Sec 6.3 - Describing Data
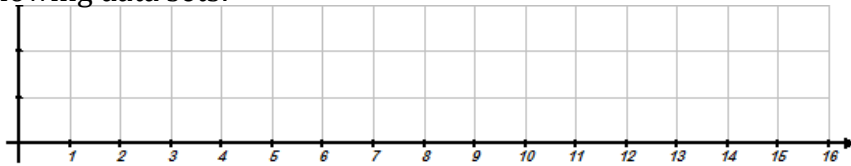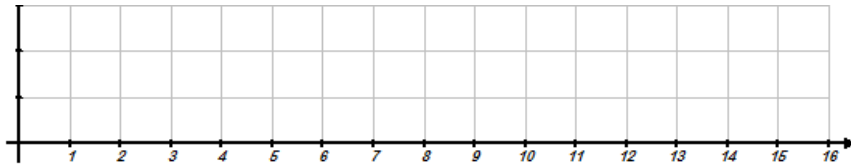## Data Graphs
Name:

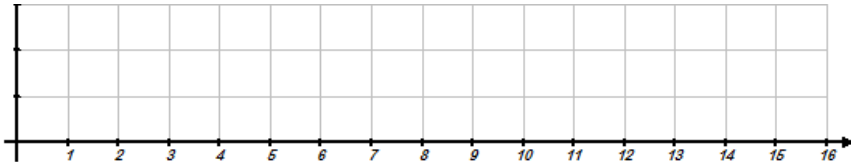1. Create a Basic Box and Whisker Plot of the following data sets:

   a. 3, 4, 4, 8, 9, 12, 15

   b. 2, 9, 3, 14, 3, 2, 3

   c. 5, 9, 14, 12, 10, 3, 15, 5, 8, 7

2. Determine the suggested statistical measures and answer the questions based on the graph.

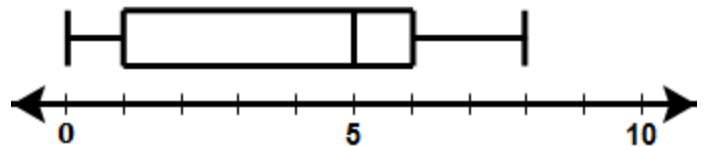   a. Minimum =   c. IQR =

   b. Q_3 =   d. Range=

   e. Which quartile has the most variation?

3. Determine the suggested statistical measures and answer the questions based on the graph.

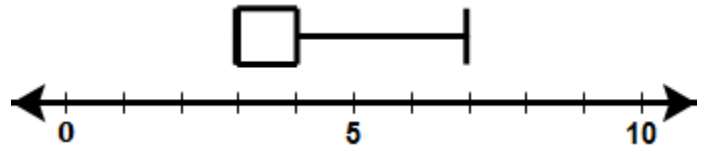   a. Minimum =   c. IQR =

   b. Q_1 =   d. Median=

   e. Which quartile has the most variation?
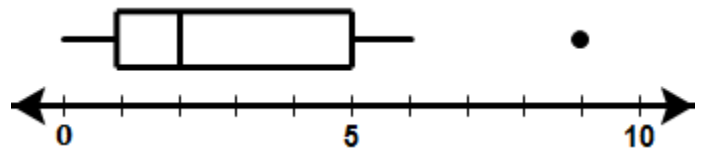
4. Determine the suggested statistical measures and answer the questions based on the graph.
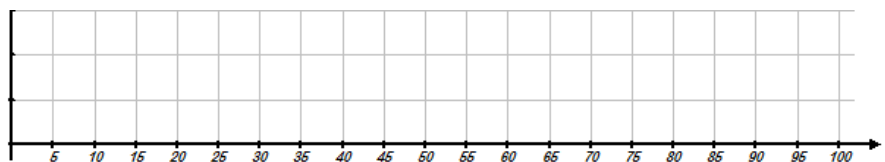
   a. Minimum =   c. Outliers =

   b. Maximum =   d. Median=

5. Given the data set , 5, 80, 75, 62, 64, 90, 75, 94, 100, determine which if any of the data points are outliers by definition **($Outler < Q_1 - 1.5 \cdot IQR$ or $Q_3 + 1.5 \cdot IQR < Outlier$)** and create an Advanced Box and Whisker plot.

6. Given a data set has a Median of 10 and an Inner Quartile Range of 5, what is the range of values that Q₃ could possibly be?

7. Given the data set :
   20, 15, 16, 15.5, 8, 11, 15.2, 3, 11
   Create a dot plot of the data.
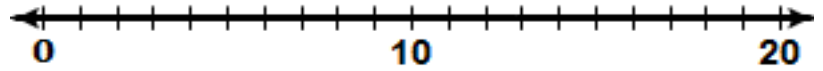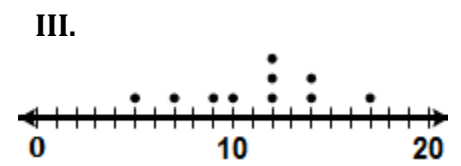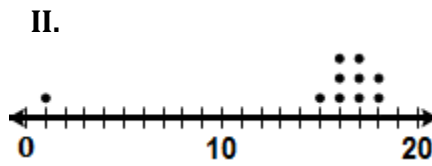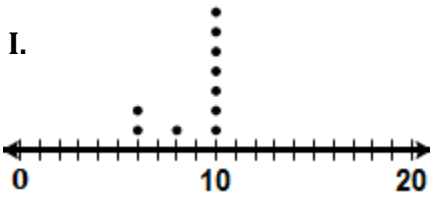

8. Match the following data sets represented in the dot plots below with the most appropriate measure of center based solely on the data.
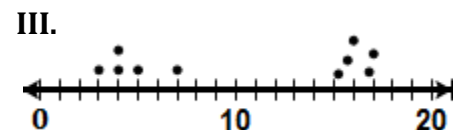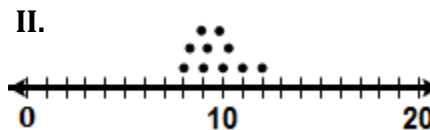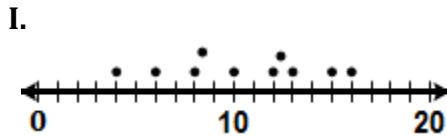
_____A. MEAN _____ B. MEDIAN _____ C. MODE

I.

II.

III.

9. Which dot plot below shows the most variation and which shows the least variation?

_____A. LEAST VARIATION _____ B. MOST VARIATION

I.

II.

III.

10. A coach was hosting a baseball camp for high school and college students over the summer.
a. He needed an additional release form signed but only students who were 18 years and older could sign it for themselves. Based on the histogram at the right, how many players at the camp are under 18 and will still need their parent's signature?
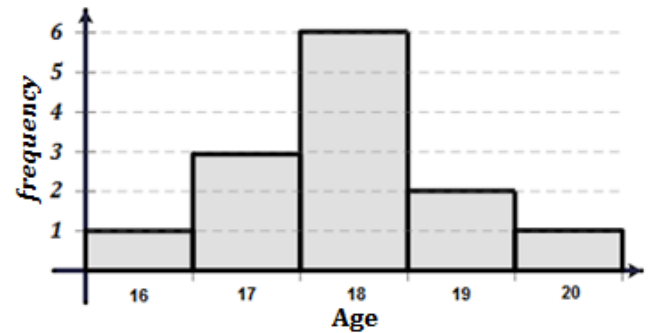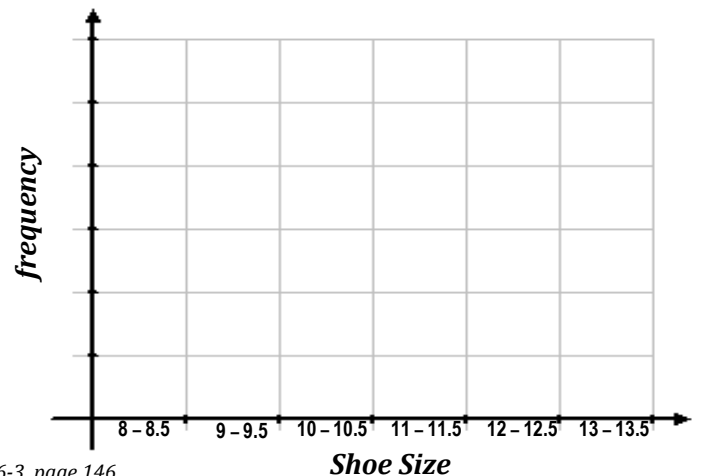

b. What is the Lower Quartile (Q_1) for the data set?   c. What is the Upper Quartile (Q_3) for the data set?

d. What is the Interquartile Range for the data set?

11. An attendant at the counter of a bowling alley kept a log of what size bowling shoes were rented over a half of hour of work and recorded the following shoe sizes that were rented
   {8, 9, 8.5, 12, 11.5, 12, 10, 10.5, 10, 9, 11, 10, 9, 9.5}

12. Consider the following data set

Year	Car	0-60 Time
2009	Mustang V-6	6.5
2009	Nissan Sentra SE-R	6.4
2009	Volvo C30	6.3
2009	Mini Cooper S	6.2
2009	Mazda 6 s	6.1
2009	Mitsubishi Eclipse GT	6.1
2009	Volkswagen GTI	6.0
2009	Toyota Camry	5.8
2009	Chevrolet Cobalt SS	5.5
2009	Mazda speed 3	5.4

| Year	Car	0-60 Time
2010	Camaro V6	5.9
2010	Camaro SS V8	4.6
2010	Mustang GT V8	4.8
2010	Porsche 911 Turbo	3.2
2010	Hyundai Genesis	6.9
2010	Mitsubishi Lancer	5.0
2010	Subaru WRX STI	4.8
2010	Audi A4	6.9
2010	Cadillac CTS	6.8
2010	Nissan 370Z	4.9
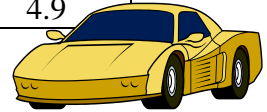
a. What is the Range of the 0-60 times?

b. What should the width of the class interval (assuming 5 classes)?

c. Create a frequency histogram using interval notation and 5 classes.
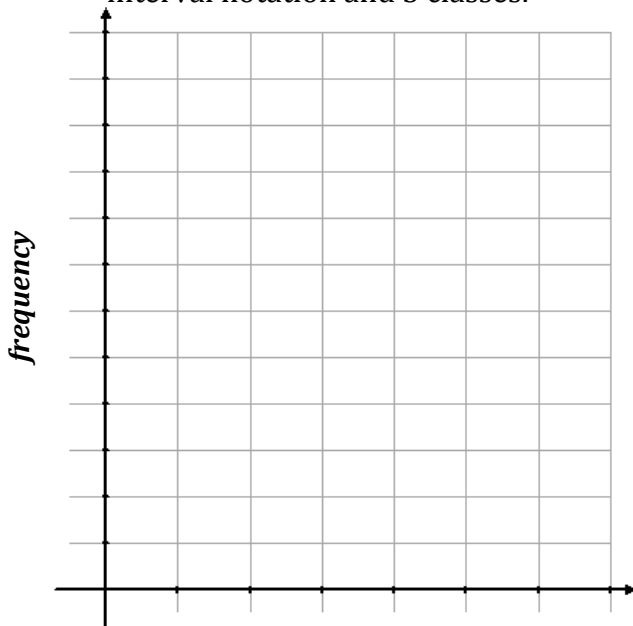
frequency

d. Create a frequency histogram using standard notation classes.

frequency
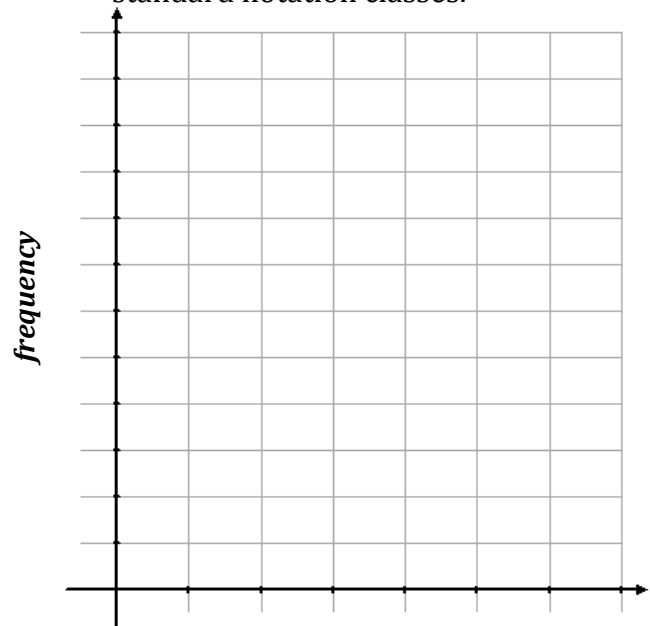
13. Consider the following data set **{12.2, 13.4, 20.2, 31, 10.8, 9.2, 28.7, 22, 30.7, 8.3, 9.8, 10.8}**

What is the RANGE of the data?

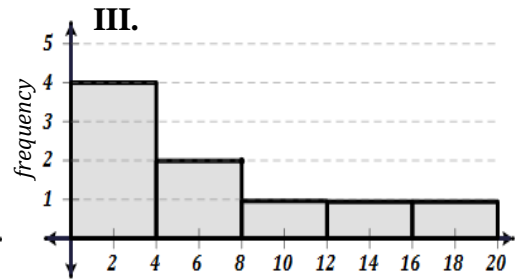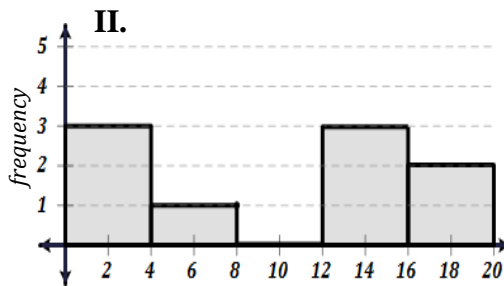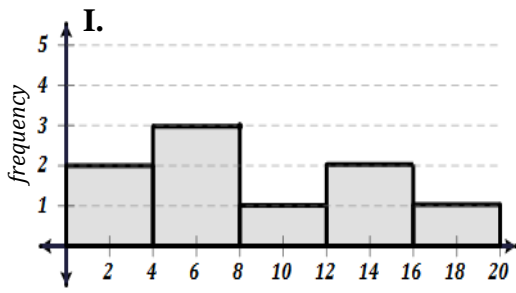What would be an appropriate class width assuming 5 classes are to be created?

Using interval notation, provide 5 appropriate classes for a frequency table or histogram.

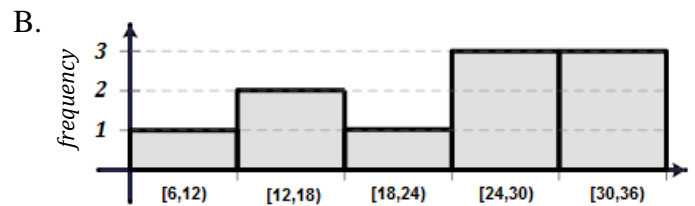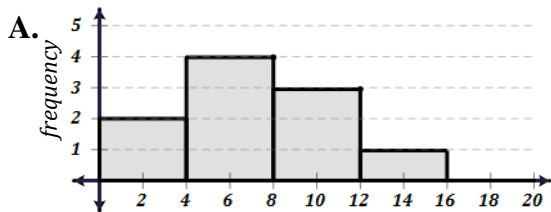14. Match each data set with the appropriate histogram shown at the right.

_____A. {2, 2, 3, 4, 12, 14, 14, 16, 19}   _____B. {1, 2, 3, 3, 4, 5, 8, 14, 17}   _____C. {1, 2, 4, 4, 6, 10, 12, 15, 18}

I.

II.

III.

15. What is the approximate mean and standard deviation of the data shown in the histograms?

A.

B.

16. Match each distribution name with each histogram shown below.

_____A. Symmetric Normal   _____B. Skewed Right   _____C. Skewed Left   _____D. Bi-modal   _____E. Uniform

I.

II.

III.

IV.

V.