Sine & co

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The Hermite–Lindemann–Weierstrass theorem is a cornerstone of transcendence theory: established in the early 20th century, it remains today one of the most iconic results in the field. Together with Éric Delaygue, we have recently derived from this theorem a particularly elegant corollary that had previously gone unnoticed: all algebraic relations between values of the sine and cosine functions at algebraic points arise solely from purely geometric identities, namely the Pythagorean relation and the angle addition formulas. I will briefly explain how this result is proved, and how it fits within a modern perspective on transcendental number theory.