Worksheet 7: Continuous distributions

Example 0.66. The constant function $f(x) = 1,\ 0 \le x \le 1$ is a pdf. Find the following probabilities

- $P(X < -1) =$

- $P(X = 0.2) =$

- $P(X < 0.2) =$

- $P(0.2 < X < 0.5) =$

- $P(X > 0.6) =$

and the cdf, expected values $\mathrm{E}(X^k)$, variance, and standard deviation.

Example 0.67. First find the constant c such that $f(x) = c(1 - x), 0 < x < 1$ is a pdf, and then compute the median, expected value and variance of the distribution.