

1067-W1-659

William Dunham* (wdunham@muhlenberg.edu), Department of Mathematics and CS,
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differentialis.*

Our standard approach to the partial fraction decomposition of rational functions is an algebraic one that leads to the solution of multiple equations in multiple unknowns. There is something natural about this procedure, which Euler discussed in his classic *Introductio in analysin infinitorum* from 1748. But in his 1755 differential calculus text, Euler described an alternative approach that cleverly employs calculus in the service of algebra. We shall look at the technique as he presented it and at some examples he used to demonstrate its utility. (Received September 13, 2010)