

Homework 14 Chapter 23 (Problems 1 to 4)

Due on December 1
Math 125 Kovitz Fall 2025

1. You are drawing at random with replacement from a box of numbered tickets. Fill in the blanks.

- (a) The expected value for the average of the _____ equals the average of the _____. Options: box, draws.
(b) As the number of draws goes up, this SE for the _____ of the draws goes up but the SE for the _____ of the draws goes down. Options: sum, average.

2. A cable company takes a simple random sample of 350 households from a city with 37,000 households. In all, the 350 sample households had 637 TV sets. Fill in the blanks, using the options below.

- (a) The observed value of the _____ is 637.
(b) The observed value of the _____ is 1.82.
(c) The expected value of the _____ is equal to the _____.

Options:

- (i) total number of TV sets in the sample households.
(ii) average number of TV sets per household in the sample.
(iii) average number of TV sets per household in the city.

3. Fill in the table below, for draws made at random with replacement from the box

0	2	3	4	6
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Number of draws	EV for sum of draws	SE for sum of draws	EV for average of draws	SE for average of draws
25				
100				
400				

4. One hundred draws will be made at random with replacement from the box

2	6	8	10	14
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Estimate the chance that the average of the draws will be more than 8.2.

- (A) 16% (B) 31% (C) 38% (D) 62% (E) 68%