Problem set 6, due Wednesday 10/14/2015

1. Dinosaur heights

You've been hired as a part-time statistician at Cretaceous Park, where live dinosaurs roam in a zoo-like environment, and usually nothing terrible happens. Your latest project is to estimate the average heights of dinosaur species. For each species, the park officials give you some number of randomly selected adult dinosaurs, and ask you to create 90% and 95% confidence intervals for the average height (in feet) of that species in the prehistoric wild. Construct these confidence intervals based on the average height in your sample, $\bar{x}$, the sample standard deviation, s, and the number of dinosaurs in the sample, n.

a) Velociraptor: $\bar{x} = 2$, $s = 0.3$, $n = 20$.

b) Triceratops: $\bar{x} = 10$, $s = 1$, $n = 10$.

c) Tyrannosaurus: $\bar{x} = 12$, $s = 2$, $n = 5$.

2. Election polls

You've also been hired as a statistician for a polling company, which has conducted surveys of a few different two-person races. For each race, calculate 95% and 99% confidence intervals for the support (in percentage terms) of each candidate given the responses from randomly selected voters.

a) Cuomo vs. Astorino: 81 respondents for Cumo; 60 for Astorino.

b) Clinton vs. Trump: 94 respondents for Clinton; 86 for Trump.

c) Clinton vs. Rubio: 138 respondents for Clinton; 132 respondents for Rubio.

d) Jessie vs. Zack: 28 respondents for Jessie; 30 respondents for Zack.

3. Reading

Please read Chapter 5 of the textbook: "Inference for numerical data."