

Name: \_\_\_\_\_

Date: Sept 23

Hr: \_\_\_\_\_

Alg 1 \_\_\_\_\_

### Unit 2 Day 3: Histograms

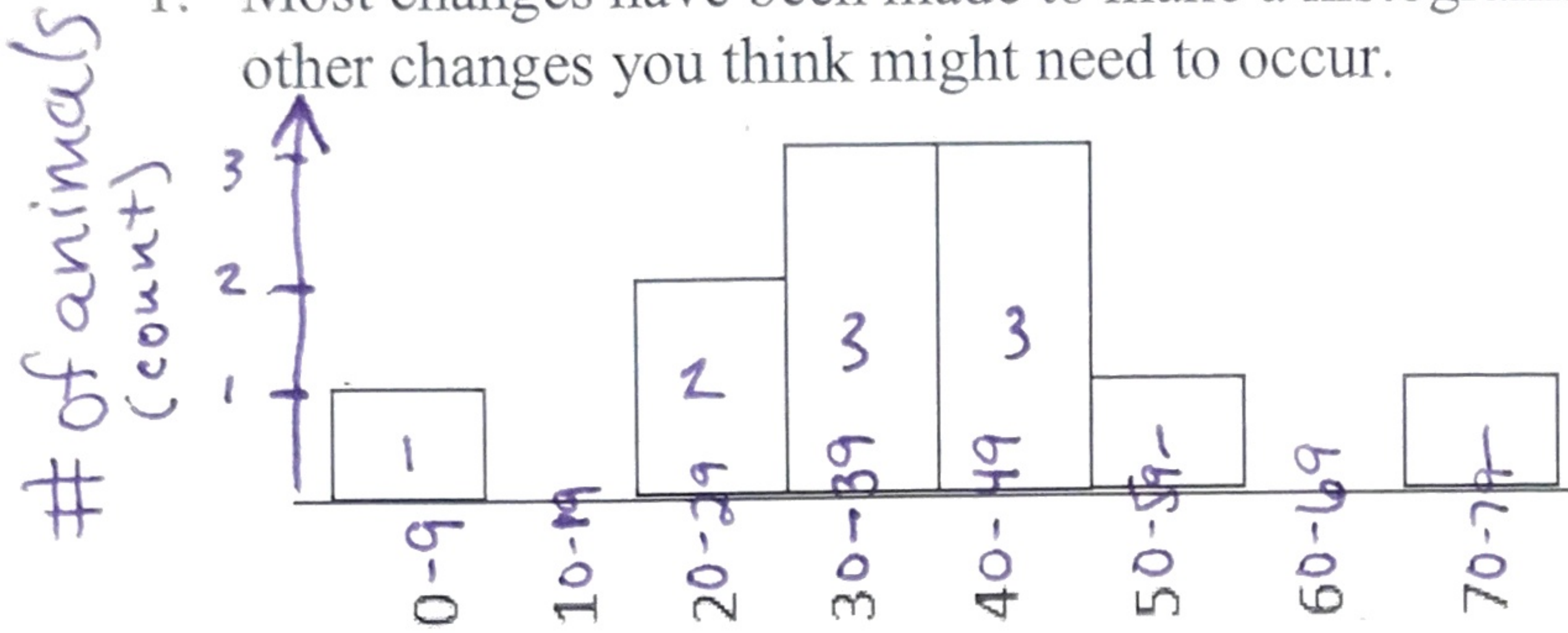
Focus Question: How do I interpret a histogram?

#### A. Histograms and Stem and Leaf Plots

Yesterday you made a stem and leaf plot about animal speeds. If you turn it side ways, it can very easily be turned into a histogram.

- Most changes have been made to make a histogram. Make any other changes you think might need to occur.

Stem	Leaves
0	8
1	
2	5 8
3	1 2 5
4	0 5 8
5	0
6	
7	0



- What information does a stem and leaf give you that a histogram does not?

*Don't know the exact data values*

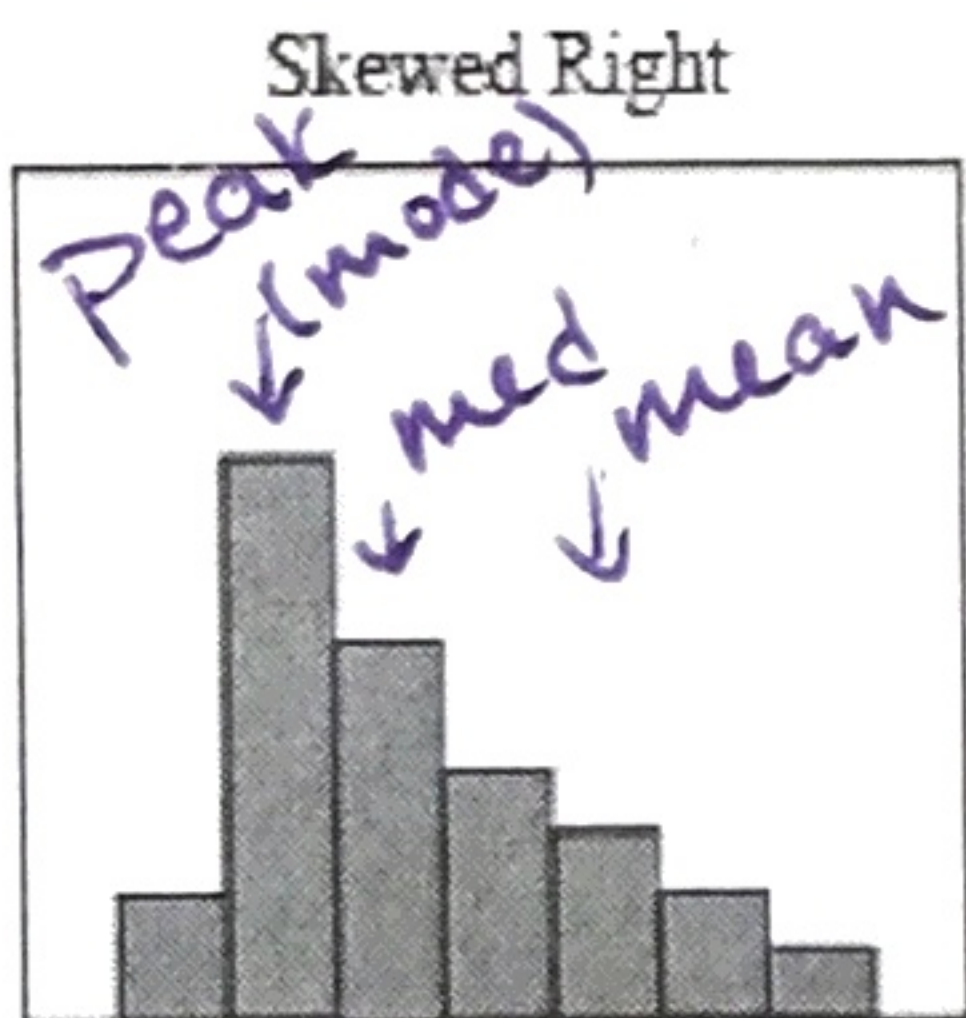
- What statistic(s) can you no longer find?

*mean mode median range max min*  
*little less than 40*  
*79 79 0*

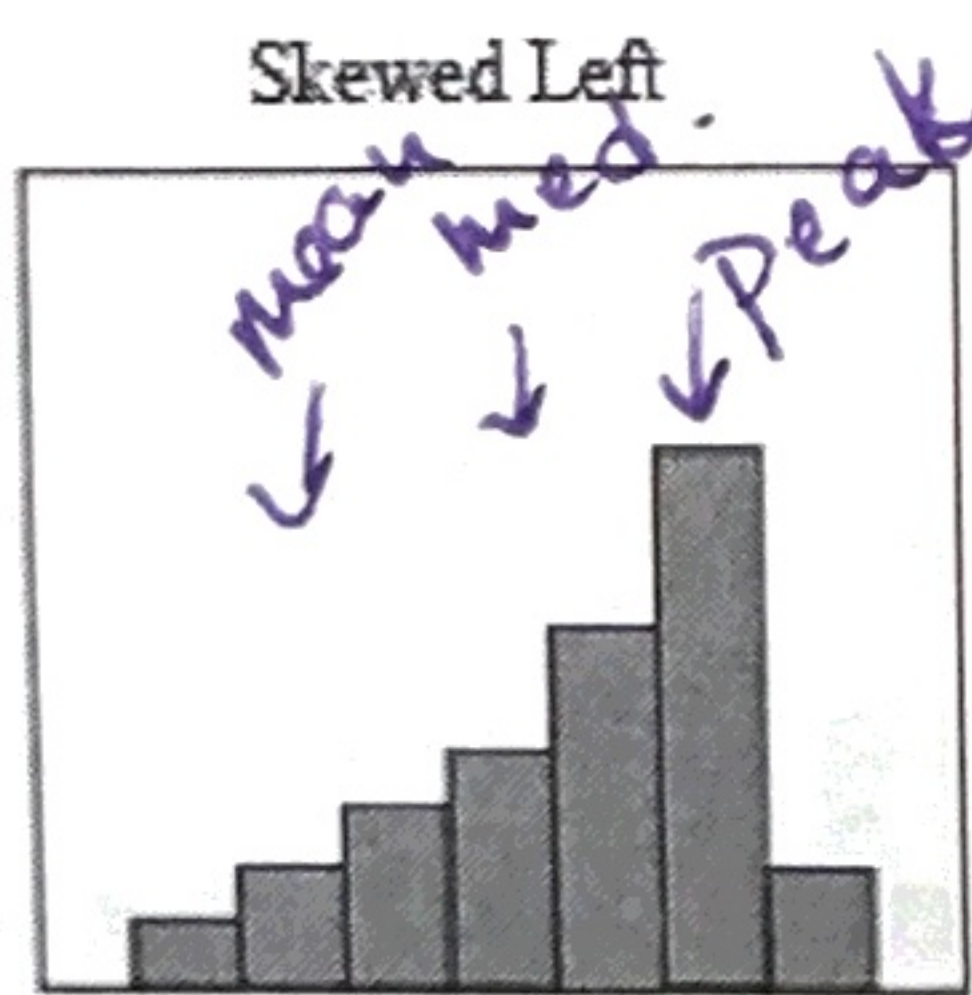
*but the can all be estimated*

#### B. A New Statistic: Shape

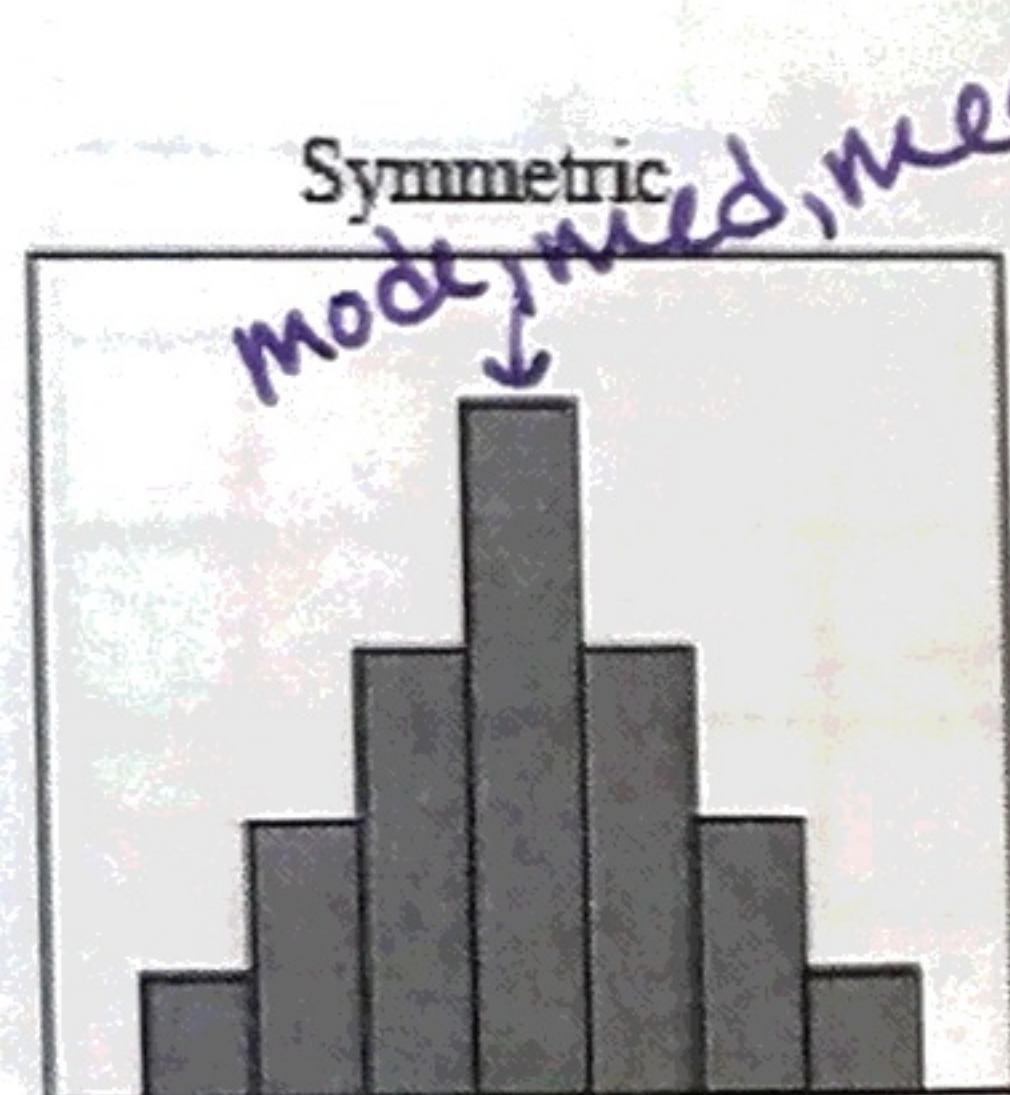
While you can no longer tell the exact mean or median (or mode), the shape will tell you where they fall in regards to each other and to the peak. (tallest box)



Skewed to the Right is also known as positive skew. **This means that the mean is greater than the median and to the right of the peak.** There are a few large numbers that pull both the mean and the median to the right of the peak because the data on the right is very spread out and/or contains many gaps.



Skewed to the Left is also known as negative skew. **This means that the mean is less than the median and to the left of the peak.** There are a few small numbers that pull both the mean and the median to the left of the peak because the data to the left is very spread out and/or contains many gaps.



Symmetric has no skew. This means that the mean is very close to the median and to the middle of the peak.

Which other data display shows shape?

*dot plots, stem & leaf*

C. Histograms vs Bar Graphs

1. How are they similar?

\* Bars

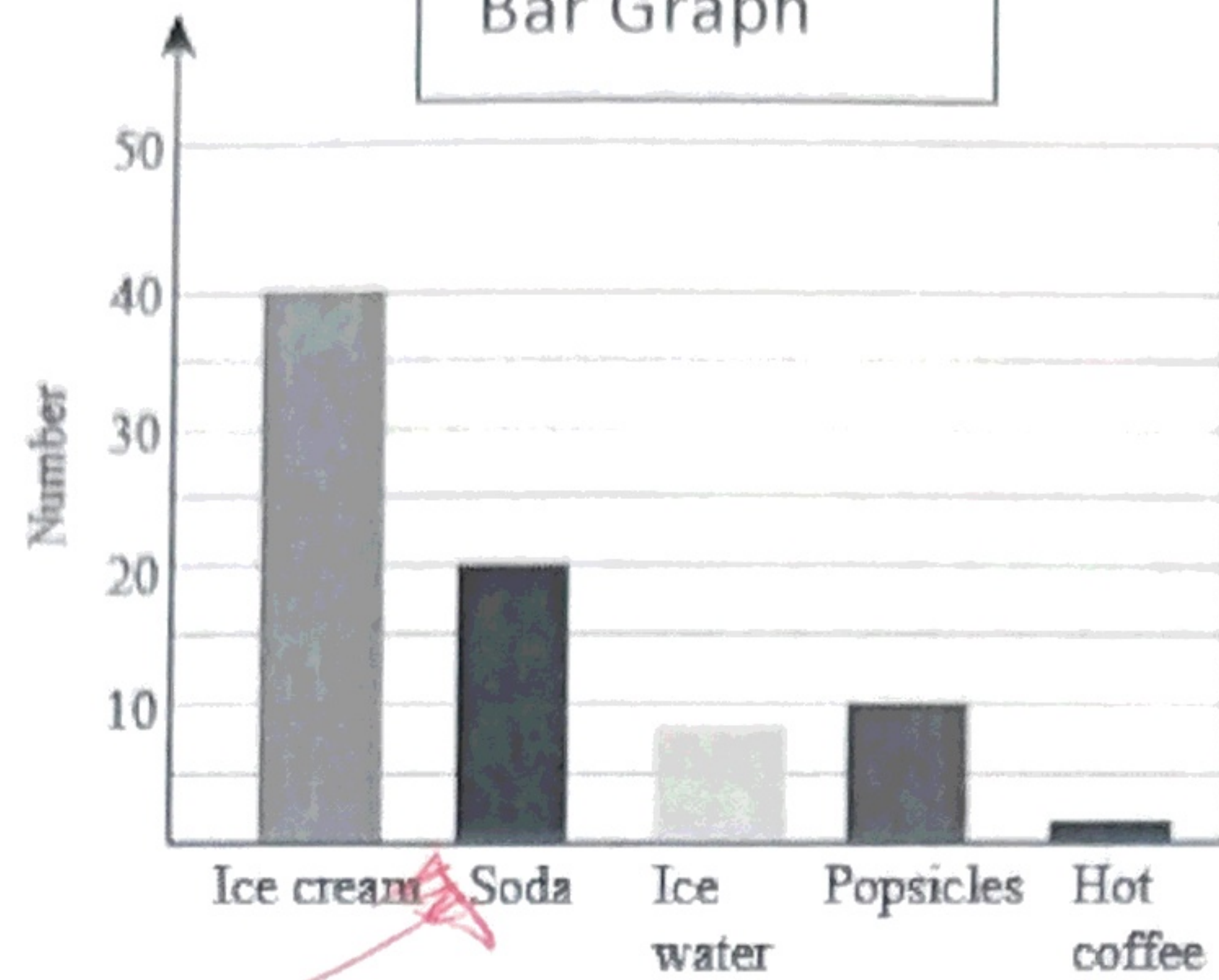
\* y-axis keeps count

2. What are the two major differences?

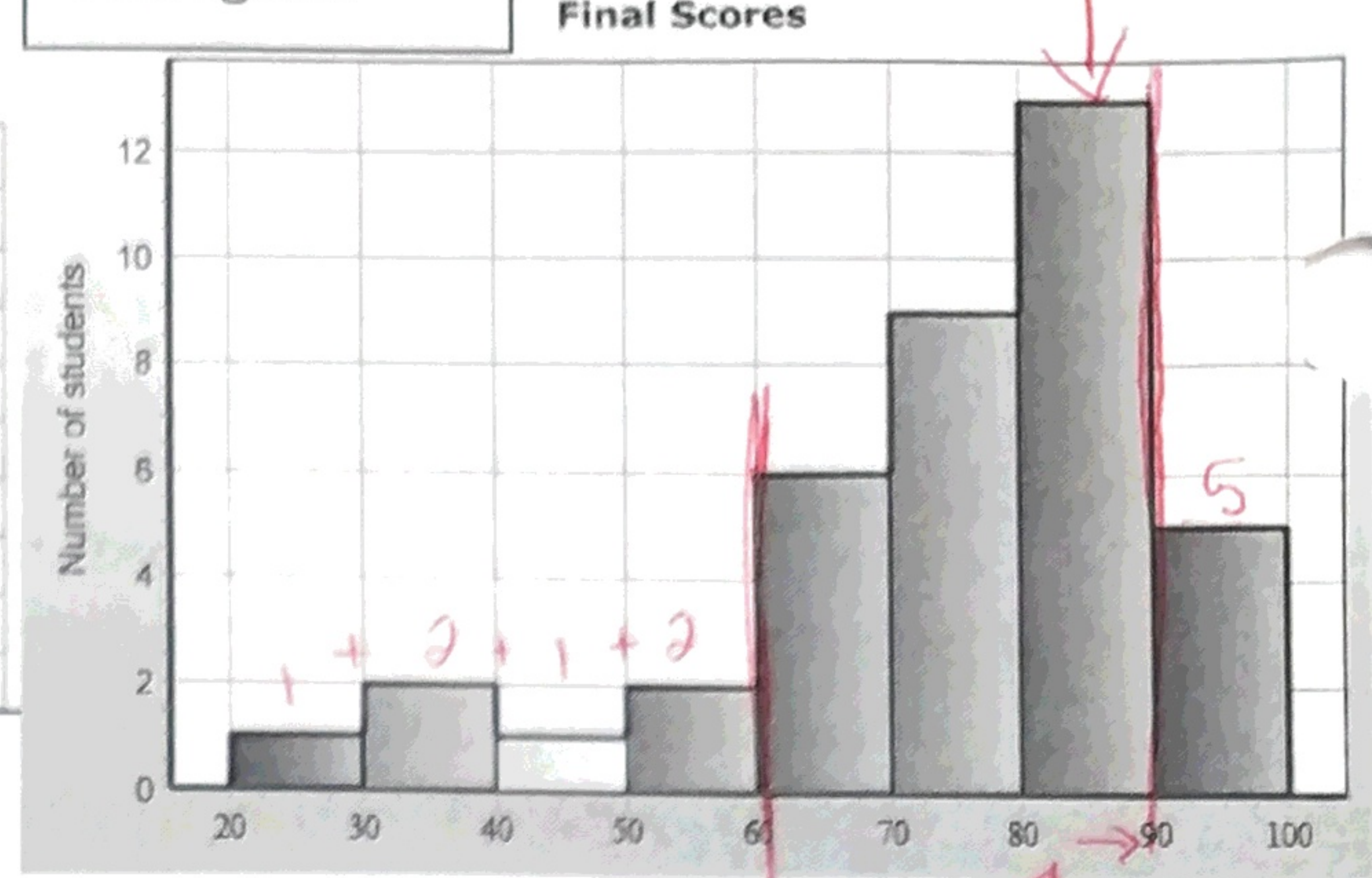
\* space

\* x-axis categories

Bar Graph



Histogram



VS #'s for intervals No spaces

D. Using Histograms

Use the final scores histogram above to answer the questions.

1. How many students failed the class? 6

↓ below a 60

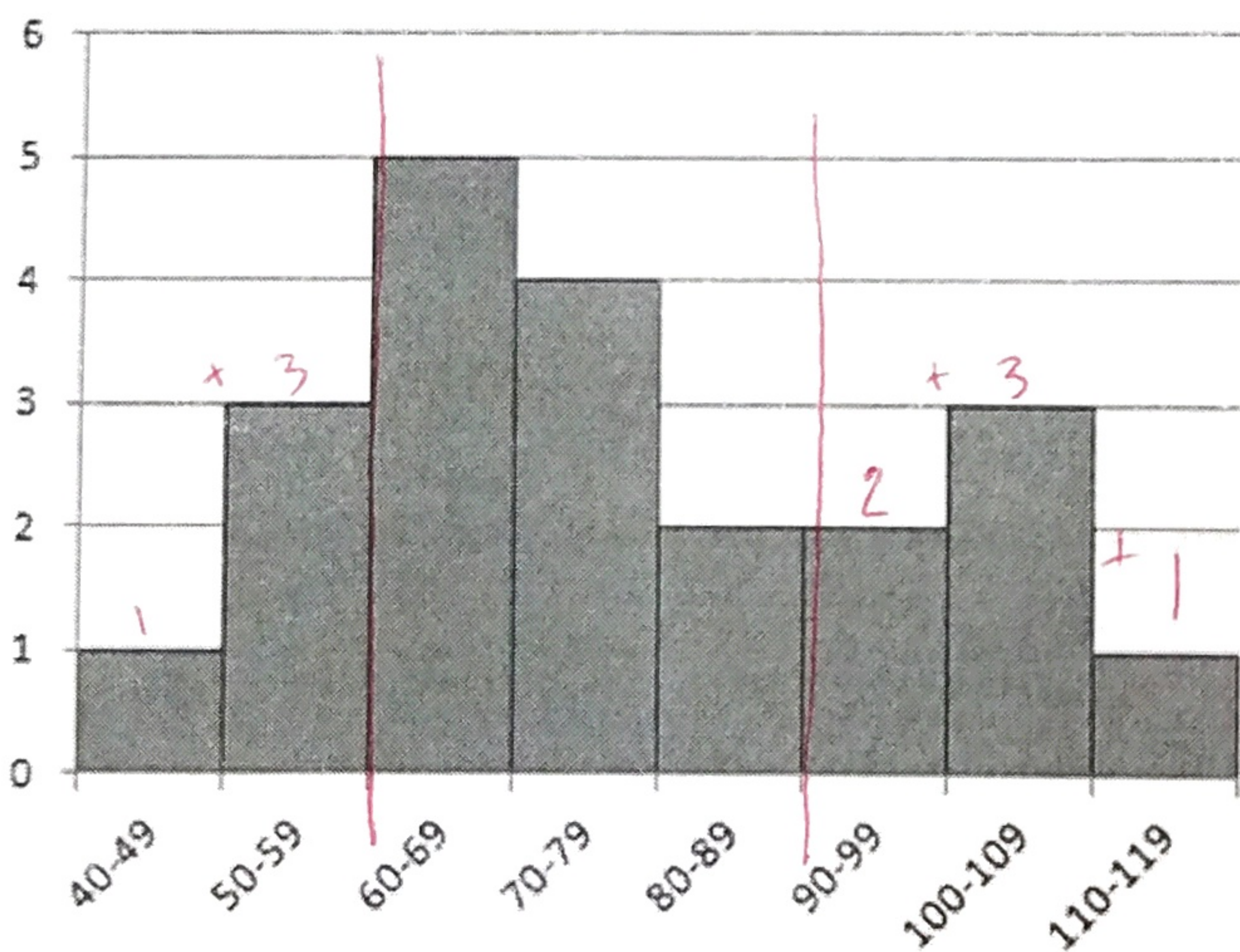
2. How many students received an A? 5

90 & above

3. What is the shape of the data? Skew left

4. Would you want to be in this class? Explain using the shape.

No b/c the skew means lots of low grades & low average. left



The histogram at left represents the scores on an algebra final in 2014. Answer the following questions.

5. How many more students made an A than made an F? 6 - 4 = 2

6. What is the shape of the data? Skew right

7. Would you want to be in this class? Explain using the shape.

Yes skew right so higher grades higher average higher median.

E. Making Histograms

To make a histogram, first a frequency table is made. It tells the count of the data in that interval. Use the frequency table to create the histogram.

1.

Pieces of Junk Mail	Frequency
0-4	25
5-9	35
10-14	50
15-19	40
20-24	15

Frequency of Junk Mail

