$0 \le x < 2\pi$

10. $2\sin^2 x = 5\sin x + 3$

$ax^2 + bx + c = 0$

$(\quad)(\quad) = 0$

$2\sin^2 x - 5\sin x - 3 = 0$

$(\sin x - 3)(2\sin x + 1) = 0$

-3

$-1 \quad 3$

$1 \quad -3$

$\sin x - 3 = 0$ $\quad$ $2\sin x + 1 = 0$

$\sin x = 3$ $\quad$ $\sin x = -\frac{1}{2}$

$x = 210, 330$

$x = \frac{7\pi}{6}, \frac{11\pi}{6}$

$210 \times \frac{\pi}{180} = \frac{210\pi}{180}$

$330 \times \frac{\pi}{180} = \frac{330\pi}{180}$

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for all real values $\longrightarrow$ radians

42. $2\tan^2 x - 3\sec x = 0$

$2(\sec^2 x - 1) - 3\sec x = 0$

$2\sec^2 x - 2 - 3\sec x = 0$

$2\sec^2 x - 3\sec x - 2 = 0$

$(2\sec x + 1)(\sec x - 2) = 0$

-2

$-1 \quad 2$

$1 \quad -2$

$2\sec x + 1 = 0$ $\quad$ $\sec x - 2 = 0$

$\sec x = -\frac{1}{2}$ $\quad$ $\sec x = 2$

$\cos x = -2$ $\quad$ $\cos x = \frac{1}{2}$

$x = 60^\circ, 300^\circ$

$60 \times \frac{\pi}{180} = \frac{\pi}{3}$

$300 \times \frac{\pi}{180} = \frac{5\pi}{3}$

$x = \frac{\pi}{3} + 2\pi k$

$x = \frac{5\pi}{3} + 2\pi k$

$k =$ integer

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30 - 34, 37 - 40, 46, 72