

### 5.3-5.5 Practice Quiz

Find all solutions on the interval  $[0, 2\pi)$ :

1.  $\tan^2 x = \tan x$

2.  $\csc^2 x - \csc x - 2 = 0$

3.  $4\cos^2 x - 3 = 0$

4.  $-2\sin^2 x + 3\cos x + 3 = 0$

5.  $\sin\left(x + \frac{\pi}{2}\right) - \sin\left(x - \frac{\pi}{2}\right) = \sqrt{2}$

6.  $\sin x + \cos 2x = 1$

7.  $\cos 2x + 3\cos x = -2$

Verify the following identities:

8.  $\cos(\pi - \theta) = -\cos \theta$

9.  $\sin\left(x - \frac{3\pi}{2}\right) = \cos x$

10.  $\frac{\cos(x+h) - \cos x}{h} = \cos x \left(\frac{\cosh - 1}{h}\right) - \sin x \left(\frac{\sinh}{h}\right)$  Hint: simplify the left side.