Problem Set #2

1. It does not make sense. If you wanted to find the proportion of all bills passed that were vetoed and you selected thirty different sessions, a confidence interval would make more sense. Since you are only looking for the one, you have the entire population and the exact number of vetoed bills. You can find the exact proportion.
2. Distribution Questions
   1. The mean is 5.2 and the standard deviation is 3. It is skewed to the right.
   2. The sample mean is 4.6 and the standard deviation is 3.2. Because of the size of the sample, if it is randomly taken, we can assume it mimics the population and is therefore also skewed to the right.
   3. The sampling distribution mean or y-bar is 4.6 and the standard error is 3/6. 6 Is the square root of our sample population. The SE = 0.5. It describes the standard deviation of the Sampling Distribution. If one takes many samples, the means will like fall within three of these units or 1.50 from our distribution mean. We used the standard deviation of the population since we know what it is.
   4. We start by finding the z-score. (4.6-5.2)/.5 = -1.20. I’m using an alpha given of 0.5. The probability after looking to the charge is .1056 or 10.56%.
   5. I’m not sure why the population would change the number here since the sample size is already sufficiently large for a Z score.
   6. It is still within 3 standard deviations of the population mean, but it would be surprising because it is on the extreme end of what we would expect in the curve.
3. Confidence Interval
   1. 4.23 +/- 1.96(0.0387) The mean, the confidence coefficient for 95% confidence and the Standard error mean.it equals 4.23 +/- 0.076.
   2. We can have 95% confidence that any sample mean would fall between [4.154 , 4.306]
   3. Changing variables in the confidence interval
      1. Narrower
      2. 3.50 +/- 1.96(1.61/sqrt(1294)) = 3.50 +/- 0.097 Wider
4. Probabilities in Normal Distribution
   1. 90.18% use the probability you find on a z table and subtract that from 50% before adding that value to 50% to get the 90.18%
   2. 47.01% For this one you just find the number of standard deviations from your fifty and apply it directly to the z table
   3. 28.6% for this one you take the golden rule about normal curves. A certain percentage is going to be between 1 and -1 etc. Find the number of standard deviations and then that proportion from both the upper and lower halves, add them together to get the 28.6%
5. Seet Code
6. See Code
7. I could not import the data for some reason.
8. I could not import the data. If you need proof of my ability to do this, I can, but hopefully my efforts on the rest of it and problem set #1 should work out