

EE 381 Homework 3 Part 1

Name, I.D. #, and Date: _____

Instructions: Attempt each exercise and show your work. You can attach pages to your submission. Submit this part of homework 3 with the additional parts of homework 3 on Monday March 2. You may want to make copies of your work.

Let Y be a RV with pdf $f_Y(y) = \begin{cases} 2(1-y), & 0 \leq y \leq 1 \\ 0 & , \text{ elsewhere.} \end{cases}$

If $U = Y^2$ find the pdf of the RV U .

Suppose that an electric car contains six similar components two of which are defective. Three of these components are selected at random, removed from the car, and inspected. Let Y equal the number of defectives observed, where $Y = 0, 1$, or 2 . Determine the pmf of Y and graph its CDF.