$$2tg\,x - 3\cot g\;x - 1 = 0$$

$$2tg\,x - \frac{3}{tg\,x} - 1 = 0 \qquad 2tg^2\,x - tg\,x - 3 = 0$$

$$tg\,x = \frac{1 \pm \sqrt{1+24}}{4} = \frac{1 \pm 5}{4}$$

$$tg\,x = \frac{3}{2} \qquad x = 56^\circ 18' 35'' + 180^\circ k$$

$$tg\,x = -1 \qquad x = 135^\circ + 180^\circ k$$

$$\cos^2 x - 3sen^2 x = 0$$

$$1 - sen^2 x - 3sen^2 x = 0 \qquad 1 - 4sen^2 x = 0$$

$$sen^2 x = \frac{1}{4} \qquad sen\,x = \pm\frac{1}{2}$$

$$x = \operatorname{arc}sen\,\frac{1}{2} \Rightarrow \begin{cases} x_1 = 30^\circ + 360^\circ k \\ x_2 = 150^\circ + 360^\circ k \end{cases}$$

$$x = \operatorname{arc}sen\left(-\frac{1}{2}\right) \Rightarrow \begin{cases} x_3 = 210^\circ + 360^\circ k \\ x_4 = 330^\circ + 360^\circ k \end{cases}$$