

PHILADELPHIA UNIVERSITY
DEPARTMENT OF BASIC SCIENCES

Exam 1

Computational Number Theory

03–04–2008

1. (a) Factor 60000 and 3300 into primes.
(b) Evaluate $\phi(60000)$ and $\phi(3300)$.
(c) Evaluate $\gcd(60000, 3300)$.
2. Find the inverse of 228 modulo 593.
3. Evaluate $3^{333} \% 97$ by successive squaring.
4. Evaluate the Legendre symbol $\left(\frac{84}{101}\right)$.

–Amin Witno