Math 455: Homework 4

1. Read proof of Theorem 3.2 (pp. 134-135) and show that

$$\|f - p_n\|_\infty \leq \frac{\|f^{(n+1)}\|_\infty}{4(n+1)} h^{n+1},$$

   where

$$h = \max_{i=0,\dots,n-1} (x_{i+1} - x_i).$$

   Here, regularity of f is assumed. (Due Tuesday, September 9, 2014)

2. Write a system of equation for solving

$$\alpha_{-3}, \alpha_{-2}, \dots, \alpha_{n-1}.$$

   Use natural end condition. (Due Tuesday, September 9, 2014)

3. Make two exam problems, with solutions, for this chapter. (Due Friday, September 12, 2014)