

1046-Z1-1165 **Mark H. Inlow*** (inlow@rose-hulman.edu), CM 143, Rose-Hulman Institute of Technology,
5500 Wabash Avenue, Terre Haute, IN 47803. *Elementary Central Limit Theorems Via
Mathematical Induction.*

In this talk we present two new central limit theorems. The first, simpler proof is for the special case in which the sample size n equals 2^l , $l = 1, 2, \dots$. The second is a generalization of the first to arbitrary n . Both proofs use mathematical induction but are otherwise elementary; they avoid moment-generating functions and only require that students understand moment calculations involving two independent random variables. In particular, the simpler “power of two” proof is suitable for use in post-calculus introductory statistics courses and other undergraduate courses in which one would like to prove a central limit theorem prior to or without covering moment-generating functions. (Received September 15, 2008)