189-726B: Modular Forms II
Assignment 3

Due: Wednesday, January 30

1. Let $f = \sum_n a_n q^n$ be a cusp form of weight 2 on $\Gamma_0(N)$. How many fourier coefficients of f would you need to know in order to evaluate $L(f, 1)$ with a numerical error of at most $\epsilon > 0$? (Give your answer as a function of N and ϵ.) Same question for $L(f, \chi, 1)$ (where your answer will now depend on N, the conductor m of χ, and ϵ.)