Stat 185 - In class problems
Monday, October 16

1. I take my 8 year old daughter Audrey trick or treating in the dorms every year. She's observed that, on average, each room gives her 3.2 mini candy bars with a standard deviation of 1.3.

    (a) Using this information, can Audrey estimate the probability that the first room she visits will give her at least 4 mini candy bars?

    (b) Using this information, can Audrey estimate the probability that the first 5 rooms she visits gives her a total of at least 18 mini candy bars?

    (c) Using this information, can Audrey estimate the probability that all 35 rooms she visits gives her a total of at least 18 mini candy bars?

    (d) Compute any of the estimates that you can.

2. As a struggling college professor, I work odd jobs every weekend. On average, I can make \$237 a weekend, with a standard deviation of \$42. I do this almost every weekend, taking only two weekends off per year.

    (a) How much extra money can I expect to make like this over the course of two years?

    (b) What's the probability that I make more than \$25000 over the course of two years?

    (c) How much might I make on a really good weekend - let's say top 10%?

3. In a random sample of 327 North Carolinians, I find that 115 of them exercise regularly.

    (a) What is the standard error associated with this measurement?

    (b) Write down a 95% confidence interval for the proportion of North Carolinians who exercise regularly based on this data.