Homework 14: Due Wednesday, May 13

Problem 1: Suppose that you draw 5 cards from a 52 card deck at random and let H be the number of hearts. In Homework 9 you calculated $E(H)$. Now calculate $V(H)$.

Problem 2: Suppose that you roll a fair die n times independently. Let S be the sum of the dice rolls. Calculate $E(S)$ and $V(S)$.

Problem 3: Show that for any random variables X and Y (not necessarily independent), we have

$$V(X+Y) = V(X) + V(Y) + 2 \cdot cov(X,Y)$$