

MATH 5105 Differential and Integral Analysis
Assignment 3

1. Consider the function $u(y) = \frac{1}{y}$ on $[1, b]$, $b > 1$. Compute the lower and upper sum for the partition

$$P_n = \{y_0 = 1, y_1 = 1 + \frac{b-1}{n}, \dots, y_k = 1 + \frac{k(b-1)}{n}, \dots, y_n = b\}.$$

Using these two sums, show that u is integrable on $[1, b]$.