

## Homework 4 – Due Wednesday February 16

**You may talk to one another, you may consult any textbook, and you may talk to me.**

1. Read sections 3.1, 3.2, 3.3, 3.4 of the Parker-Baldrige textbook, and for each section write down FIVE-to-TEN keywords or sentences, which taken together give a very short summary of the section. For example for Sec. 1.2: “bundle sizes are called *denominations*”, “if necessary one rebundles to ensure that there are at most 9 bundles of each denomination”, “chip model”, “expanded form”, “tens combination”, simple vs. complex regrouping.
2. Do the odd-numbered exercises from the Homework Set 10 on page 62, from the Homework Set 11 on page 47, from the Homework set 12 on page 70, and from the Homework set 13 on page 76.
3. Base challenges: Use the algorithms to compute  $(1011)_2 + (111)_2$ ,  $(1001)_2 - (101)_2$ ,  $(11)_2 \times (1101)_2$ ,  $(1B)_{16} + (2C)_{16}$ , and  $(3D)_{16} \times (A)_{16}$ .
4. Parenthesis challenge (try this mentally, otherwise use paper-and-pencil, do not use a calculator under any circumstance).

$$[1180 + (600 + 35 \times 24) \div 4 + 30 \times 32] \div [276 \div 46 + (144 - 12 \times 5) \div 28 + 16] =$$