

Unit 2 Day 1: Dot Plots

Focus Question: How do I make and interpret a dot plot?

A. Data and Statistics

1. What is data?

What I think	What my pair thinks	What the class says
		information you collect or record

2. What are statistics?

What I think	What my pair thinks	What the class says
		numbers that help you understand or interpret the data

3. What kind of statistics are kept?

Use the data set of test scores to find each of the statistics.

Math test scores for Maggie in 1st quarter: 93%, 81%, 88%, 90%, 62%

62 81 (88) 90 93

Statistic	Definition	From the Example Data Set
Count	The number of pieces of data	5 scores
Minimum	The piece of data with the lowest value	62%
Maximum	The piece of data with the highest value	93%
Range (also called spread)	The difference between the maximum and minimum	$93 - 62 = 31\%$
Mode	The piece of data that occurs <u>most</u> often (if there is one or two)	None <i>bimodal</i> <i>three-trimodal</i>
Mean (a center of the data)	The <u>average</u> of the data (sum the data pieces and then divide by the count) <i>Between the min & Max!</i>	82.8%
Median (a center of the data)	The middle of the data (it divides the data into an upper half and lower half)	88%
Cluster	A group of data pieces with very similar values compared to the rest of the data placement	
Gap	A large empty space in the data	from 62 to 81
Outlier	A piece of data that does not follow the trend of the rest of the data	62%

4. How many ways can you think to display data? *pie chart, bar graph, dot plot, box plot, scatterplot, stem & leaf plot*

Would any of these ways be a good way to display the data set above?

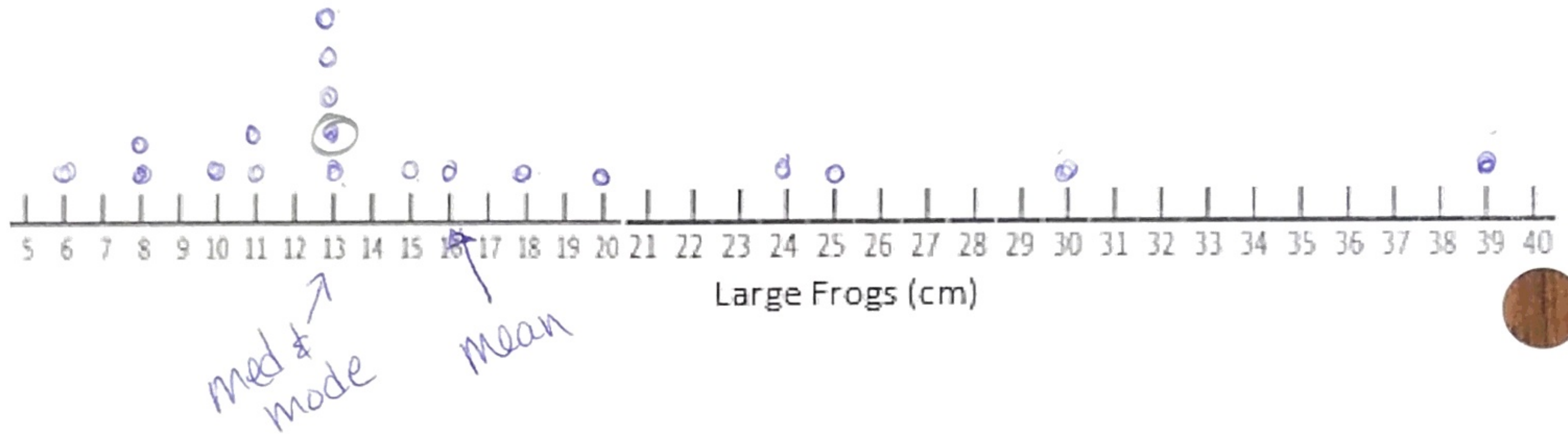
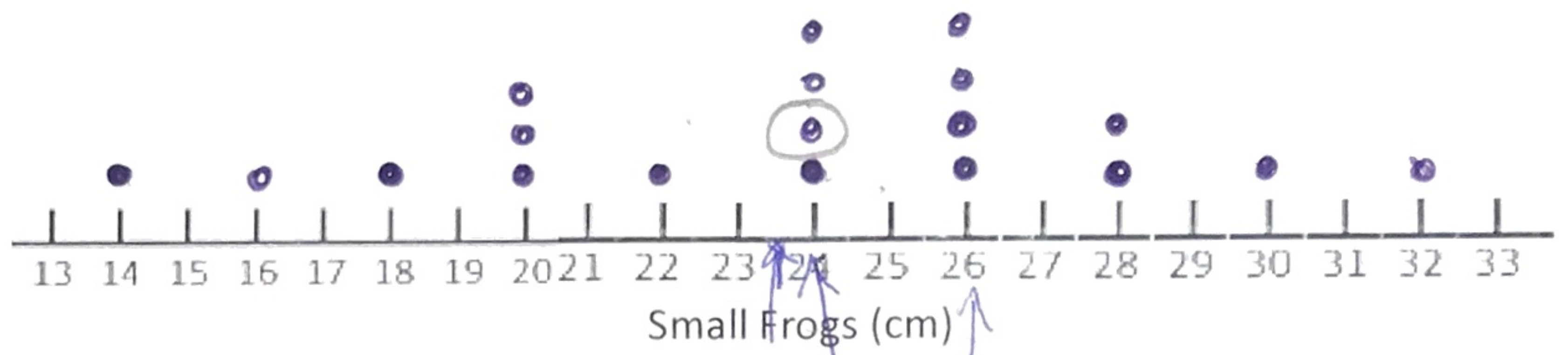
Dot Plot Stem & Leaf

B. Dot Plots

A dot plot is a very basic data display that uses dots to represent each piece of data. It starts with a number line and then each piece of data is represented with a dot placed above the number line.

For each data set on the frogs, create a dot plot and answer the questions.

Small Frogs (cm)	Large Frogs (cm)
14 ✓	8
18 ✓	11
24 ✓	13
26 ✓	15
28 ✓	30
26 ✓	6
30	25
32	13
22	24
26	13
20	16
24	20
20	13
24	13
20	11
16	18
24	10
26	8
28	39



Question	Small Frogs	Large Frogs
1. How many frogs jumped at least 26 cm?	8 frogs	2 frogs
2. What is the range of the jumps?	from 14 to 32 cm or 18 cm	from 6 to 39 cm or 33 cm
3. Find and label the mean, median, and mode?	Mean: 23.58 cm Median: 24 cm Mode: bimodal 24 & 26 cm	Mean: 16.1 cm Median: 13 cm Mode: 13 cm
4. Is the mean a good representation of the data?	Yes, it is consistent with the median & mode	Not really It's away from the median & mode

Thinking Question: If the large frogs had another jump 40 inches, which "center" would be affected more?

Median or mean
it is easily changed by extreme values