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*Ramanujan-type congruences in partition-theoretic counting functions.*

Ramanujan famously proved congruences modulo 5, 7, and 11 for the partition function (for example, he showed that  $p(5n+4) \equiv 0 \pmod{5}$ ). He speculated that there were no other such congruences, and in 2003 Ahlgren and Boylan proved that this was indeed the case. We describe results in this direction for other classes of combinatorial functions which can be described using modular forms. Moreover, we place these results in context by providing the exact probability that a modular form has this type of congruence. (Received September 22, 2009)