### T.5.4 Trigonometrische Identitäten

**de Moivre-Identität.**

$$\cos(n\varphi) + \mathrm{i}\ \sin(n\varphi) = (\cos\varphi + \mathrm{i}\ \sin\varphi)^n, \tag{T.59}$$

$$(\cosh z + \sinh z)^n = \cosh(nz) + \sinh(nz). \tag{T.60}$$

$$\cos^2 2x - \cos x \cos 3x = \sin^2 x, \tag{T.61}$$

$$\tan x - \tan(90^\circ - x) = 2\ \tan(2x - 90^\circ), \tag{T.62}$$

$$\tan(x + 60^\circ) = \tan(30^\circ - x) + 2\ \tan(60^\circ - 2x) + 4\ \tan(4x - 30^\circ), \tag{T.63}$$

$$\csc(2x) - 4\ \sin(15^\circ - x)\sin(75^\circ - x)\csc(2x) = 2, \tag{T.64}$$

$$\arcsin x + \arcsin y = \arcsin(x\sqrt{1-y^2} + y\sqrt{1-x^2}). \tag{T.65}$$