

Homework Day 6 - ECON 186

Problem 1. Chiang and Wainwright 9.5 #1(a, e), 3(a) (Hint: Use equation (9.14) and find the first five terms of the Taylor Series)

#1

Find the value of the following factorial expressions:

(a) $5!$ (e) $\frac{(n+2)!}{n!}$

#3(a)

Find the Taylor series with $n = 4$ and $x_0 = -2$, for the two functions in Prob.2.(See Prob.2 below)

Prob.2

Find the first five terms of the Maclaurin series (i.e., choose $n=4$ and let $x_0 = 0$) for:

(a) $\phi(x) = \frac{1}{1-x}$

Problem 2

Consider a Cobb-Douglas production function: $y_t = a_t k_t^\alpha n_t^{1-\alpha}$

(a) Log-linearize the production function around the steady-state values, y^*, α^*, k^*, n^* .

(b) Put the log-linearization in the form of percent deviations from steady state (that is, the steady state values).