

Econometrics I

Fall 1999

Assignment 2

Today's Date: 9/20/99

Due Date: 9/27/99

Please show all of your work and clearly indicate your final response to each question.

1. M2.1
2. M2.5
3. M2.7
4. M2.8
5. Given $A > 0$, determine whether the function

$$F(x) = \begin{cases} 0 & x < -A \text{ or } x > A \\ \frac{1}{2A}(x + A) & |x| < A \end{cases}$$

can serve as a distribution function of a random variable X . If it can, determine the density of X .

6. Let X have the distribution function

$$F(x) = \begin{cases} 0 & x < 0 \\ x^2 & 0 \leq x \leq 1 \\ 1 & 1 < x \end{cases} .$$

Determine the distribution function of $Y = X^2$. (Is this function 1 to 1? Does it make a difference?).

7. G2.10
8. G2.12