MATH 10B with Prof. Stankova
Section #208 ; time: 2-3:30pm
GSI: Ninh DO

Quiz 8

Student:
SID:
Tue 3/19/19

True/False - No explanation needed. (1pt for correct, 0pt - no answer, -1pt - incorrect)

1. A random variable has the expected value 0, maximum value 10 and variance 20. Is it possible? True/False

2. When we scale up the random variable X by 2 times, i.e. into $2X$, the expected value and the variance are also scaled up by 2 times, i.e. $E[X]$ becomes $2E[X]$ and $Var(X)$ becomes $2Var(X)$, respectively. True/False

Problems - Need justification. No justification means **zero**!

1. (10pts) Let X_1, X_2, and X_3 denote the numbers that come up on three rolls of a fair four-sided die. Let $X = X_2$, $Y = X_1 + X_3$
   a) Find the expectation and variance of Y.
   b) Find $Cov(X, Y)$.