PART II: CHOOSE 2 problems among the 3 problems in this section

1. NJ manufacturers offers insurance against storm damage to home owners. The storm damage X after a recent storm followed the distribution with CDF, in \$1000,

$$F(x) = 1 - \left(\frac{7}{7+x}\right)^4 \text{ for } x > 0$$

a. Name this distribution and write down its density f(x), with support, E(X) and VAR(X).

b. Determine the instantaneous hazard of the storm damage X

$$\lambda(x) = f(x)/(1 - F(x))$$

Explain what $\lambda(x)$ means in this problem. What happens when the storm damage increases?

c. If NJ Manufacturers pays only 7 * \$1000 for any damage beyond \$7,000, that is it pays Y=X if $X \leq 7$ and pays Y=7 if $X > 7$. Write down the CDF of Y, draw it, and then compute E(Y) as we have done in a HW assignment.

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