

MATH 152  
Mrs. Bonny Tighe

**QUIZ 85**

25 points  
8.6, 8.7, 8.8

NAME \_\_\_\_\_

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.

$$\int_0^2 (x^2 + 1) dx, \quad n = 6$$

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

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

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

c)  $\int_0^1 \frac{e^x}{e^x - 1} dx$

d)  $\int_2^{\infty} \frac{1}{x \ln x} dx$