

Homework 4

- § 2.2: #1, 8(a,b,h), 12
- § 6.3: #1, 8

Supplemental Problems

- (1) A point is chosen at random on a line segment of length L . Find the probability that the ratio of the shorter to the longer segment is less than $1/4$.
- (2) You arrive at a bus stop at 10 : 00, knowing that the bus will arrive at some time uniformly distributed between 10:00 and 10:30.
 - (a) What is the probability that you will have to wait longer than 10 minutes?
 - (b) Given that the bus has not yet arrived at 10:15, what is the probability that you will have to wait at least an additional 10 minutes?
- (3) The annual rainfall (in inches) in a certain region is normally distributed with mean 40 and standard deviation 4. What is the probability that it will take over ten years before a year occurs having rainfall of over 50 inches?