

Math 152 Quiz #8
March 4, 2009

Name: _____

Show all work and simplify your answers as much as possible.

1. (3 pts.) Use Simpson's rule with $n = 6$ to approximate $\int_1^{13} \sqrt{\ln(x)} dx$.

2. Evaluate the following. Justify your answer.

(a) (3 pts.) $\lim_{t \rightarrow \infty} \frac{t+1}{(\ln t)^2}$

(b) (4 pts.) $\int_1^{\infty} \frac{4x}{(x^2+1)^3} dx$

Note: Simpson's Rule

$$\int_a^b f(x) dx \approx \frac{\Delta x}{3} [f(x_0) + 4f(x_1) + 2f(x_2) + 4f(x_3) + \dots + 2f(x_{n-2}) + 4f(x_{n-1}) + f(x_n)]$$