

1027-33-30

Victor H. Moll* (vhm@math.tulane.edu), Department of Mathematics, Tulane University, New Orleans, LA 70118. *Rational Landen transformations.*

The classical Landen transformations is a function of the parameters in the integral that preserves its value. Gauss employed these transformations to generate the arithmetic-geometric mean. In this talk we will present a new class of transformations that preserve the integral of a rational function on the whole line. We discuss the generation of these formulae, examine its convergence and propose a new numerical method for the evaluation of rational integrals on the whole line. (Received January 22, 2007)