Project Based Math 112, Fall 2001
Comparison of Methods
§5.9 Activity 1

Consider the integral $\int_1^5 \ln x dx$.

1. Sketch the corresponding area.

2. Approximate the area using right endpoints with $n = 4$.

3. Approximate the area using left endpoints with $n = 4$.

4. Approximate the area using the Midpoint Rule with $n = 4$.

5. Approximate the area using the Trapezoid Rule with $n = 4$.

6. Approximate the area using Simpson's Rule with $n = 4$.

7. Calculate the actual area.

8. Which approximation is closest to the actual area?

9. Which rule gives the best estimate in this case?