Pre-Calculus CP Name_____

7.5 WS - Solving Trigonometric Equations Hour:

Find all solutions of the equation in the interval $[\mathbf{0}, \mathbf{2\pi})$**.**

1. $\sin x + 1 = 0$

2. $\sqrt{2}\cos x - 1 = 0$

3. $\cot x + 1 = 0$

4. $2\cos^2 x - 1 = 0$

5. $\csc^2 x - 4 = 0$

6. $1 - \tan^2 x = 0$

7. $\sec x\,(2\cos x - \sqrt{2}) = 0$

8. $2\sin^2 x - \sin x - 1 = 0$

9. $(2\cos x + \sqrt{3})(2\sin x - 1) = 0$

10. $\tan x \sin x + \sin x = 0$

Answers

1. $\frac{3\pi}{2}$
2. $\frac{\pi}{4}, \frac{7\pi}{4}$
3. $\frac{3\pi}{4}, \frac{7\pi}{4}$
4. $\frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$
5. $\frac{\pi}{6}, \frac{5\pi}{6}, \frac{7\pi}{6}, \frac{11\pi}{6}$
6. $\frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$
7. $\frac{\pi}{4}, \frac{7\pi}{4}$
8. $\frac{7\pi}{6}, \frac{11\pi}{6}, \frac{\pi}{2}$
9. $\frac{\pi}{6}, \frac{5\pi}{6}, \frac{7\pi}{6}, \frac{11\pi}{6}$
10. $\frac{3\pi}{4}, \frac{7\pi}{4}, 0, \pi$