Assignment 9, Math 240, Fall 2005

Due: 2:45pm, October 18. Value: 18 pts.

Based on October 11 material (§4.4)

Problem A. §4.4 (p 333): 8.

Problem B. §4.4 (p 333): 22.

Problem C. §4.4 (p 334): 28.

Assignment 10, Math 240, Fall 2005

Due: 2:45pm, October 20. Value: 10 pts.

This is an extra credit assignment. Again, if your current total is close to 100%, I will not award enough points to push the current total beyond 100%.

Problem D. Prove using structural induction that the language generated by the following definition contains only strings that contain more *a*'s than *b*'s.

(i.) $a \in S$
(ii.) if $w \in S$, then $awb \in S$
(iii.) if $w \in S$ and $x \in S$, then $bwax \in S$

Problem E. Prove using induction that

$$\sum_{i=0}^{n} i! \leq (n+1)! \, .$$