

# HIT — Cryptography — Homework 5

September 15, 2014

**Problem 1.** Compute  $[101^{4,800,000,023} \bmod 35]$  (by hand).

**Problem 2.** Let  $N = pq$  be a product of two distinct primes. Show that if  $\phi(N)$  and  $N$  are known, then it is possible to compute  $p$  and  $q$  in polynomial time.