Without doing any hand calculations (relying on your intuitive understandings), create three sets of ten integers from 0 to 10 that all have the same mean but different amounts of variability. Write your sets in the space provided and answer the following questions.

Set1:   
  
  
  
Set2:  
  
  
  
Set3:

1. Which set do you think has the most variability (rely on your intuitive understandings)?

2. Which set do you think has the least variability (rely on your intuitive understandings)?

**Open the TI-Nspire document *Exploring Data SetsPart1.tns***

Enter your number sets into the Nspire on sheet 1.2. Double check to make sure your data sets indeed have the same means (and make adjustments if necessary) on pages 1.3-1.5.

1. Were you correct with your predictions of which data set had the most and least variability? What do you think influenced your initial intuitions? How has your initial thinking changed after thinking through pages 1.3-1.5?

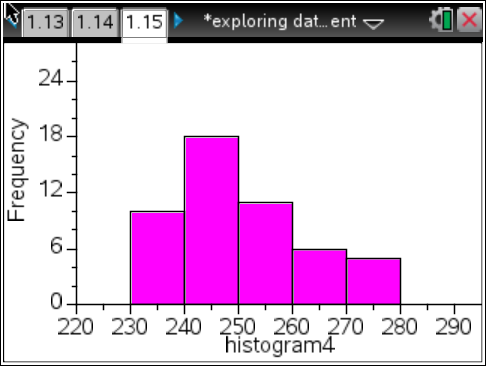
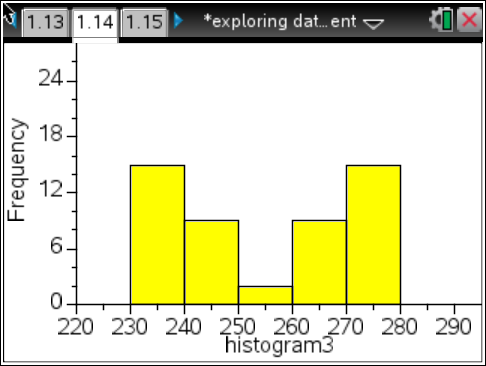
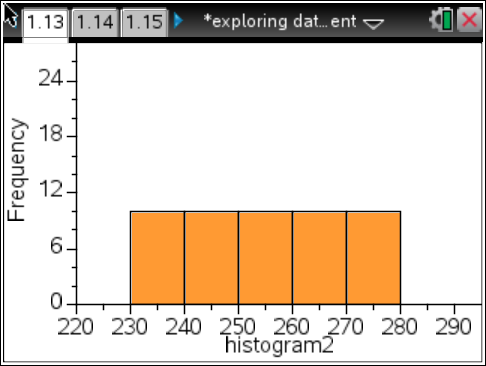
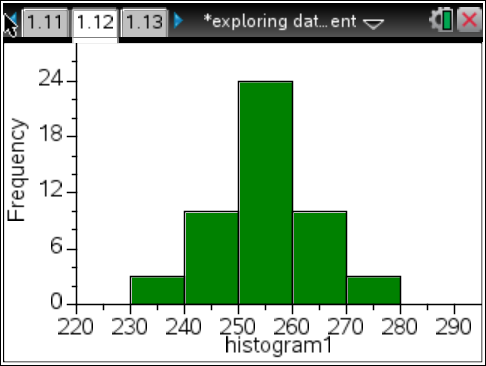
3. If we add 100 to each value in all 3 of your data sets, how will this affect the mean and average distance from the mean of those data sets? Respond below.

Mean:

Average distance from the mean:

1. View pages 1.8-1.10 to check your conjectures in #3 above. Were you correct with your predictions regarding the mean and average distance from the mean? What do you think influenced your initial intuitions? How has your initial thinking changed after thinking through pages 1.8-1.10?

4. Consider the histograms below. Which of these histograms have the most variability? Rank the histograms from the most variable to the least. Respond below.



**Open the TI-Nspire document *Exploring Data SetsPart2.tns***

1. After viewing pages 1.2 – 1.5 in this Nspire document, where you correct with your predictions of which histogram had the most and least variability? What do you think influenced your initial intuitions? How has your initial thinking changed after seeing the results of the QuickPoll and class discussion?

Respond to the questions below using words, pictures, and/or symbols.

5. Communicate your understanding of the variability of a set of numbers. Include thoughts on variability's relationship to the mean and shape of the distribution of the set.

6. Communicate your understanding of the mean of a set of numbers. Include thoughts on the mean's relationship to the variability and shape of the distribution of the set.