Aim: How can we use dot plots and histograms to display and analyze univariate statistics? It also includes Topic #21 from the Syllabus.

Do now: Use your iPad (google) to find the definitions of
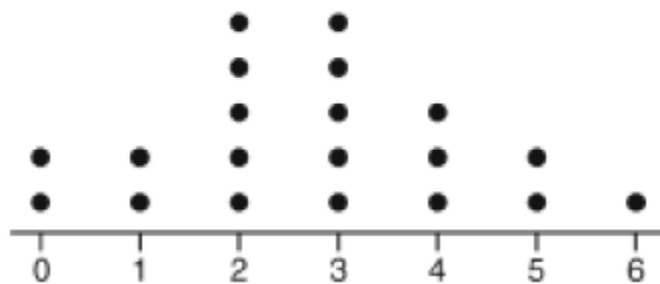
Mean:

Median:

Mode:

Interquartile:

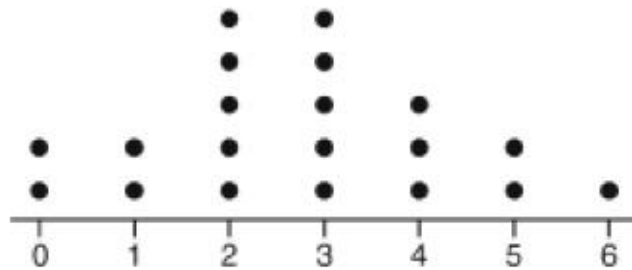Outliers:

Range:

Casual Relationship:

I – Dot Plots

1)

The dot plot shown below represents the number of pets owned by students in a class.

2)

The dot plot shown below represents the number of pets owned by students in a class.

Which statement about the data is *not* true?

(1) The median is 3.
(2) The interquartile range is 2.
(3) The mean is 3.
(4) The data contain no outliers.

3) Create a dot plot with the following data

The heights, in inches, of 12 students are listed below.

61, 67, 72, 62, 65, 59, 60, 79, 60, 61, 64, 63

MES44QC-Lesson 15   **Mr. Pineda**
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Then let's answer the following questions

Which statement best describes the spread of these data?

(1) The set of data is evenly spread.

(2) The median of the data is 59.5.

(3) The set of data is skewed because 59 is the only value below 60.

(4) 79 is an outlier, which would affect the standard deviation of these data.

II – Histograms

Using the heights given, complete the frequency table below.

The heights, in feet, of former New York Knicks basket-

Based on the frequency table created, draw and label a frequency histogram on the grid below.
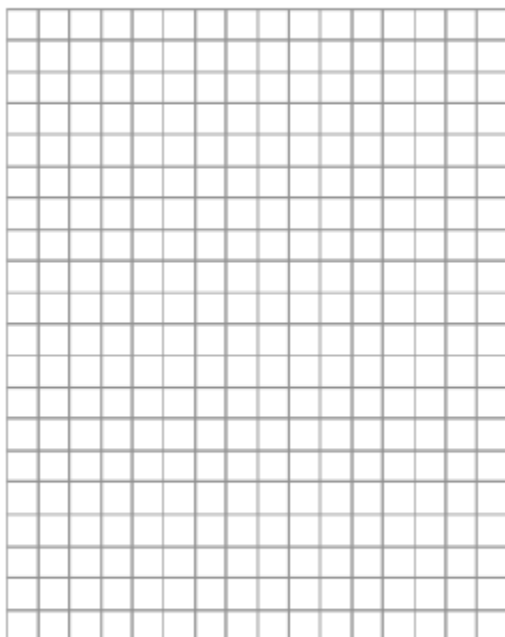
Interval	Frequency
6.0 – 6.1	
6.2 – 6.3	
6.4 – 6.5	
6.6 – 6.7	
6.8 – 6.9	
7.0 – 7.1	

Determine and state which interval contains the upper quartile. Justify your response.

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Homework # 15

1)

Christopher looked at his quiz scores shown below for
the first and second semesters of his Algebra class.

Semester 1: 78, 91, 88, 83, 94
Semester 2: 91, 96, 80, 77, 88, 85, 92

Which statement about Christopher's performance is
correct?

(1) The interquartile range for semester 1 is greater
than the interquartile range for semester 2.
(2) The median score for semester 1 is greater than
the median score for semester 2.
(3) The mean score for semester 2 is greater than
the mean score for semester 1.
(4) The third quartile for semester 2 is greater than
the third quartile for semester 1.

2)   The table below shows the annual salaries for the 24
members of a professional sports team in terms of
millions of dollars.

0.5	0.5	0.6	0.7	0.75	0.8
1.0	1.0	1.1	1.25	1.3	1.4
1.4	1.8	2.5	3.7	3.8	4
4.2	4.6	5.1	6	6.3	7.2

The team signs an additional player to a contract
worth 10 million dollars per year. Which statement
about the median and mean is true?

(1) Both will increase.
(2) Only the median will increase.
(3) Only the mean will increase.
(4) Neither will change.

3)

Isaiah collects data from two different companies, each with four employees. The results of the study, based on each worker's age and salary, are listed in the tables below.

Company 1

Worker's Age in Years	Salary in Dollars
25	30,000
27	32,000
28	35,000
33	38,000

Company 2

Worker's Age in Years	Salary in Dollars
25	29,000
28	35,500
29	37,000
31	65,000

Which statement is true about these data?

(1) The median salaries in both companies are greater than $37,000.
(2) The mean salary in company 1 is greater than the mean salary in company 2.
(3) The salary range in company 2 is greater than the salary range in company 1.
(4) The mean age of workers at company 1 is greater than the mean age of workers at company 2.

4)

The two sets of data below represent the number of runs scored by two different youth baseball teams over the course of a season.

Team A: 4, 8, 5, 12, 3, 9, 5, 2
Team B: 5, 9, 11, 4, 6, 11, 2, 7

Which set of statements about the mean and standard deviation is true?

(1) mean A < mean B
standard deviation A > standard deviation B
(2) mean A > mean B
standard deviation A < standard deviation B
(3) mean A < mean B
standard deviation A < standard deviation B
(4) mean A > mean B
standard deviation A > standard deviation B

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5) Which situation does *not* describe a causal relationship?

(1) The higher the volume on a radio, the louder the sound will be.
(2) The faster a student types a research paper, the more pages the research paper will have.
(3) The shorter the time a car remains running, the less gasoline it will use.
(4) The slower the pace of a runner, the longer it will take the runner to finish the race.

6) Konnor wants to burn 250 Calories while exercising for 45 minutes at the gym. On the treadmill, he can burn 6 Cal/min. On the stationary bike, he can burn 5 Cal/min.

If t represents the number of minutes on the treadmill and b represents the number of minutes on the stationary bike, which expression represents the number of Calories that Konnor can burn on the stationary bike?

(1) b (3) $45 - b$
(2) $5b$ (4) $250 - 5b$