

STAT 270 Lecture 22
Fall 2015
30 October 2015

- I covered up to slide 58 of “Continuous distributions”.
- We have covered up the end of Section 5.2 in the text.
- Problems from the text: 5.18, 5.19 (particularly part b), 5.20, 5.21.
- Handwritten slides.
- Key jargon, ideas:
 - Salk vaccine trial illustrates significance testing.
 - Suppose the vaccine does nothing.
 - Then number of cases in treatment group is like $\text{Binomial}(n, 1/2)$ where n is number of kids who were going to be diagnosed with polio anyway.
 - Judge how unreasonable that “suppose” was by computing

$$P(X \leq 56)$$

for a $\text{Binomial}(198, 1/2)$ variable.

- Make a normal approximation.
- Get really tiny chance.
- So drug works *or* something really unlikely happened with our 198 coin tosses – too unlikely to be believable.
- You make a continuity correction for integer valued random variables.