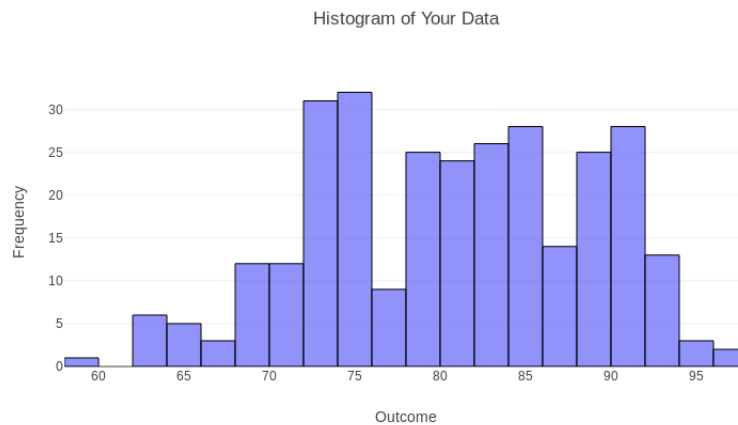


Normal Distributions 2

Workshop

1. In Farmville, VA, the mean September high temperature is about 80°F with a standard deviation of 8.0° . Draw a sketch of the bell curve model for September high temperatures in Farmville, VA. Label the mean, and the points that are 1 and 2 standard deviations away from the mean.
2. About how often will the high temperature be over 90°F in September?
3. How cold would a September day be if the high temperature was in the 10th percentile?
4. What percentage of September days have highs in the 70's?

5. If you look at the histogram of September high temperatures in Farmville, VA for the last 10 years, you can see that the data doesn't really fit a bell curve very well. What does this mean about our numbers in the previous problems?
- The bell curve is just a model. It doesn't matter if it is accurate or not.
 - The bell curve model doesn't fit the data well, so we shouldn't trust its predictions very much.
 - The bell curve model is more accurate than the data, so we should trust it.



6. The distribution of heights (in inches) for men in the United States is roughly $N(70, 3)$, while the distribution for women approximately $N(64.3, 2.7)$. What percent of women are taller than the average man?
7. What percent of men are shorter than the average woman? Is the answer the same as the last question? Why not?