BIOMETRY, CLASS EXERCISE 10

(1) Say, you want to know the average R-score of the population of students at Vanier college. The Registrar's ofiice would not give you the data, so you sample at random 82 Vanier college students and find that the average R-score in this sample is 28.1 with sample standard deviation of 5.1.

a) Construct a 95% confidence interval for the R-score of the population of students at Vanier college.

b) Write a sentence explaining why the shape of the true distribution of R-scores is not important in this calculation.

(2) A sample of 44 urban coywolves had an average weight of $18.2kg$ with standard deviation of $3.0kg$. A sample of 67 non-urban coywolves had an average weight of $16.5kg$ with standard deviation of $2.8kg$.

a) Construct 98% confidence intervals for the population mean weights of the urban coywolves and of the non-urban coywolves.

b) Can you claim with 98% confidence that the urban coywolves are heavier than the non-urban ones? Explain.