MATH 464 (PROBABILITY)
HOMEWORK 2

FALL 2017

Due on: Thursday 09-07-2017.

Events and Probabilities:

(1) Four people are chosen randomly from 5 couples. What is the probability that two men and two women are selected?

(2) If n balls are randomly placed into n cells (so that more than one ball can be placed in a cell), what is the probability that each cell will be occupied?

(3) In a group of students, 25% smoke cigarettes, 60% drink alcohol, and 15% do both. What fraction of students have at least one of these bad habits?

(4) The probability that a married man votes is 0.45, the probability that a married woman votes is 0.4, and the probability a woman votes given that her husband votes is 0.6. What is the probability that (a) both vote, (b) a man votes given that his wife votes?

(5) Show that if A and B are independent events, then A^c and B^c are independent.