

Homework Lesson 8  
Module 4, Unit 9

For #1-2, find the Standard Deviation of each data set by hand. Show work. Round to the nearest thousandth.

1. 6, 7, 9, 9, 9, 14

2. 43, 46, 47, 47, 52

For #3-4, find the Standard Deviation of each data set using Desmos. Round to the nearest thousandth.

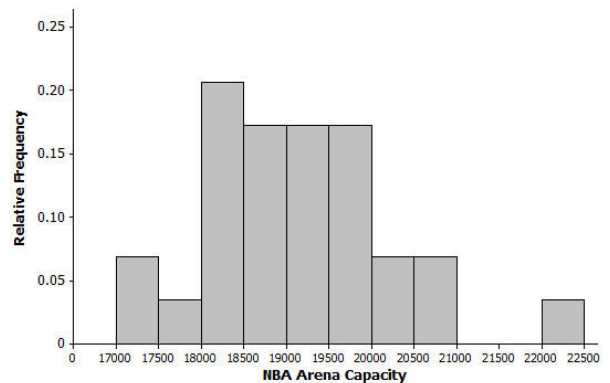
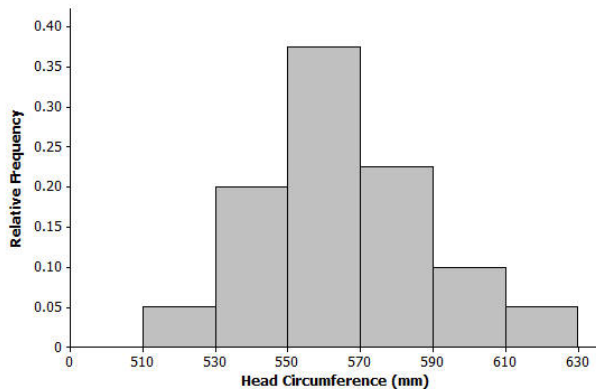
3. 88, 83, 91, 82, 78, 81, 91, 94

4. 220, 250, 210, 290, 310, 230, 240

5. For each of the following histograms, describe the shape, and give estimates of the mean and standard deviation of the distributions:

a. Distribution of head circumferences (mm)

b. Distribution of NBA arena seating capacity



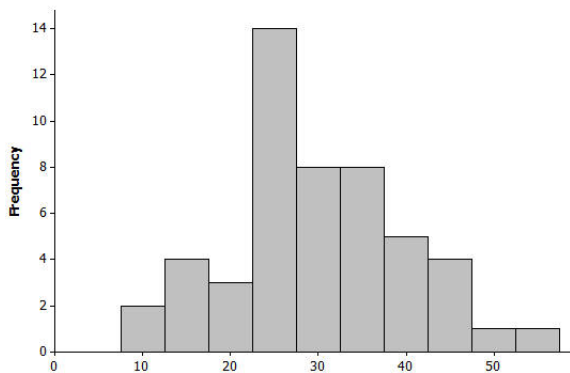
6. For each of the following, match the description of each distribution with the appropriate histogram:

Histogram	Distribution
1	
2	
3	
4	

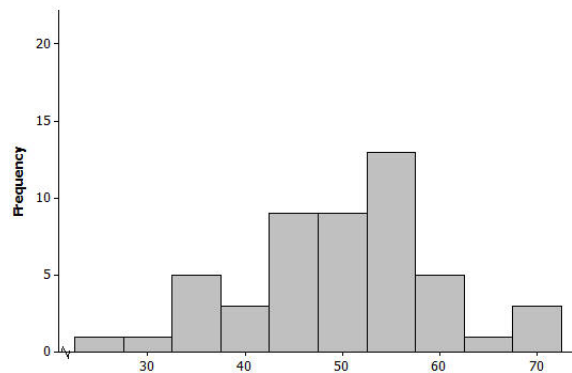
### Description of Distributions

Distribution	Shape	Mean	Standard Deviation
<i>A</i>	Approximately symmetric, mound shaped	50	5
<i>B</i>	Approximately symmetric, mound shaped	50	10
<i>C</i>	Approximately symmetric, mound shaped	30	10
<i>D</i>	Approximately symmetric, mound shaped	30	5

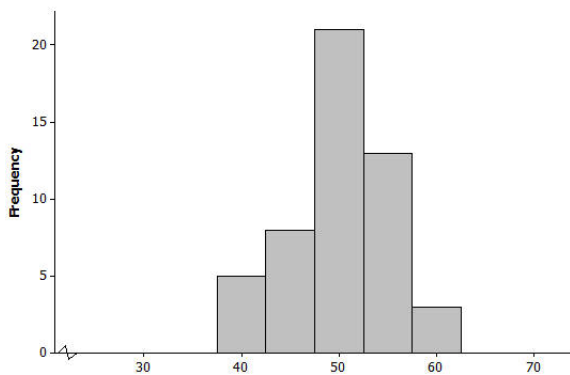
**Histogram 1**



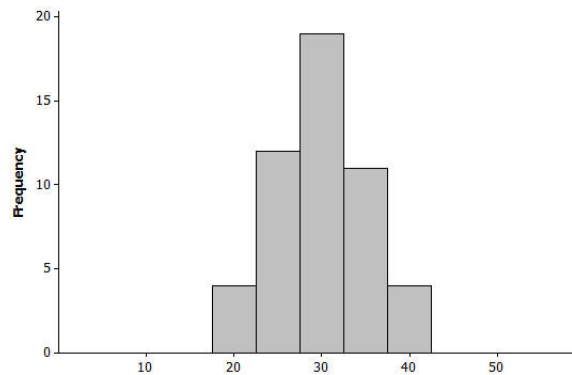
**Histogram 2**



**Histogram 3**



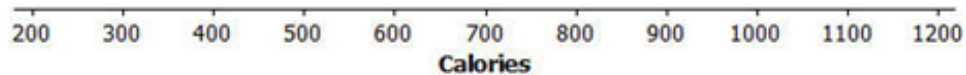
**Histogram 4**



7. Following are the number of calories in a basic hamburger (one meat patty with no cheese) at various fast food restaurants around the country:

380, 790, 680, 460, 725, 1130, 240, 260, 930, 331, 710, 680, 1080, 612, 1180, 400, 866, 700, 1060, 270, 550, 380, 940, 280, 940, 550, 549, 937, 820, 870, 250, 740

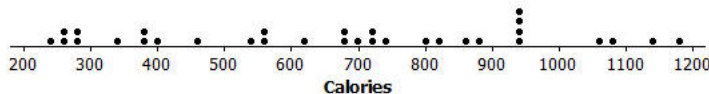
- a. Draw a dot plot on the scale below.



- b. Describe the shape of the calorie distribution.
- c. Using Desmos, find the mean and standard deviation of the calorie data to the nearest whole number. Interpret the standard deviation in context.
- d. Why do you think there is a lot of variability in the calorie data?

### Answers

1. 2.757                      2. 3.240                      3. 5.757                      4. 36.968
- 5a. Symmetric, Mean = 560, SD = 25      b. Symmetric, Mean = 19,000, SD = 1,000
6. C, B, A, D
- 7a.



- b. Approximately symmetric
- c. Mean = 665, SD = 283; A typical hamburger has a calorie count that is 283 calories away from the mean.
- d. Answers will vary.