

1018-11-114

Holly M Swisher* (swisher@math.ohio-state.edu), Department of Mathematics, 231 W. 18th Ave., Columbus, OH 43210, and **Kathrin Bringmann**. *Koike's Identities between Thompson Series and Rogers-Ramanujan Functions.*

At one point in his life, Ramanujan listed 40 identities involving what are now called the Rogers-Ramanujan functions $G(q)$ and $H(q)$ on one side, and products of functions of the form $Q_m = \prod_{n=1}^{\infty} (1 - q^{mn})$ on the other side. The identities are rather complicated and seem too difficult to guess. Recently however, Koike devised a strategy for finding (but not proving) these types of identities by connecting them to Thompson series. He was able to conjecture many new Rogers-Ramanujan type identities between $G(q)$ and $H(q)$, and Thompson series. Here we prove these identities. (Received March 02, 2006)