

CSE 107

Suggested Discussion Problems for Midterm Exam 2

All problems are from *Introduction to Probability* (2nd edition) by Bertsekas and Tsitsiklis. Solutions can be found at <https://people.ucsc.edu/~ptantalo/cse107/Winter26/Handouts/text-solns.pdf>, or in the text itself.

Section 3.1: Continuous Random Variables and PDFs

Problems: 1, 2, 3, 4

Section 3.2: Cumulative Distribution Functions (CDFs)

Problems: 5, 6, 7, 8

Section 3.3: Normal Random Variables

Problems: 11, 12, 13

Section 3.4: Joint PDFs of Multiple Random Variables

Problems: 15, 16

Section 3.5: Conditioning

Problems: 18, 19, 20, 21, 22, 23, 25, 29, 33

Section 3.6: Continuous Bayes Rule

Problems: 34

Section 4.1: Derived Distributions

Problems: 1, 2, 7, 8, 10, 11, 12, 13, 14

Section 4.2: Covariance and Correlation

Problems: 17, 18, 19