

Math 124H
Autumn 2001
Quiz 2
October 18, 2001

Time: 25 minutes

Point totals are indicated in parentheses.

(8)1. Find a formula for the inverse of the function $f(x) = e^{1-\frac{1}{x}}$.

(10)2. Compute

$$\lim_{x \rightarrow 3} \left(\frac{\frac{1}{x} - \frac{1}{3}}{x - 3} \right).$$

(12)3. Suppose that the population $P(t)$ of squirrels on the UW campus varies sinusoidally with time, where t denotes time in years. The maximum number of squirrels is 2500 and the minimum number is 2000, which occurs 10 years later. Suppose there are 2375 squirrels now, at time $t = 0$; suppose also that the population is increasing. Write down a formula for $P(t)$.