CS6190-HW0

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1/12/2018

1. Let X and Y be continuous real-valued random variables. Prove the following:
   (a) $E\left[E\left[X|Y\right]\right] = E\left[X\right]$
   (b) $Var(X) = E\left[Var(X|Y)\right] + Var(E\left[X|Y\right])$
2.