

1. The following are two lists of test scores for two different classes. Without any calculations, predict which class did better.

Class A: 10, 25, 51, 56, 58, 70, 77, 82, 92, 94, 95

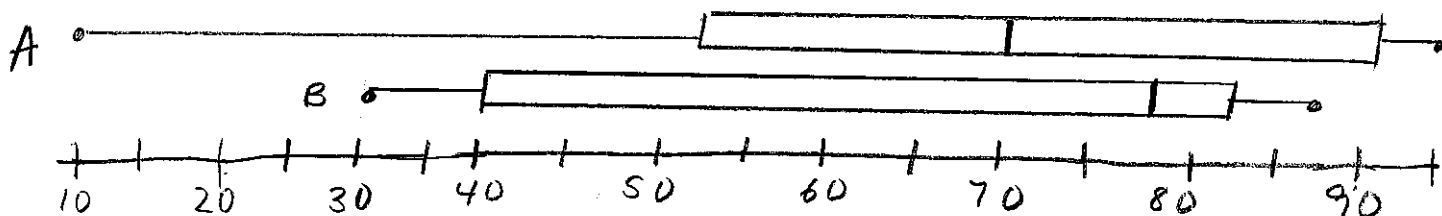
Class B: 30, 32, 40, 77, 79, 86, 55, 45, 84, 78, 82

I think class A
They had more
scores in the 90s.

2. For class A and B above, find the class average (mean), median, mode, and range to determine which class did better.

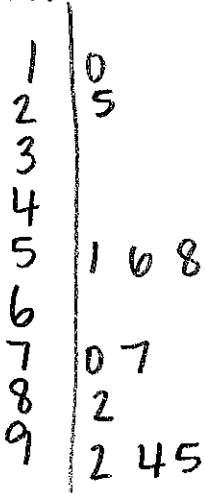
	\bar{x}	Median	Mode	Range
A	64.5	70	none	85
B	62.5	77	none	56

3. Make a box plot to show a comparison of the two test scores.
class B had a smaller range. They were all closer to the median than class A and the median is higher for B than A

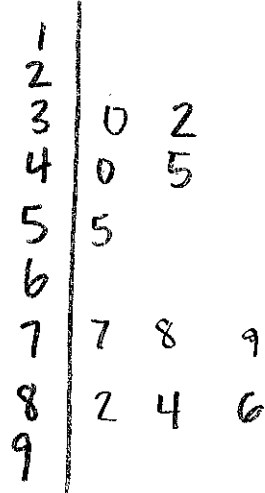


4. Display the data in TWO different types of graphs to help support your decision.

Class A



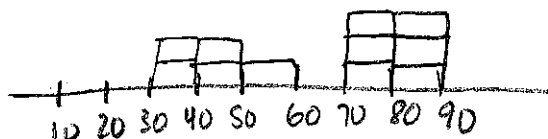
Class B



Class A



Class B



Part II: Investigating Mean, Median, and Mode

5. Using mean only, which class had the highest average?

Class C: 0, 70, 72, 77, 80, 84 $\bar{x} = 63.8$

Class D: 30, 40, 50, 90, 94, 96 $\bar{x} = 66.7$

class D had the higher average

6. If you were the teacher of the classes above, which class would you prefer to teach?

Class D. I could make pairs and have the higher kids help the lower kids.

7. Is mean always a good analysis for comparing data? Why or why not?

No. The kid with the zero really brought down \bar{x} for class C.

8. Find the mean and median of the following data. What do you notice?

Class E: 50, 50, 50, 50, 50, 50 $\bar{x} = 50$ Median = 50

Class F: 0, 0, 0, 100, 100, 100 $\bar{x} = 50$ Median = 50

They're the same.

9. If two students were absent from class G, what scores could they get if they increased the mean, but didn't change the median?

Class G: 30, 40, 40, 50, 66, 68, 90, 94, 98 $\bar{x} = 64$ Median = 66

1 score here the other score here.

Keeping it symmetric won't change median, but

10. What two scores could they get that would increase the median, but not significantly change the mean? you must add high scores to increase mean.

2 scores between 68 and 90.

11. Challenge: Make a list of 10 numbers with the following statistical measurements.

- a. Mean = 45, Median = 40, Mode = 60

30, 30, 35, 35, 40, 40, 60, 60, 60, 60

- b. Mean = 60, Median = 55, Mode = 65

0, 1, 2, 3, 50, 60, 65, 65, 77, 100

- c. Mean = 80, Median = 80, Mode = 80 (all numbers cannot be 80)

0 40 80 80 80 80 80 80 120 160

answers may vary. Example only.