Trigonometrie Aufgabe 249

$\cos (x + 11,5°) = 2 \cos (x - 48,5°)$

$\cos 11,5° * \cos x – \sin 11,5° * \sin x = 2 * (\cos 48,5° * \cos x + \sin 48,5° * \sin x)$

$\cos 11,5° * \cos x = 2 * \cos 48,5° * \cos x + 2 * \sin 48,5° * \sin x + \sin 11,5° * \sin x$

$\cos 11,5° * \cos x - 2 * \cos 48,5° * \cos x = \sin x * (2 * \sin 48,5° + \sin 11,5°)$

$\cos x * (\cos 11,5° - 2 * \cos 48,5°) = \sin x * (2 * \sin 48,5° + \sin 11,5°)$

$$\frac{\cos 11,5° - 2 * \cos 48,5°}{2 * \sin 48,5° + \sin 11,5°} = \frac{\sin x}{\cos x} = \tan x$$

$$\tan x = \frac{0,9799 – 2 * 0,6626}{2 * 0,749 + 0,1994} = - 0,2034 \longrightarrow x = 168,5° \text{ oder } 348,5°$$

Lösungsmenge **L = {168,5°}**