

Homework 11 Chapter 18 (Problems 1 to 3)

Due on April 18

Math 125 *Kovitz* Spring 2025

Problem 4 is subtle. Reread the text, particularly pages 310 to 316 and page 323.

1. A coin is tossed 100 times. Estimate the chance of getting 43 heads.
2. A coin is tossed 75 times. Estimate the chance of getting between 40 and 45 heads, inclusive.
3. Problem 1 on page 327.
4. Draws are being made at random with replacement from a box. The number of draws is getting larger and larger. Say whether each of the following statements is true or false, and explain. (“Converges” means “gets closer and closer.”)
 - (a) The probability histogram for the sum of the draws (when put in standard units) converges to the normal curve.
 - (b) The histogram for the numbers in the box (when put in standard units) converges to the normal curve.
 - (c) The histogram for the numbers drawn (when put in standard units) converges to the normal curve.
 - (d) The probability histogram for the product of the draws (when put in standard units) converges to the normal curve.
 - (e) The histogram for the numbers drawn converges to the histogram for the numbers in the box.