

Homework 4 - Due Wednesday October 25th

Prove all of your answers. If you work with others put their names clearly at the top of the assignment. Everyone must turn in their own independently written solutions

1. Suppose you receive equal amounts of spam e-mail and non-spam e-mail. Further suppose the probability that a spam e-mail contains the word “free” is $\frac{1}{3}$ and the probability that a non-spam e-mail contains the word “free” is $\frac{1}{30}$. You receive an e-mail that contains the word “free” what is the probability that the e-mail is spam?
2. Give an example of events X_1 , X_2 , and X_3 such that the events are pairwise independent but not independent as a triple.