

1125-G1-2497      **Robert L Sachs\*** ([rsachs@gmu.edu](mailto:rsachs@gmu.edu)), MSN 3F2, George Mason University, Fairfax, VA  
22030-4444. *Towards guided reinvention of Riemann sums and the Fundamental Theorem of  
Integral Calculus.*

Student reinvention of the Riemann sum of products and the Fundamental Theorem of Calculus makes for an inspiring climax to first-semester calculus. Presented with distance/velocity, cost and earnings tasks requiring use of average values on subintervals, students create Riemann sums. Some then go on to formulate the Fundamental Theorem of Calculus in its global (fixed endpoint integral) and then local (moving endpoint and derivative thereof) versions. Ongoing refinements of tasks aims to increase the number of successes and productive misses. (Received September 20, 2016)