a solution in a specific interval is asked for.

1. Given that $\sin u = \dfrac{-5}{13}$ and $\cos v = \dfrac{-9}{41}$ with both u and v in Quadrant III, find the exact value of $\cos(u - v)$.

Solve the following equations:

2. $2\cos x - \sqrt{3} = 0$ Give solutions on the interval $[0, 2\pi)$.

3. $\csc x + 2 = 0$ Give solutions on the interval $[0, 2\pi)$.

4. $\cos(2x) + \sin x = 0$ Give solutions on the interval $[0, 2\pi)$.

5. $3\cot^2 x - 1 = 0$ Give the general solution.

6. $1 + tan^2\theta - tan^4\theta = 1$ Give the general solution.

7. $\cos\left(x+\dfrac{\pi}{4}\right) - \cos\left(x-\dfrac{\pi}{4}\right) = 1$ Give the general solution.

8. $8sin^3 x - 4sin^2 x - 6\sin x + 3 = 0$ Give the general solution. Hint: Factor by grouping.