ABSTRACT

In this talk we shall expose a concrete relation between the algebraic and transcendental parameters of a nonsingular z_n curve.

A nonsingularz_n curve is a compact Riemann surface with algebraic equation

$$w^n = \prod_{j=0}^{j=nr-2} (z - \lambda_j)$$

with $\lambda_i \neq \lambda_j$ for $i \neq j$, and $r \geq 2$. Thus the Riemann surface is represented as an n sheeted cover of the sphere branched over the nr-1 points $\lambda_0, .., \lambda_{nr-2}$ and the point at ∞. We shall also here assume that $\lambda_0 = 0, \lambda_1 = 1$. We shall express the quantities λ_i in terms of theta constants with rational characteristics of order n and these will give rise to theta constant identities.