SEC/SER, HW ON SAMPLING DISTRIBUTION, STAT319, NAME: DUE: SAT, 10 NOV, 2012

E.1 The melting point of tin has a normal distribution with a mean of 232 degree Celsius with a standard deviation of 0.16 degree.

a. What is the probability that 9 determinations of the melting pot has an average temperature more than 232.2 degrees Celsius?

b. Determine 95th percentile of the average melting temperatures.

D.2 The lifetime in thousand hours of a certain kind of radio tube has a probability function $f(x) = 0,$ $x \le 0,$ and $f(x) = 0.6 / e^{0.6x}$, $x > 0.$

a. Determine the 95th percentile of the life time of a radio tube?

c. What is the (true) mean lifetime of a radio tube?

c. What is the standard deviation (σ) of the lifetime of a radio tube?

d. If 36 radio tubes are selected what is the probability that the average lifetime will exceed two thousand hours?

e. What is the 95th percentile of the average lifetime of a radio tube?