962-Q1-439   **Michael K. Kinyon*** (`mkinyon@iusb.edu`), Dept of Mathematics & Comp. Sci., Indiana University South Bend, South Bend, IN 46634. *Euler and some "paradoxes" of integral calculus.*
In this talk I will discuss a 1756 paper of Euler's entitled "An Exposition of Certain Paradoxes In Integral Calculus" ("Exposition De Quelques Paradoxes Dans Le Calcul Integral"). The "paradoxes" of the title regard the search for the general solutions of certain first-order ordinary differential equations. For instance, one paradox involves a class of equations for which the method of separation of variables is nearly impossible, but for which an unusual method readily gives the general solution: differentiating the equation again. Interestingly, the examples Euler considers arise quite naturally from certain geometric problems. Finally, if there is time, I will offer some speculation on why Euler was thinking about these issues in 1756. (Received September 14, 2000)

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