Advanced Algebra Statistics Review

Name _____

1.

Summative

Using the following data, answer the following questions.

88 • 92 • 96 • min 20 • 88 • 83 • mat 100 • 92 • 71 • 71 • 92 •

Write the data is order from smallest to largest:

20, 71, 71 | 71, 83, 88, [88], 92, 92, 92 | 92, 96, 100

What is the mean?

81.2

What is the median?

88

What is the mode?

92

What is the range? 80

What is the Q1?

71

What is Q3?

92

What is the interquartile range?

92 - 71 = 21

What is the standard deviation?

19.99 or 20

2. Are the any outliers in the data above? Is the mean or median a better measure of central tendency?

yes (20) Meclia, because there is an outlier

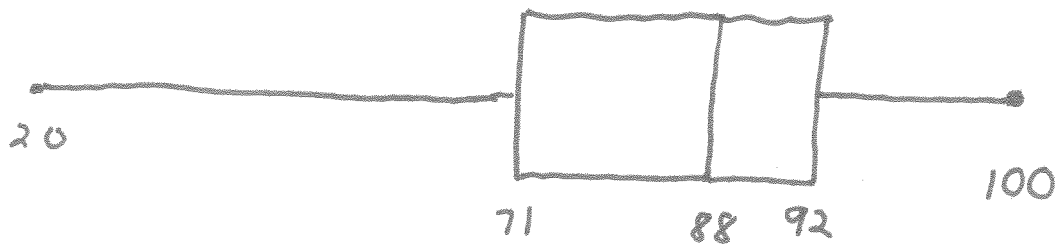
3. If I removed the 20 from the list above, what would happen to the mean? Standard Deviation?

get bigger get smaller

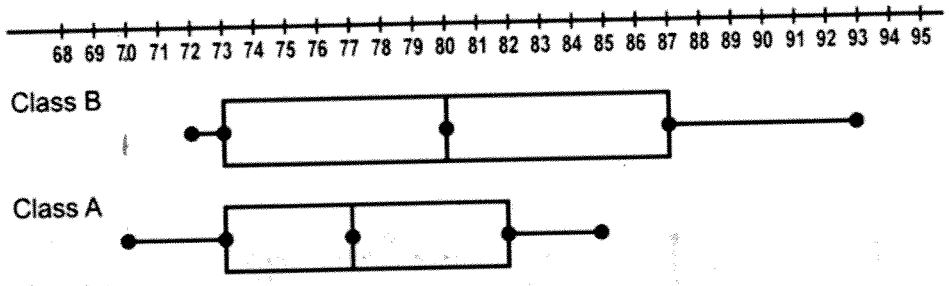
4. If I removed the 100 from the list above, what would happen to the mean? Standard Deviation?

get smaller get smaller

5. Draw a box and whisker plot for the data above.



6. The figure below represents test scores taken from two classes.



Class A: Min 70, Max 85, Q1 73, Q3 82, Median 77

Class B: Min 72, Max 93, Q1 73, Q3 87, Median 80

a) What percentage of data in class B is between 73 and 80? 25%

b) What percentage of data in class A is between 73 and 82? 50%

c) What is the range of Class B? Class A?

Class A: 15 Class B: 21

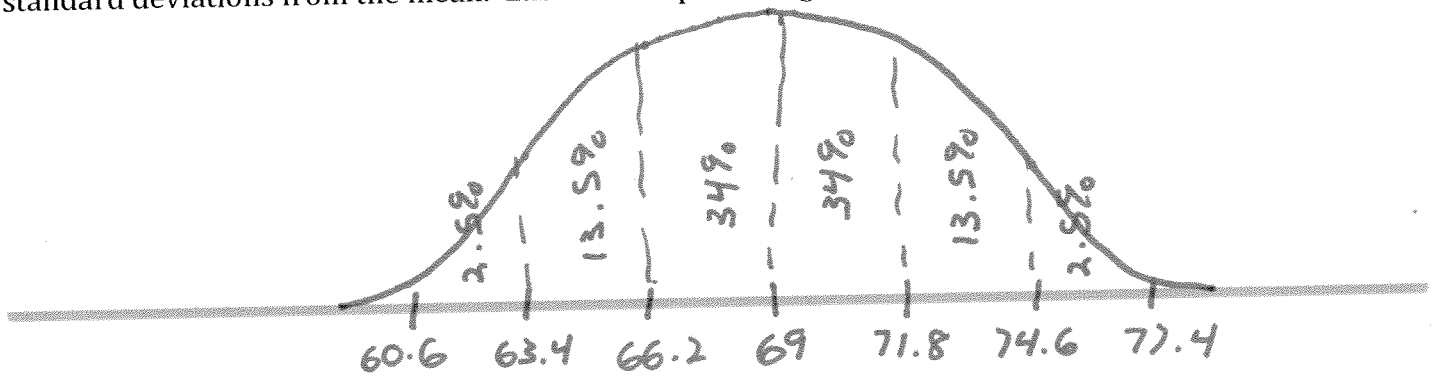
d) Which class would have a larger standard deviation? How do you know?

Class B, because range is larger.

e) What is the interquartile range of Class B? Class A?

Class B: 14 Class A: 9

7. Men's heights are normally distributed with a mean height of 69 inches and a standard deviation of 2.8 inches. Sketch a normal distribution labeling the x-axis with the values that are one, two and three standard deviations from the mean. Label all the percentages.



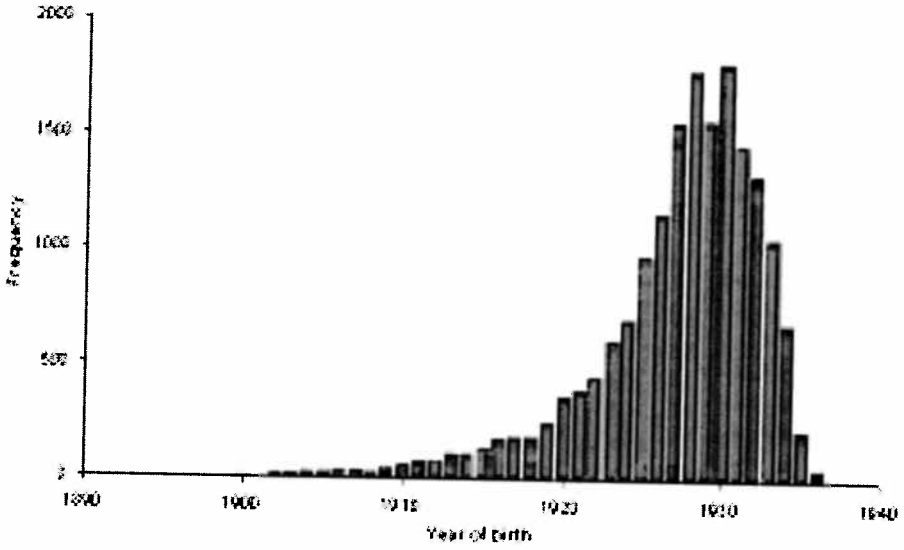
a) What percentage of data will lie between 69 and 74.6? 47.5%

b) What percentage of data will lie between 60.6 and 66.2? 16%

c) What value is -2 standard deviations away from the mean? 1.5 standard deviations away from the mean?

63.4 and 73.2

8. A distribution of births for a certain city is shown below:



Determine whether the distribution is skewed positively, negatively or normally distributed. How does this affect the mean? How do you know?

negatively skewed,
mean is less than median because
tail pulls mean closer to it