

### ***Homework #4*** due November 8 , 2016, Tuesday

**(1) (a)** Consider a calculator that uses floating point decimal numbers with + and - signs as inputs and can do the four operations +, -, \*, / as well as parentheses for forced priority. Describe a CFG that can express any computable arithmetic term that such a calculator (with unlimited memory to allow for expressions of any length) can accept.

**(b)** Draw the parse tree for the expression  $(10.48/(5.2+3.1) - 20)*2$  according to your CFG

**(2)** From the main text

***Exercises 5.1.2 (b),(c) , 5.1.3, 5.1.4 , 5.1.7, 5.1.8, 5.2.2***