RECITATION IV

NAME:

Problem 1. Compute $\int \frac{3x^2+2}{(x^2+3)(x-2)} dx$

Problem 2. Estimate the integral by Trapezoidal rule with 4 subintervals: $\int_1^3 \frac{3}{x-(1/2)} dx$. Determined the error by comparing to the exact solution.

Problem 3. Which of the following integrals are improper? If so, of which type, and how would you proceed to find its value?

(1) $\int_3^\infty \frac{3}{(x-2)^2} dx$

(2) $\int_0^2 \frac{3}{(x-2)^2} dx$

(3) $\int_1^3 \frac{3}{(x-2)^2} dx$

Problem 4. Find the partial fractions to $\frac{3x}{(x-4)(x+1)^2}$. See if you can integrate $\int \frac{3x \, dx}{(x-4)(x+1)^2}$.