MATH 152   **QUIZ 5A**   NAME _____
Mrs. Bonny Tighe   25 points
                       8.6, 8.7, 8.8   Section_____ Wed. 3/15/06

1. Use (a) the Midpoint Rule (b) the Trapezoidal Rule and (c) Simpson's Rule to approximate the given integral with the specified value of n. And check how close your approximations are to the actual area under the curve.

$$\int_0^2 (x + x^2)\,dx, \quad n = 6$$

2. Determine whether each integral is convergent or divergent. Evaluate those that are convergent..

a) $\int_1^\infty \dfrac{2x}{(x^2+1)^2}\,dx$

b) $\int_{-1}^1 \dfrac{2}{\sqrt{3x+3}}\,dx$

c) $\int_0^\infty \cos^2 x\,dx$

d) $\int_0^1 x^2 \ln x\,dx$