

MA 485-1E (Probability Theory), Dr. Chernov  
Due Mon, Nov 3

Assignment #10

Chapter VII. Problems 7.3.6.

Chapter X. Problems 10.1.8, 10.1.11, 10.1.14 (in this problem, you also need to find the probability function of  $X$ ), 10.1.18\*.

One more problems:

**10-A.** Suppose  $X$  and  $Y$  are two independent random variables such that  $E(X) = -2$ ,  $\text{Var}(X) = 25$ ,  $E(Y) = 3$ , and  $\text{Var}(Y) = 4$ . Let  $W = 5Y - 6X - 3$ . Compute  $E(W)$ ,  $\sigma_W$ ,  $E(X^2)$ ,  $E(Y^2)$ , and  $E(X^2 - 2XY + 3Y^2)$ .

Note: the the second midterm will cover the material up to the end of the last week (up to the class of October 24 inclusive).