Statistics   2.4: Explaining Standard Deviation

Think of standard deviation as the _____ that every data value is from the _____.

If a data set has a mean of 8 and a SD of 2, then the _____ of data values in that data set will be in the range of _____ to _____.

1. You are applying for a job with 2 companies. Company A has a mean starting salary of $40,000 with a SD of $3000. Company B has a mean starting salary of $40,000 also, but with a SD of $1000.
A) From which company are you more likely to get an offer of more than $42,000? Why?

B) For which company are you more likely to make closer to the mean? Why?

2. The average stock price for Microsoft in October was $25.75 with a SD of $0.88. The average stock price for Dell was $19.82 with a SD of $1.49. Which stock is more consistent? Explain.

The histograms below are showing the scores on a 5-point quiz for 2 different classes. Use them to answer the questions 3-5
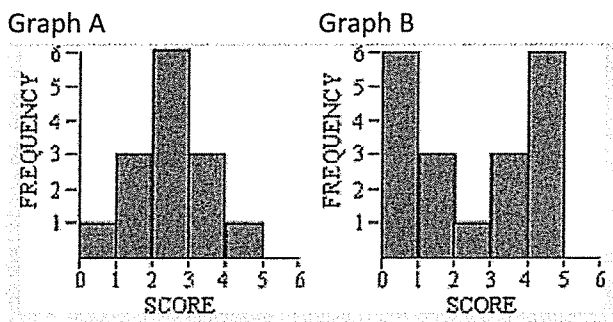
Graph A   Graph B

3. Describe the shape of each graph. Graph A: _____ Graph B: _____

4. The mean and median of both graphs is 2.5. What are the modes of each graph?
Graph A: _____   Graph B: _____

5. Just by looking at the graphs, can you determine which graph would have the smaller SD and which one would have the larger SD? Why?

The histograms below are showing the group sizes for students in a tutoring session throughout the school year. Use these graphs to answer questions 6 – 10

Figure 1: Comparison of tutorial group sizes
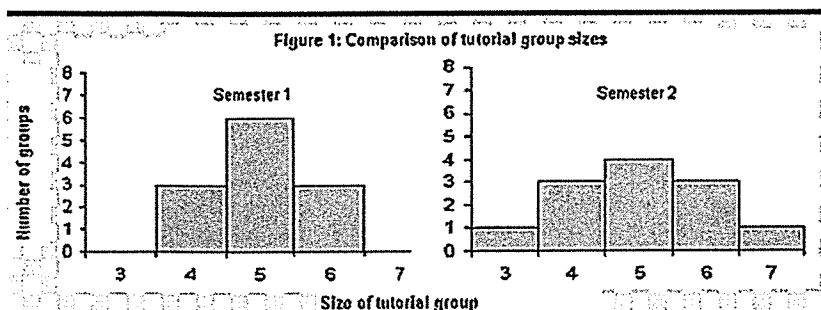
6. Estimate the mean for each graph. Semester 1: _____   Semester 2:_____

7. Estimate the median for each graph. Semester 1: _____   Semester 2: _____

8. Estimate the mode for each graph. Semester 1: _____   Semester 2: _____

9. Describe the shape of each histogram.
Semester 1: _____   Semester 2: _____

10. Just by looking at the graphs, can you determine which graph would have the smaller SD and which one would have the larger SD? Why?

11. Which graph below has the smaller SD? _____ Why?