

REVIEW PROBLEMS No. 10

Textbook: Problems 11.2 (plus problem S10.1 below) and 11.6

Problem S10.1 [Conditional Exponential] Let $X_1 \sim \text{Exp}(1)$. What is $E[X^2|X < 1]$? [**Hint:** Don't use integrals, and instead rely on what you know about the distribution of an exponential random variable given that it is *bigger* than a certain value.]