Dennis Kuzminer
CSCI-UA 310-001 PS6

5.

a. $E[X+X] = E[X] + E[X] = 2E[X] \rightarrow E[X] = \frac{1}{n}\sum_{i=1}^{n} i = \frac{1}{n} * \frac{n(n+1)}{2} \rightarrow 2 * \frac{1}{n} * \frac{n(n+1)}{2} \rightarrow$ $E[X+X] = n+1 \rightarrow$ When n = 10, $E[X+X] = 11$

b. $E[XX] = E[X]E[X] \rightarrow E[X] = \frac{1}{n}\sum_{i=1}^{n} i = \frac{1}{n} * \frac{n(n+1)}{2} \rightarrow E[X]E[X] = (.5(n+1))^2 \rightarrow$ When n = 10, $E[XX] = 30.25$