

## Solving Trig Equations

1. Solve  $\sin^2 x + 2 \sin x + 1 = 0$  for all  $x$ .
2. Find all  $x$  such that  $\tan x = -0.7$  where  $x$  is in  $[0^\circ, 360^\circ)$  or  $[0, 2\pi)$ .
3. Solve exactly:  $2 \sin(2x + \pi/2) - 1 = 0$
4. Solve for all  $x$  in  $[0, 2\pi)$ :  $2 \cos^2(2x + \pi/4) + \cos(2x + \pi/4) = 3$
5. Suppose a problem had the following solutions:  $\pi/6 + 2k\pi$ ,  $2\pi/3 + 2k\pi$ ,  $7\pi/6 + 2k\pi$  and  $-\pi/3 + 2k\pi$  where  $k$  is any integer. Simplify this solution.

1.  $-\pi/2 + 2k\pi$ ,  $k$  is any integer
2.  $145.01^\circ$ ,  $325.01^\circ$
3.  $\pm\pi/6 + k\pi$  where  $k$  is any integer
4.  $7\pi/8$ ,  $15\pi/8$
5.  $\pi/6 + k\pi/2$  where  $k$  is any integer

## Solving Trig Equations Solutions