

1018-11-141

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Convolution Congruences for the Partition Function.

In 1919, Ramanujan famously conjectured that congruences of the form $p(\ell n - \beta) \equiv 0 \pmod{\ell}$, where $p(n)$ denotes the partition function, exist for ℓ prime only when $\ell \in \{5, 7, 11\}$. In 2003, Ahlgren and Boylan proved this conjecture using the modularity of a certain partition function. Here we take another look at why 5, 7, 11 are such special primes by creating another type of universal congruence for the partition function modulo all primes at least 5. In the case of $\ell \in \{5, 7, 11\}$ these universal congruences reduce to ones proved by Ramanujan. (Received March 03, 2006)