MATH 111-007 QUIZ 11

Problem 1. Evaluate the following integrals.

(1) $\int \left(\frac{1}{3} \sin (3x) + \frac{1}{2} \cos (2x) \right) dx$

(2) $\int \left(x^4 + 3x + e^{-\frac{x}{2}} \right) dx$

Problem 2. Estimate the area under the graph of $f(x) = \sin (2x)$ with 4 subintervals on $[0, \pi]$, using either left or right endpoint rule. (Hint: write out what the partition is and do a simple sketch.)

Problem. (Bonus) Use midpoint rule for problem 2 with a legible sketch. Does the answer make sense? With the sketch, could you guess what the actual integral is, i.e. $\int_0^\pi \sin(2x)\,dx = ?$