STA 13A
Fourth Week Discussion
Liwei Wu

Review on materials covered

Some Important terminology last week

- course website I created (handouts uploaded):
- union \((A \cup B)\), intersection \((A \cap B)\)
- complement
  \[
P(A) + P(A^C) = 1
  \]
- additive rule of probability
  \[
P(A \cup B) = P(A) + P(B) - P(A \cap B)
  \]
- mutually exclusive if \(P(A \cap B) = 0\)
- conditional probability formula
  \[
P(A \mid B) = \frac{P(A \cap B)}{P(B)}
  \]
- multiplicative rule of probability
  \[
P(A \cap B) = P(A)P(B \mid A)
  \]
- independent events if
  \[
P(A \mid B) = P(A) \text{ or } P(B \mid A) = P(B).
  \Rightarrow P(A \cap B) = P(A)P(B)
  \]
- dependent events if they are not independent

Some Typical Questions

- Refer to Textbook 3.46, 3.50, 3.60, 3.72, 3.84
- Questions on homework if you have any!!! If not, that is the end of class :)