M 362K Pre-Class Work for 3/31

Xiaohui Chen
EID: xc2388

March 30, 2015

5-29

Let X be the random variable that indicates the loss

Then $E[X] = E[X|loss]Pr[loss] + E[X|no\ loss]Pr[no\ loss] = \int_0^\infty 2xe^{-2x}dx * 0.9 = 0.45$

5-31

We know that $Pr(Y > 10) = 1 - Pr(Y \leq 10) = 1 - \int_1^{10} \frac{2}{y^3}dy = 0.01$

Let X denotes the benefit

$E[X] = \int_1^{10} \frac{2y}{y^3}dy + 10 * Pr(Y > 10) = 1.9$

Therefore the answer is (D)