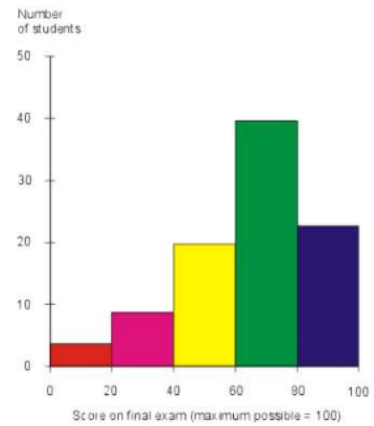


Histograms

Histogram:

Intervals:

Interval Example: 1-5, 6-10, 11-15



Bar Graph	Versus	Histogram
Used to display:		Used to display:
Example: Toyota vs. Chrysler		*Bars <u>must</u> touch!

Steps for Creating a Histogram

1. Construct a frequency _____:

- Intervals must be the _____ size
- Intervals extend to cover all possible _____ of data
- Have at least _____ intervals

2. _____ the frequencies

- Draw and label vertical and horizontal _____
- Draw a _____ for each interval
 - *Bars are drawn with an _____ width
 - *Bars should _____

3. Give the graph a _____

Number of minutes students used to study for spelling test.

11, 7, 15, 0, 16, 19, 13, 2, 14, 12, 6, 3, 18

How many numbers are in the interval

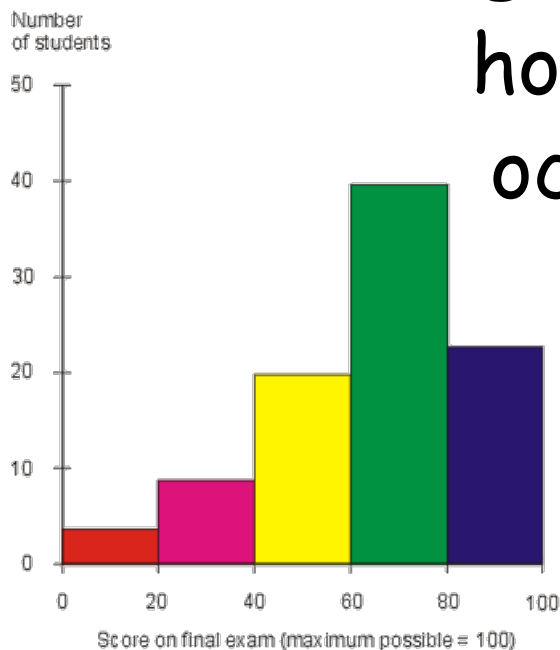
from 0 to 4? _____

from 5 to 9? _____

from 10 to 14? _____

from 15 to 19? _____

Histograms- bar graph that displays how frequently data occurs within equal intervals



~~intervals~~- space between two units, set of numbers consisting of all numbers between them

Interval Ex: 1-5, 6-10, 11-15

Bar Graph versus Histogram

Used to display
and compare
categorical data.
(NOT Numerical)

Ex:

Toyota vs Chrysler

Used to display and
compare numerical
data by spreading
into equal intervals

*Bars must touch!

Steps for Creating a Histogram

1. Construct a **frequency table**

- Intervals must be the same size
- Intervals extend to cover all possible values of data
- Have at least 4 intervals

2. Graph the **frequencies**

- Draw and label vertical and horizontal axes
- Draw a bar for each interval
 - *Bars are drawn with an equal width
 - *Bars should touch

3. Give the graph a **title**

Number of minutes students
used to study for spelling test.

11, 7, 15, ~~0~~, 16, 19, 13, ~~2~~, 14, 12, 6, ~~3~~, 18

How many numbers are in the
interval from 0 to 4? 3

111

from 5 to 9? 2

from 10 to 14? 4

from 15 to 19? 4

Total (13)



Name: _____

Class: _____

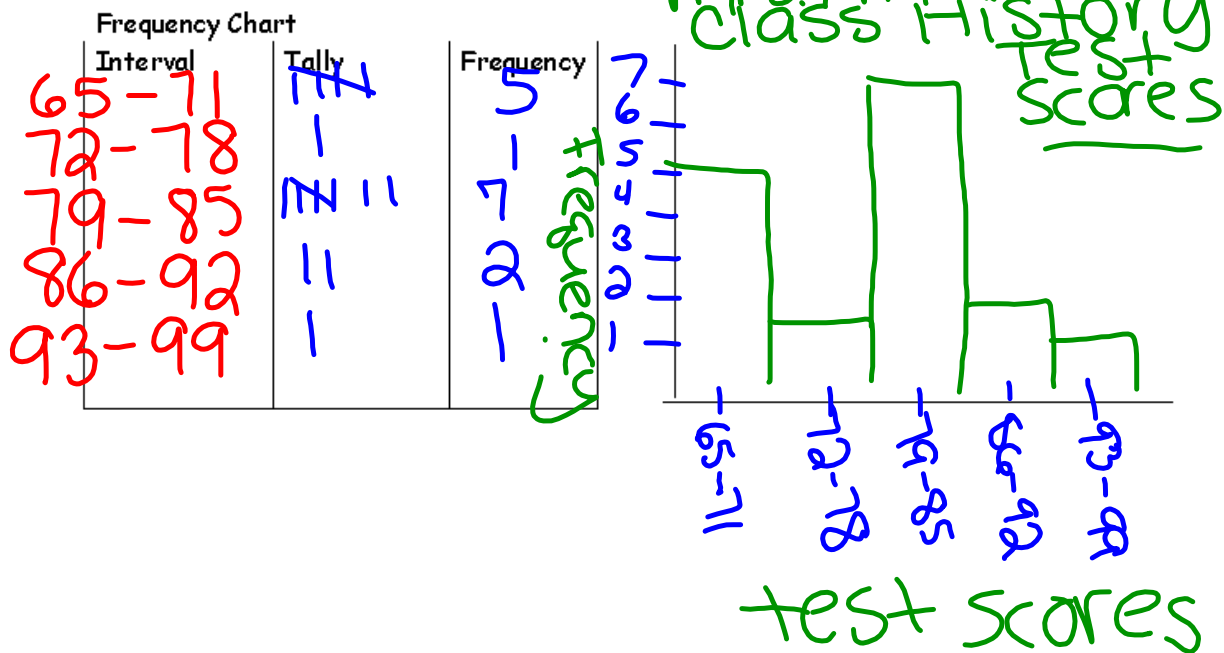
Date: _____

Histograms

Histogram:

Constructing a Histogram

Mrs. Pittman gave her class a history test. The class of 16 students had the following scores: 75, 80, 65, 80, 95, 85, 85, 80, 90, 80, 70, 85, 90, 70, 85, 70. Construct a histogram to represent this data.



1. Listed below are the daily high temperatures ($^{\circ}\text{F}$) for the first 20 days of April. Choose appropriate intervals to group the data, make a frequency table for the data, and construct a histogram for the data.

55	62	68	75	69	78	82	79	85	88
65	60	58	75	80	82	74	78	78	72

Frequency Chart			
Interval	Tally	Frequency	
55-61		3	
62-68		3	
69-75		5	
76-82		7	
83-89		2	

2. Thirty people in Max's neighborhood participated in a Walk-A-Thon fundraiser. The ages of the walkers were as follows:

12	8	32	35	15	47	9	15	52	55	70	18	36	29	12
11	16	45	44	19	62	60	8	23	27	10	34	74	13	59

- Make a histogram for the set of data.
- Determine the mean and median for this data set.
- Explain how the median for this data relates to the graph of the data.
- If the seven youngest participants did not walk and seven members of the Golden Oldies Club (over 70 years of age) took their place, how would this change the graph of the data? Determine the mean and median for this new data set.

Frequency Chart			
Interval	Tally	Frequency	
8-22		13	
23-37		7	
38-52		5	
53-67		5	
68-82		2	

1. Listed below are the daily high temperatures ($^{\circ}\text{F}$) for the first 20 days of April. Choose appropriate intervals to group the data, make a frequency table for the data, and construct a histogram for the data.

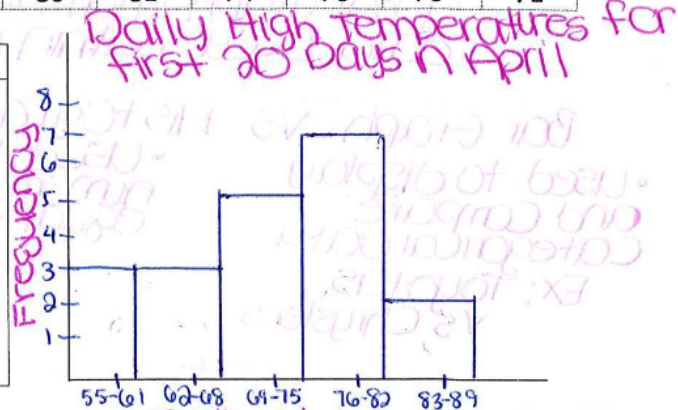
mean = 73.15

55	62	68	75	69	78	82	79	85	88
65	60	58	75	80	82	74	78	78	72

7

Frequency Chart

Interval	Tally	Frequency
55-61		3
62-68		3
69-75		5
76-82		7
83-89		2



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- Make a histogram for the set of data.
- Determine the mean and median for this data set.
- Explain how the median for this data relates to the graph of the data.
- If the seven youngest participants did not walk and seven members of the Golden Oldies Club (over 70 years of age) took their place, how would this change the graph of the data? Determine the mean and median for this new data set.

median = 28, mean = 31.7

Frequency Chart

Interval	Tally	Frequency
8-22		13
23-37		7
38-52		4
53-67		4
68-82		2

total : 30

