

Exercise 5. Continue with the importance sampling problem in Exercise 4, however, now we assume that the normalizing constant of f is unknown, i.e. one has to use the ratio-type importance sampling method presented in Section 4.5.2. Calculate the weights for the same sample sizes as in Exercise 4 and compare their behavior to those obtained earlier. In fact, to ensure better comparability, use the same set of generated values x_1, \dots, x_n in both calculations. Compare also the behavior of the estimate $h(X) = X^2$.