VD 5.3.2

Solve the following trigonometric equations, assume $x \in [0, 2\pi)$

1. $\tan^2 x - \sec x - 1 = 0$	$x = \dfrac{\pi}{3}, \pi, \dfrac{5\pi}{3}$
2. $\csc^2 x - 4\cot x + 2 = 0$	$x = \dfrac{\pi}{4}, \dfrac{5\pi}{4}, \arctan\left(\dfrac{1}{3}\right), \arctan\left(\dfrac{1}{3}\right) + \pi$
3. $(3\tan^2 x - 1)(\tan 3x - 1) = 0$	$x = \dfrac{\pi}{12}, \dfrac{\pi}{6}, \dfrac{5\pi}{12}, \dfrac{5\pi}{6}, \dfrac{7\pi}{6}, \dfrac{11\pi}{6}$
4. $\sec x - \tan x = -1$	$x = \pi$
5. $4\cos^3 x - 8\cos^2 x - 3\cos x + 6 = 0$	$x = \dfrac{\pi}{6}, \dfrac{5\pi}{6}, \dfrac{7\pi}{6}, \dfrac{11\pi}{6}$
6. $3\sin x = 2\cos x + 3$	$x = \dfrac{\pi}{2}, \arccos\left(-\dfrac{12}{13}\right)$
7. $2\sec x = \tan x - 2$	$x = \pi, \arccos\left(-\dfrac{3}{5}\right)$