

Math 181
Fall, 2008

Name _____

Homework #8
Due Wednesday, October 1
No late homework accepted! No excuses!

1. Evaluate each integral.

a) $\int_1^{\infty} (1-x)e^{-x} dx$

$$\text{b) } \int_{-\infty}^{\infty} \frac{e^x}{1+e^{2x}} dx$$

c) $\int_{-1}^2 \frac{dx}{x^3}$

2. Approximate the definite integral using the Trapezoidal Rule and Simpson's Rule with $n = 4$.

$$\int_0^{\sqrt{\pi/4}} \tan x^2 dx$$

3. Use the error formula to find n such that the error in approximating the definite integral is less than 0.00001 using (a) Trapezoidal Rule and (b) Simpson's Rule.

$$\int_1^3 \frac{1}{x} dx$$