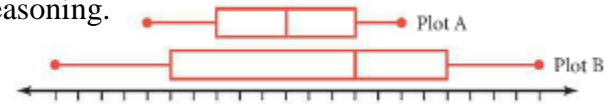
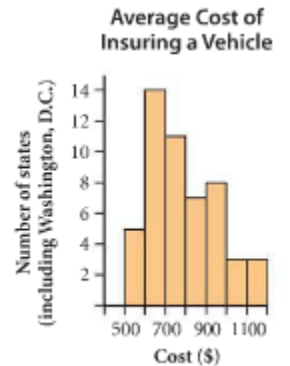


1. Which box plot has the greater standard deviation? Explain your reasoning.



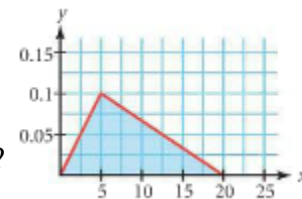
2. Five stores in Tulsa Oklahoma, sell the same model of a graphing calculator for \$89.95, \$93.49, \$109.39, \$93.49, and \$97.69. What are the median price, the mean price, and the standard deviation?

3. The histogram shows the average annual cost of insuring a motor vehicle in the U.S.



- How many jurisdictions are included in the histogram?
- South Carolina is the median jurisdiction. South Carolina is in what bin?
- In what percentage of the jurisdictions is the average cost less than \$700?

4. A graph of a probability distribution consists of two segments. The first segment connects the points $(0,0)$ and $(5,0.1)$ and the second segment connects the points $(5,0.1)$ and $(20,0)$ as shown.



- Verify that the area under the segments is equal to 1.
- What is the probability that a data value will be less than 3?
- What is the probability that a data value will be between 3 and 6?

5. The heights of all adults in Bigtown are normally distributed with a mean of 167 cm and a standard deviation of 8.5 cm.

- Sketch a graph of the normal distribution of these heights.
- Shade the portion of that graph showing the percentage of people who are shorter than 155 cm.
- What percentage of people are shorter than 155 cm?

6. Find the standard deviation: $-7, -5, -5, -4, -4, -4, -3, -2, 3, 6$

7. What is the percentile ranking for $z = 2.18$?

8. Find the percent of cases falling above $z = 1.6$.

9. If a data point is at the 84th percentile, what is its z -value?

10. Jared takes a test with $\mu = 42$ and $\sigma = 5$. If his score has a z -score of 1.3, what did he get on the test?

A student takes the SAT II Math test, which had a mean score of 550 and a standard deviation of 75:

- If he scores 475, what is his percentile ranking?
- If he scores at the 97.5th percentile, what is his score?
- What is the probability that his score is between 400 and 625?

14. Every Sunday I bring soup to Tent City. If the mean number of cans of soup I bring is 13 cans with a standard deviation of 4 cans, what is the probability that this Sunday I will bring less than 10 cans?