Trigonometrie Aufgabe 255

$\cos x - \tan x = 0$

$$\cos x - \frac{\sin x}{\cos x} = 0 \mid *\cos x$$

$\cos^2 x - \sin x = 0$

$1 - \sin^2 x - \sin x = 0 \mid +\sin^2 x$

$\sin^2 x = 1 - \sin x \mid +\sin x$

$\sin^2 x + \sin x = 1 \mid -1$

$\sin^2 x + \sin x - 1 = 0$

p, q – Formel:

$p = 1, q = -1$

$$\sin x_{1,2} = \frac{-1}{2} \pm \sqrt{0{,}5^2 - (-1)}$$

$\sin x_{1,2} = -0{,}5 \pm \sqrt{0{,}25 + 1}$

$\sin x_{1,2} = -0{,}5 \pm \sqrt{1{,}25}$

$\sin x_{1,2} = -0{,}5 \pm 1{,}118$

$\sin x_1 = -0{,}5 + 1{,}118 = 0{,}618 \dashrightarrow x_1 = 38{,}2°$ oder $141{,}8°$

$\sin x_2 = -0{,}5 - 1{,}118 = -1{,}618$ keine Lösung, $|-1{,}618| > 1$

Lösungsmenge **L = {38,2°, 141,8°}**