Michael Demos

HW #5

STAT501

3/22/17

1. A. (too many rolls to fit each one reasonably on page)
    i.

Histogram of Average of 2 Dice Rolls

Frequency vs Average of 2 Dice Rolls
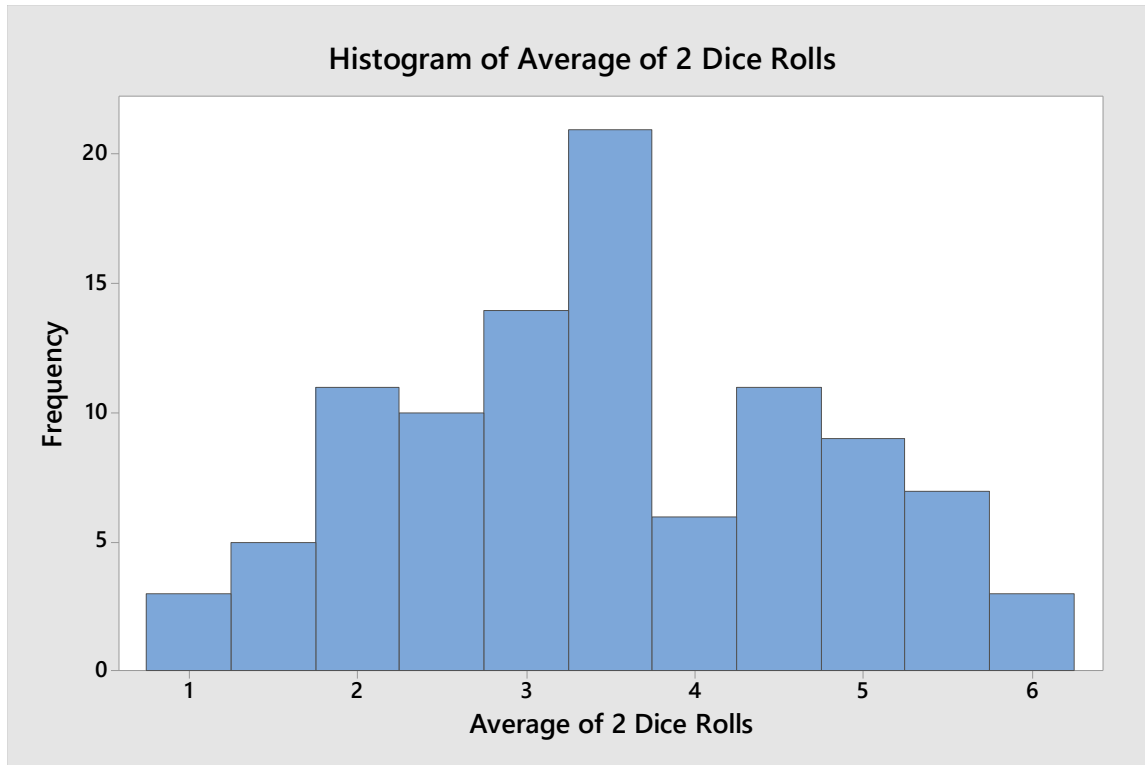
ii.   Average of 100 sample means: 3.48
      Standard deviation of 100 sample means: 1.257
      The empirical distribution is approximately normal. This compares well with the
      theoretical distribution, which is normal.

B. iii. (next page)

Histogram of Average of 10 Dice Rolls
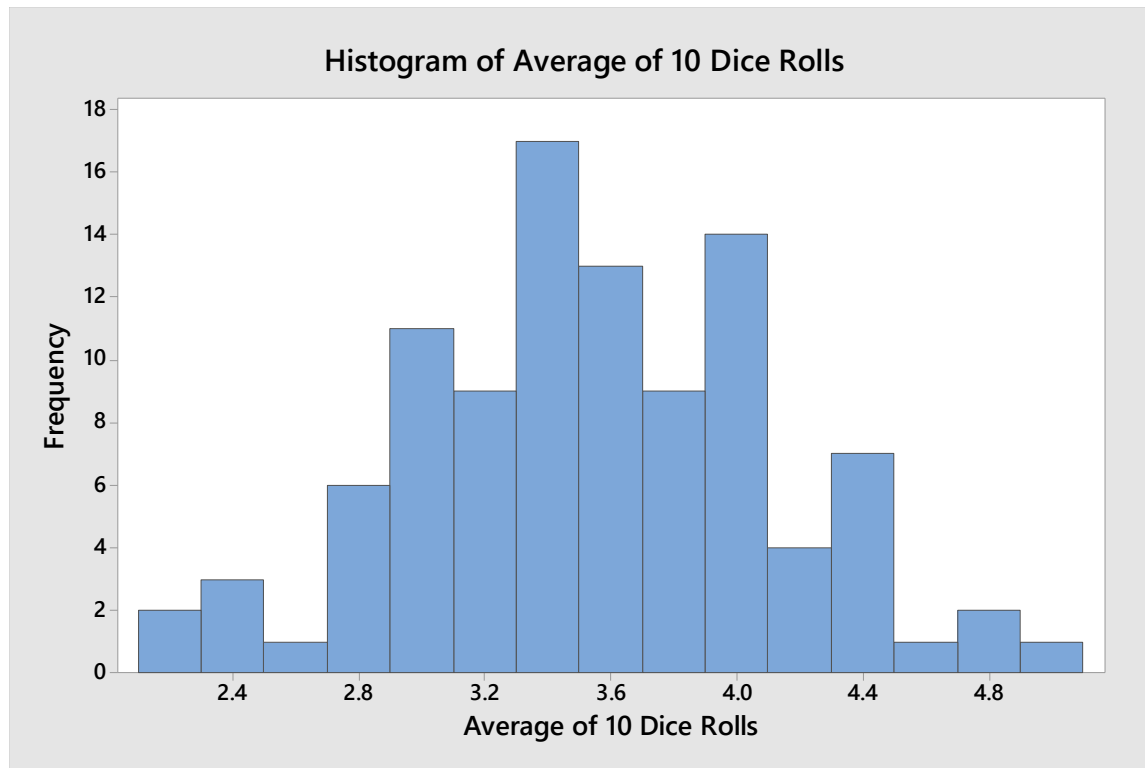
iv.   Average of 100 sample means: 3.496
Standard deviation of 100 sample means: 0.5756
The empirical distribution is approximately normal, compliant with the normal theoretical distribution.

C. The results from part A and part B differ in that in part A, we had a smaller sample size (2) for each average, and in part B, we had a larger sample size (10) for each average. Therefore, the histogram of the empirical distribution of xbar is closer to resembling the theoretical distribution. The results from part A and part B are similar in that both empirical distribution histograms appear approximately normal.