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AP STATISTICS – MS. KLIMCZUK

**Chapter 3 Questions (From Notes)**

1. When we look at large sets of quantitative data and summarize it, what do you think is the best thing to do?
2. We can’t use bar charts or pie charts for quantitative data. Those displays are for what kind of variables?
3. Compare the histogram and stem-and-leaf display for the pulse rates of 24 women at a health clinic.



 **Pulse Rate**

 **Key 8Ι8 means 88 beats per minute**

1. Which graphical display do *you* prefer? Why?
2. How are the two graphs similar?
3. How are they different?
4. Explain the shape of each distribution:

 

 

 

1. Quartiles divide the data into four equal sections:

-One quarter of the data lies below the lower quartile, Q1

-One quarter of the data lies above the upper quartile, Q3.

-The quartiles border the middle half of the data.

1. The lower quartile is what percentile of the data?
2. The upper quartile is what percentile of the data?
3. The IQR contains what percentage of the values of the distribution?
4. If the data is skewed, would you use the mean or median as a measure for the center? Why?
5. A more powerful measure of spread than the IQR is the standard deviation (the average distance to the mean).
6. First, look at the data set {2, 3, 4, 5, 6}. What is the mean?

What is the formula that we just used?

1. Now find the average distance to the mean.

 What is the formula we just used?

This is called the **mean standard deviation.**

1. What if we get rid of the absolute value bars? What else could we do so the numbers won’t cancel each other out?
2. Now let’s square all the distances from the mean and find the average.

$$\frac{\sum\_{}^{}\left(x\_{i}-μ\right)^{2}}{n}$$

What do you get?

1. So how can we get just the **average distance to the mean?**
2. Write the formula for Variance:
3. Write the formula for Standard Deviation:
4. What about finding the mean, variance and standard deviation of a sample?
5. Write the formula for Variance:
6. Write the formula for Standard Deviation:
7. Let’s say we check the amount of money in 10 students’ pockets.

 {0, 0, 0, 1, 1, 1, 1, 3, 3.25, 3.25}

What is the mean, variance, and standard deviation?