15-359/659: Probability and Computing September 6, 2013

Homework 1

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(a) From class, recall that for a discrete random variable X taking on values $x_1, x_2, \ldots$, the expected value of X is

$$\mathbb{E}[X] = \sum_{i=1}^{\infty} x_i p_X(x_i).$$

(b) On the other hand, for a continuous random variable X, the expected value is

$$\mathbb{E}[X] = \int_{-\infty}^{\infty} x f_X(x)\, dx.$$