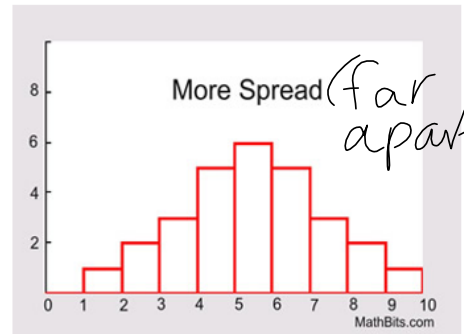
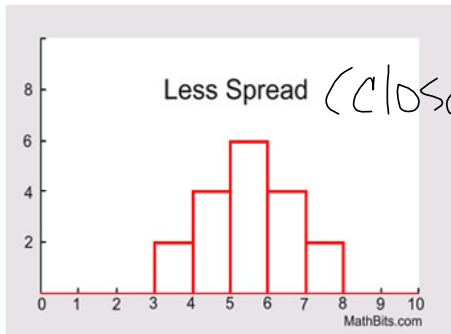


Analyzing Data Sets Notes

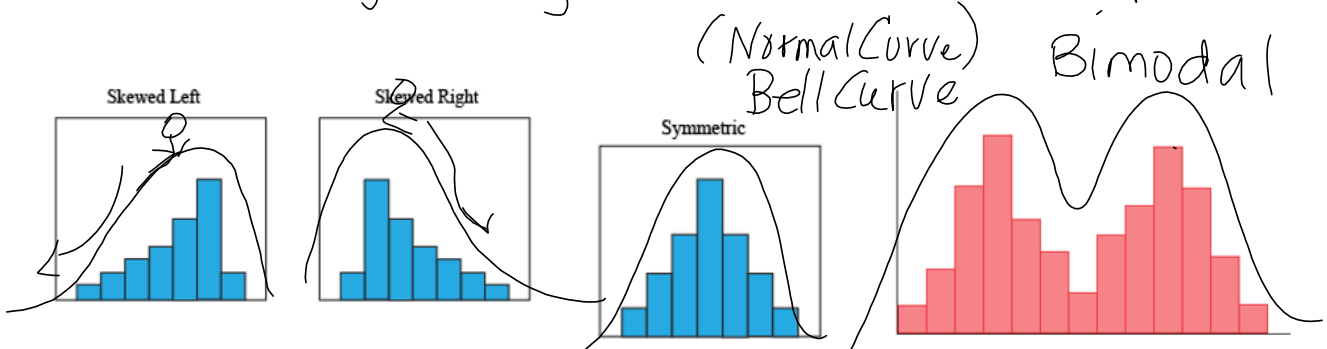
Focus on Four Features:

- **Center** - Graphically, the center of a distribution is the point where about 50% of the data is on either side.
- **Spread** - The spread refers to the variability of the data.
- **Shape** - The shape of a data distribution focuses on symmetry and skewness
- **Unusual Features** - Such as outliers or gaps

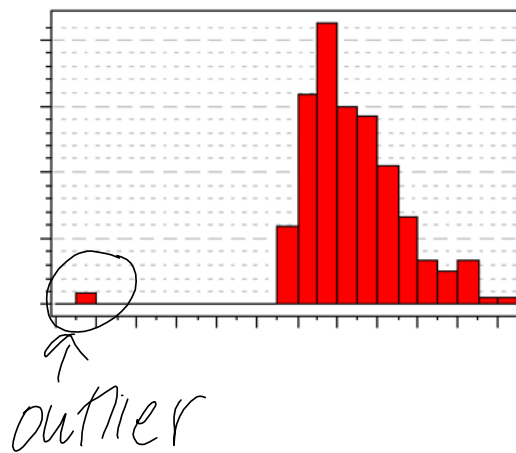
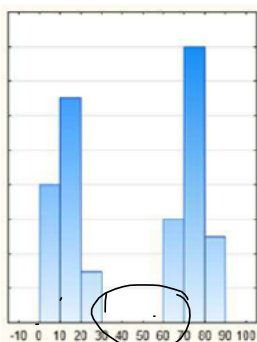
Spread - The variability of the data



Shape - Described by symmetry, skewness, and # of peaks



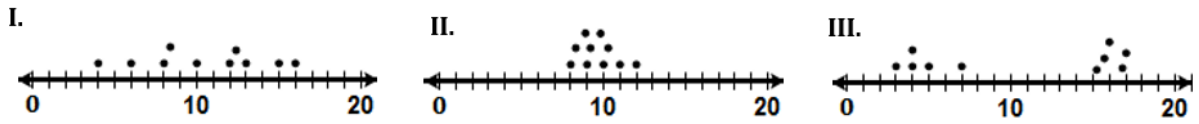
Unusual Features - The most common are gaps and outliers



Describing Data

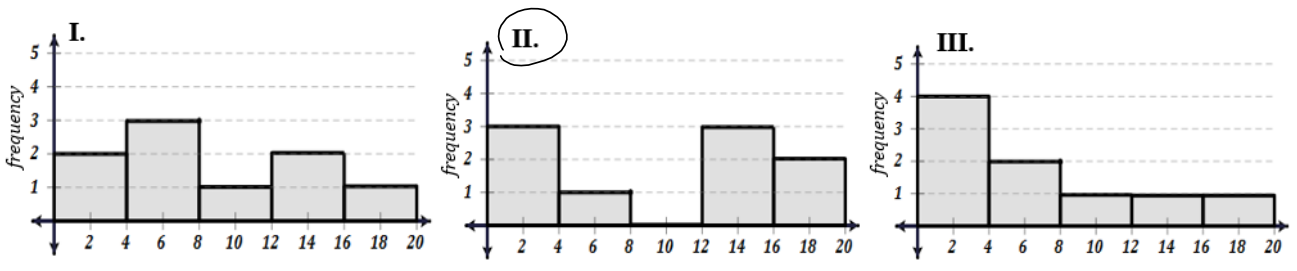
1. Which dot plot below shows the most variation and which shows the least variation?

II A. LEAST VARIATION (close together) I, III B. MOST VARIATION (far apart)



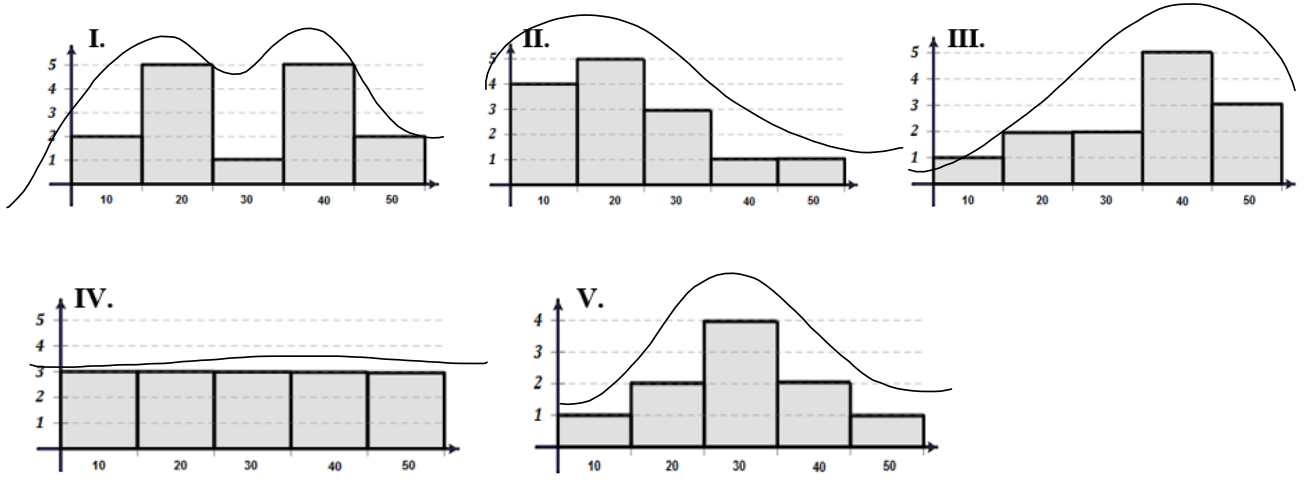
2. Match each data set with the appropriate histogram shown at the right.

II A. {2, 2, 3, 4, 12, 14, 14, 16, 19} III B. {1, 2, 3, 3, 4, 5, 8, 14, 17} I C. {1, 2, 4, 4, 6, 10, 12, 15, 18}

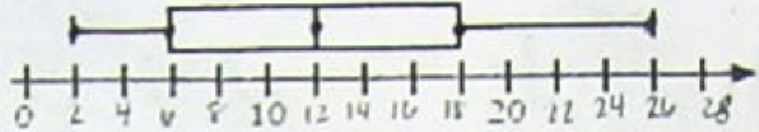


3. Match each distribution name with each histogram shown below.

V A. Symmetric Normal II B. Skewed Right III C. Skewed Left I D. Bi-modal IV E. Uniform

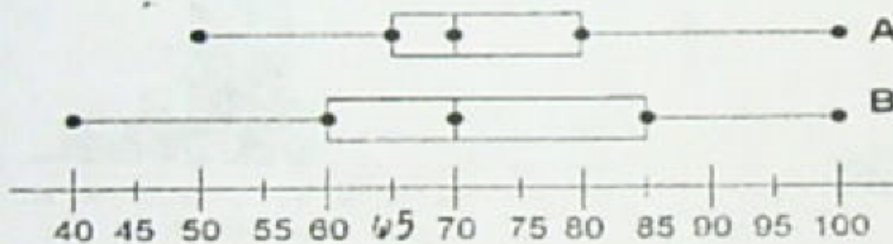


For 18, use the given the box plot shown below to determine all five data values of the five-number summary.



1. Min: 2
2. Q_1 : 6
3. Median: 12
4. Q_3 : 18
5. Max: 26
6. Range (Max - Min): 24
7. IQR ($Q_3 - Q_1$): 12
8. What percentage falls between Q_1 and Q_3 ? 50%
9. What percentage falls from the Min to Q_3 ? 75%

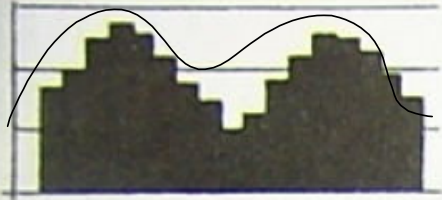
19. Compare box-and-whisker plots A and B to answer each question.



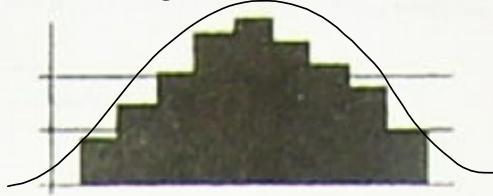
10. What is the median of each set of data? A: 70 B: 70
11. Which plot has the lesser range? B (A: $100 - 50 = 50$ B: $100 - 40 = 60$)
12. Which plot has the greater interquartile range? B (A: $80 - 65 = 15$ B: $85 - 60 = 25$)
13. What is the third Quartile Q_3 of each set of data? A: 80 B: 85
14. What is the first Quartile Q_1 of each set of data? A: 65 B: 60
15. What is the minimum value in plot A? 50
16. What is the greatest value in Plot B? 100
17. Which plot illustrates the larger range of data? A
18. What percent of the data in plot B is between 60 and 85? 50%
19. What percent of data in plot A is less than 65? 25%

For 20-24, Determine if symmetric, left skewed, right skewed, or bimodal,

20. Bimodal



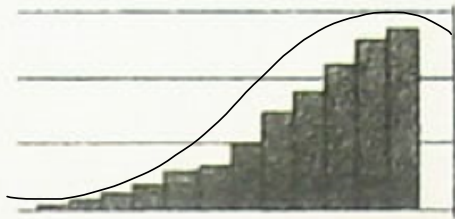
21. Symmetric



22. Skewed Right



22. Skewed Left

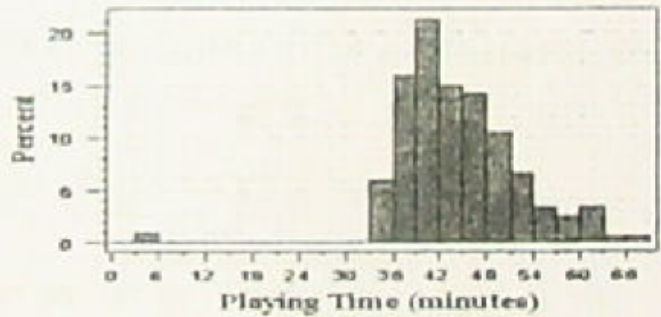


For 24-25, Determine if the following histogram has a gap or an outlier.

24. Gap

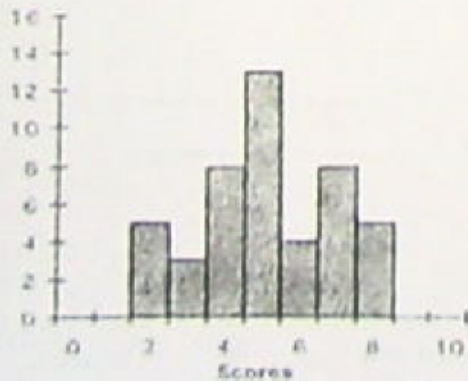


25. Outlier

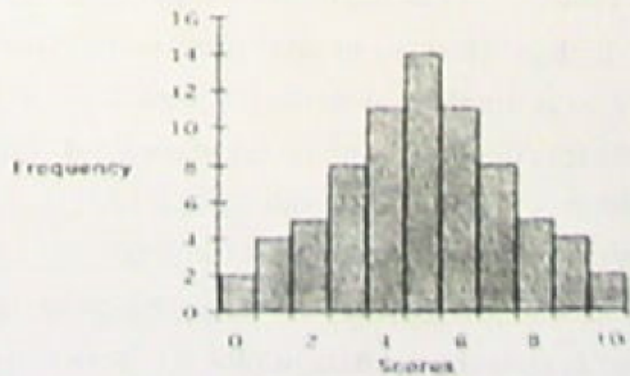


For 26-27, Determine if the following histogram has less or more variation,

26. less variation



27. More variation



Histograms

Name _____

1. Chocolate candies per bag of trail mix:

50 42 45 61 68 55 40 45
 60 55 40 45 62 50 44 63

a) Calculate:

Mean \bar{x} = _____ Mode (if any) = _____ Range (Max - Min) = _____

b) Identify the five Number summary. The draw a box and whisker plot.

Min = _____ Q1 = _____ Median = _____ Q3 = _____ Max = _____

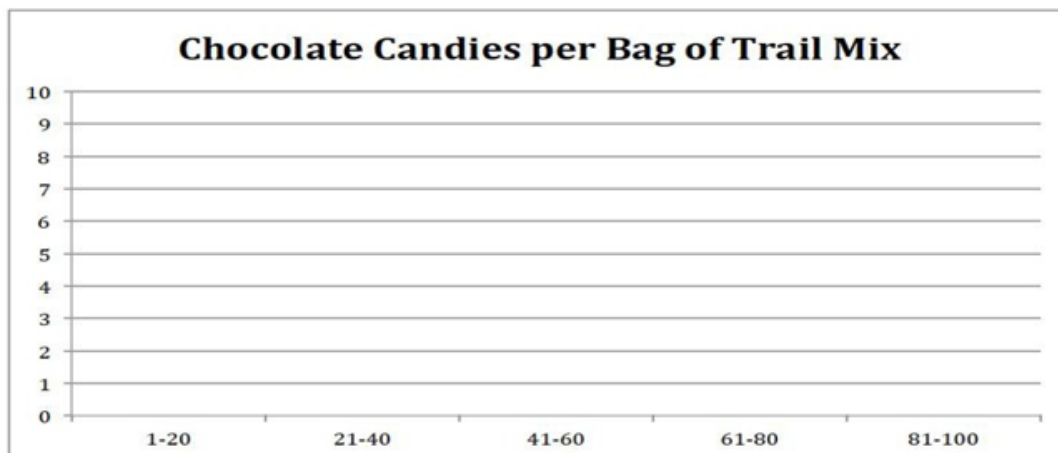


c) Fill in the frequency table.

Frequency table:

Interval	# of values
1-20	
21-40	
41-60	
61-80	
81-100	

d) Draw the histogram.



2. Test scores, out of 100points

98	100	90	75	78	70	72	80
85	92	90	95	80	78	85	85

a) Calculate:

Mean \bar{x} = _____ Mode (if any) = _____ Range (Max - Min) = _____

b) Identify the five Number summary. The draw a box and whisker plot.

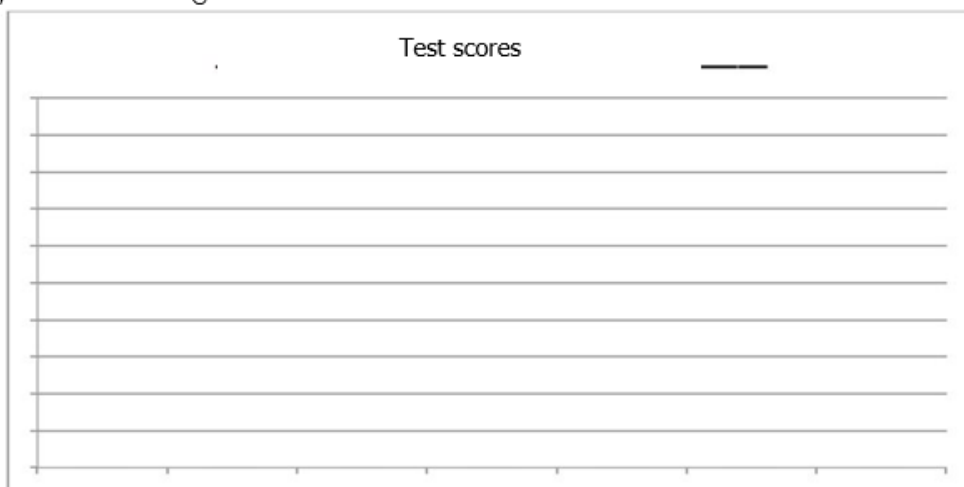
Min = _____ Q1 = _____ Median = _____ Q3 = _____ Max = _____



c) Fill in the frequency table.

Interval	# of values
70-76	
77-83	
84-90	
91-97	
98-104	

d) Draw the histogram.



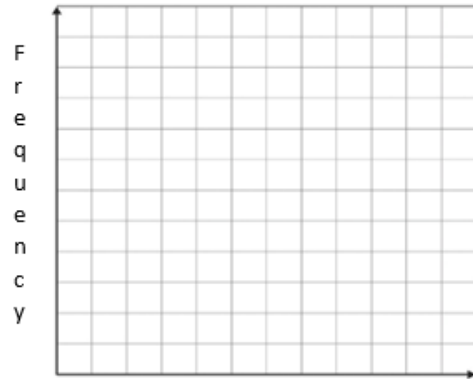
3. A survey was taken that asked people about their height in inches. The data are shown below.

52, 56, 58, 59, 61, 62, 64, 64, 65, 66, 66, 67, 67, 68, 68, 69, 69, 70, 70, 71, 72, 73, 74, 78,

a) Complete the frequency table below.

Interval	Frequency
51-55	
56-60	
61-65	
66-70	
71-75	
76-80	

b) Plot the histogram.



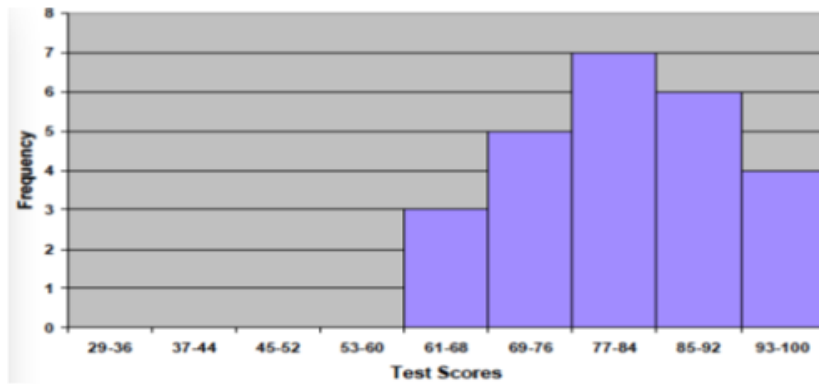
c) Answer the questions below:

- i) How many heights are in the 66-70 interval? _____
- ii) How many people in the survey are taller than 5 feet? _____
- iii) How many people in the survey are shorter than 5 feet? _____
- iv) What interval has the greatest number of heights? _____
- v) How many people were surveyed? _____

Height Intervals

4. The histogram below shows the scores for Mrs. Warren's first block class at North Paulding High school. If an 85 is the lowest score a student can earn to receive a B, how many students received AT LEAST a "B".

- a) 4
- b) 6
- c) 10
- d) 15



For 5-7, Describe the shape of the distribution below (Left skewed, Right Skewed, or Symmetric).

5. _____

6. _____

7. _____

