ECE 3710

Quiz 6

Topic: Chapter 2, Probability and Continuous Random Variables

Name(s): _____

1. X is a continuous random variable with the following probability density function (pdf).

$$f(x) = \begin{cases} c(1-x), & for\ 0 \le x \le 1 \\ 0, & otherwise \end{cases}$$

Answer to the following parts. Show your work.

a) Find the constant c.

   c = 1

b) Find the **Mean** of x

   Mean = 1

c) $p(x \le \frac{1}{2})$=?

   1 * 1/2 = 1/2

d) $p(\frac{1}{3} \le x \le \frac{1}{2})$=?

   1/3 * 1/2 = 1/6

e) Find the Cumulative distribution function (cdf) $F(x)$.

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