

Homework 4

Instructor: Sandy Irani

Covers sections 9.1-9.4

Written Homework

zyBook Exercises are labeled in the text with an "E" in the title bar. You do not have to copy the questions for any of the written homework in your solutions that you turn in.

- 1) zyBook exercise 9.1.1, Parts e, f, g, h
- 2) zyBook exercise 9.1.2
- 3) Give the multiplication and addition tables for \mathbf{Z}_6 .
- 4) Compute the following quantities. You should be able to do these without a calculator.
 - (a) $((-21)^{51} \cdot 49 + 15) \bmod 11$.
 - (b) $(52^4 \cdot 17 + 121 \cdot 33) \bmod 13$.
 - (c) $(32 - 1700 \cdot 256^2) \bmod 17$.
 - (d) $(58 - 4 \cdot 34) \bmod 11$.
 - (e) $((-59)^{27} + 87 \cdot 101) \bmod 5$.
 - (f) $(26 \cdot (56 + 73)^{223}) \bmod 2$.
- 5) zyBook exercise 9.2.4
- 6) zyBook exercise 9.3.2
- 7) zyBook exercise 9.4.1

Challenge Activities (marked with a "C" in the title bar)

- 1) Challenge Activity 9.1.1
- 2) Challenge Activity 9.2.1
- 3) Challenge Activity 9.3.1