A. 2.4c.

B. 2.6b.

C. Prove that every regular language is context-free, by showing that any regular expression can be converted into a context-free grammar that describes the same language. Hint: Use structural induction, as we did in converting regular expressions to NFAs.

This last problem is more easily solved using push-down automata than context-free grammars. So you might want to wait another class day, for us to discuss PDAs, before attempting this problem.

D. 2.20. Hint: Let P be a PDA for A and M a DFA for B. Build a new PDA N that is able to run P and M simultaneously. Then, use P and N in the construction of a PDA for A/B. Various tweaks are required. My solution uses many ϵ-transitions.