

DISCRETE MATHEMATICS

HOMEWORK 3

- (1) Use the Euclidean algorithm to compute the gcd of 213 and 1820, and to write this gcd as a linear combination of these integers.
- (2) Show that $\gcd(5n + 3, 7n + 4) = 1$, and write 1 as a linear combination of these integers.
- (3) Show that $2^{104} \equiv 16 \pmod{101}$. (Hint: 101 is a prime; Fermat's Little Theorem).
- (4) Check whether the ISBN 0 – 387 – 90533 – 2 is correct.
- (5) Compute the check digit * of the book number 3 – 540 – 90279 – *