

**Meeting:** 1003, Atlanta, Georgia, MAA CP R1, MAA Session on My Three Favorite Original Calculus Problems

1003-R1-417      **N. R. Nandakumar\*** (nnandaku@desu.edu), Department of Mathematics, Delaware State University, 1200 N. Dupont Hwy, Dover, DE 19901, and **Michael J. Bosse** (bossem@mail.edu.ecu), Dept. of Mathematics & Science Education, East Carolina University, Greenville, NC 27858. *Differing by a Constant and an Alternate Approach to Partial Fractions of Integrals*. Preliminary report.

In calculus courses, it is customary to give obvious examples when a concept is taught. In particular, when we teach that "two functions differ by a constant when their derivatives are the same", we tend to give only obvious examples of polynomials. This investigation demonstrates this notion by employing trigonometric functions. When partial fractions are introduced to integrate rational functions, students perennially make computational mistakes when rewriting rational functions into partial fractions. The following approach avoids the need to create partial fractions and produces solutions to a family of integrals of rational functions with a given denominator. (Received September 14, 2004)