Homework 2
MATH 165 - Fall 2020
Tufts University, Department of Mathematics
Due: September 24, 2020

1. Book Questions

Grinstead and Snell: Section 2.1, # 6, # 7; Section 2.2, #4, #8, #15

2. Supplemental Question (Properties of cdfs)

Let X be a $\mathbb{R}$-valued random variable with cumulative distribution function (cdf) $F_X(x) = \mathbb{P}(X \leq x)$.

(a) Prove F_X is non-decreasing.

(b) Prove $\lim_{x \to \infty} F_X(x) = 1$.

(c) Prove $\lim_{x \to -\infty} F_X(x) = 0$.