

Homework 10 Chapter 17 (Problems 1 to 4)

Due on November 7

Math 125 *Kovitz* Fall 2025

1. In the game of Monopoly, a player rolls two dice, counts the total number of spots, and moves that many squares.

On any given turn, what is the expected number of squares he will move?

2. Thirty-six draws are going to be made at random with replacement from the box

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|---|---|---|---|----|----|----|
| 2 | 6 | 8 | 9 | 10 | 13 | 15 |
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- (a) Find the expected value and standard error for the sum.
- (b) The sum of the draws will be around _____, give or take _____ or so.
- (c) Suppose you had to guess what the sum was going to be? What would you guess? Would you expect to be off by around 2, 4, 24, or 144?

3. A die is rolled 720 times.

Someone figures the expected number of fours as $720 \times 1/6 = 120$, and the SE as $\sqrt{720} \times \sqrt{1/6 \times 5/6} = 10$.

Is this right? Answer yes or no, and explain.

The 720 rolls resulted in 167 fours. Is this a typical result or is it somewhat out of the ordinary? Explain your conclusion.

4. Three hundred draws are going to be made at random with replacement from the box

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|---|---|---|---|
| 0 | 0 | 0 | 1 |
|---|---|---|---|

. The number of 1's among the draws will be about _____ give or take _____ or so.