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Lab Day 1 Riemann Sums

3/10/14

B.

1. The error is half for n twice as much, for example Left5 is double Left10. This follows for all left and right sums, for Mid and Trap sums, the errors are 4 times as much, for example Mid5 is 4 times as big as Mid10.
2. I noticed the trap sums were opposite sign and double the mid sums for the size of the errors for the 4 different methods
3. Negative Mid errors are associated with concave up graphs on their intervals, so positive Mid errors mean the graph is concave down

C. the Simpson method works well because it uses the mid and trap sums which are moth accurate compared to the left and right sums. Also the trap sums are double the mid sum, as observed in question 2, part b. It multiples the mid sum by 2, and adds it to the trap sum, so now we have a value very close to 3 times the exact value. The formula finishes by dividing by 3 to get an answer closer to the exact answer compared to the left, right, mid, or trap sums.