30. $\sin x - 2\sin^2 x = 0 \quad\Leftrightarrow\quad \sin x\,(1 - 2\sin x) = 0 \quad\Leftrightarrow\quad \sin x = 0$ or $\sin x = \frac{1}{2} \quad\Leftrightarrow\quad x = 0, \pi$ or $x = \frac{\pi}{6}, \frac{5\pi}{6}$. Therefore, the solutions in $[0, 2\pi)$ are $x = 0, \frac{\pi}{6}, \frac{5\pi}{6}, \pi$.

32. $\sin x - \cos x - \tan x = -1 \quad\Leftrightarrow\quad \sin x\cos x - \cos^2 x - \sin x = -\cos x \quad\Leftrightarrow\quad \sin x\cos x - \sin x - \cos^2 x + \cos x = 0 \quad\Leftrightarrow\quad \sin x\,(\cos x - 1) - \cos x\,(\cos x - 1) = 0 \quad\Leftrightarrow\quad (\sin x - \cos x)(\cos x - 1) = 0 \quad\Leftrightarrow\quad \sin x = \cos x$ or $\cos x = 1 \quad\Leftrightarrow\quad \tan x = 1$ or $\cos x = 1 \quad\Leftrightarrow\quad x = \frac{\pi}{4}, \frac{5\pi}{4}$ or $x = 0$. Therefore, the solutions in $[0, 2\pi)$are $x = 0, \frac{\pi}{4}, \frac{5\pi}{4}$.

34. $4\sin^2 x + 2\cos^2 x = 3 \quad\Leftrightarrow\quad 2\sin^2 x + 2\,(\sin^2 x + \cos^2 x) - 3 = 0 \quad\Leftrightarrow\quad 2\sin^2 x + 2 - 3 = 0 \quad\Leftrightarrow\quad 2\sin^2 x = 1 \quad\Leftrightarrow\quad \sin x = \pm\frac{1}{\sqrt{2}}$. So the solution in $[0, 2\pi)$ are $x = \frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$.

36. $\sin x = \cos 2x \quad\Leftrightarrow\quad \sin x = 1 - 2\sin^2 x \quad\Leftrightarrow\quad 2\sin^2 x + \sin x - 1 = 0 \quad\Leftrightarrow\quad (2\sin x - 1)(\sin x + 1) = 0 \quad\Leftrightarrow\quad \sin x = \frac{1}{2}$ or $\sin x = -1 \quad\Leftrightarrow\quad x = \frac{\pi}{6}, \frac{5\pi}{6}$ or $x = \frac{3\pi}{2}$. Thus, the solutions in $[0, 2\pi)$ are $x = \frac{\pi}{6}, \frac{3\pi}{2}, \frac{5\pi}{6}$.