MATH 10B with Prof. Stankova
DIS 102; TTh 8:00∼ 9:30am
GSI: Seewoo Lee

Quiz 10

Student:
SID:
Tue 4/9/19

True/False - No explanation needed. (2pts)

1. The formula for the standard deviation of a continuous RV is a limit version of the standard deviation for a discrete RV, and both always exist. True/False
2. Chebyshev's inequality is useful only when $k > 1$. True/False

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

Let X be a continuous random variable with a PDF

$$f(x) = \begin{cases} \frac{x}{2} & 0 \leq x \leq 2 \\ 0 & \text{otherwise} \end{cases}$$

1. Compute the standard error σ of X. (5pts)

2. Estimate the probability

$$P\left(\frac{2}{3} \leq X \leq 2\right)$$

using the Chebyshev's inequality. (5pts)