CH 660 **Spring 2007**

Problem set 1 (due on Friday April 27)

Problem 1 (2 pt).
To investigate the reproducibility of a method for the determination of selenium in foods, nine measurements were made on a single batch of brown rice with the following results (microgram/g): 0.07, 0.07, 0.08, 0.07, 0.07, 0.08, 0.08, 0.09, 0.08.
Assuming that there is no systematic errors calculate: (1) mean (2) standard deviation (3) 95% and (4) 90% confidence interval for the concentration.

Problem 2 (2 pts).
The results give the concentration of tin recovered from the same product after boiling for different times in an open vessel:

Boiling time (min)	Tin found (mg/kg)
30	57, 57, 55, 56, 56, 55, 56, 55
75	51, 60, 48, 32, 46, 58, 56, 51

Test whether:
(1)   the variability of the results is greater for the longer boiling time
(2)   the means differ significantly

Problem 3 (2 pts)
Problem 2-11 from the textbook

Problem 4 (2 pts)
Problem 3-6 from the textbook