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Mourad E. H. Ismail* (mourad.eh.ismail@gmail.com), Department of Mathematics, University of Central Florida, Orlando, FL 32816, and Mizan Rahman (mrahman109@hotmail.com), Department of mathematics, Carleton University, Ottawa, Ontario K1S5B6, Canada. Asymptotics of the Landau Constants and Their q-analogue.

We derive inequalities and a complete asymptotic expansion for the Landau constants as n tends to infinity using the asymptotic sequence n!/(n+k)!. We also introduce a q-analogue of the Landau constants and calculate their large degree asymptotics. In the process we also establish q-analogues of identities due to Ramanujan and Bailey. (Received September 01, 2012)