ECE 3100 - PSet VII

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March 27, 2019

1 Answers

1. Frodo Tossing Coin

2. Continuous random variable X

    (a) cdf $F_X(x)$:
    $$F_X(x) = \int_{-\infty}^{x} f_X(x)dx$$
    $$=$$

    (b) Expected Value:
    $$\mathbb{E}(X) = \int_{-\infty}^{+\infty} x f_X(x)dx$$
    $$= 0 + \int_{\beta}^{+\infty} x f_X(x)dx$$
    $$= \int_{\beta}^{+\infty} x(\frac{1}{\alpha}e^{-(x-\beta)/\alpha})dx$$
    $$=$$

    Variance:
    $$Var(X) = \int_{-\infty}^{+\infty} (X\mathbb{E}[X])^2 f_X(x)dx$$

    (c) Real Number m:
    $$\frac{1}{2} = \int_{\beta}^{m} f(x)dx$$

3. Random variable X w/ cdf

    (a)
    (b)

4. Aragorn and Boromir

5. Exponential pdf

6. Continuous #6 PSet V