Assignment 4 (1/14)

Subhadip Chowdhury

Problem 1

Problems 5.2.$(8, 12, 18, 34, 38)$. Use calculator wherever necessary.

Problem 2

Suppose $f(x) = x^2$. For a positive real number a, find the value of

$$\lim_{n \to \infty} \sum_{i=0}^{n-1} \frac{a}{n} f\left(\frac{ai}{n}\right).$$

Also find the value of

$$\lim_{n \to \infty} \sum_{i=0}^{n-1} \frac{a}{n} f\left(\frac{a(2i+1)}{2n}\right).$$