

MEASURES OF CENTRAL TENDENCY AND HISTOGRAMS

MEASURES OF CENTRAL TENDENCY

Mean- the average of a set of data

Median- a numerical value separating the higher half of a data sample from the lower half of a data sample

Range- the distance between the largest and smallest values



MEAN VS. MEDIAN

MEAN

Affected by outliers

- ☐ Grades
- ☐ College acceptance
- ☐ GPA

MEDIAN

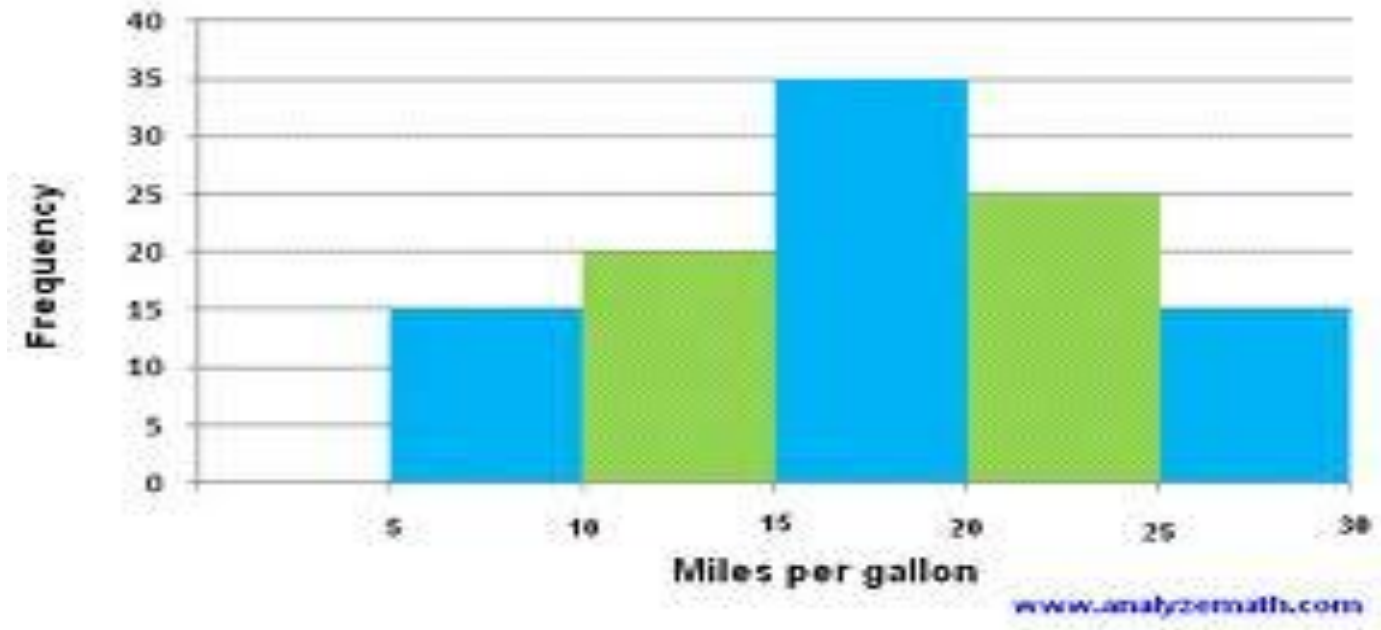
Not affected by outliers

- ☐ Home Prices
- ☐ Wages



HISTOGRAMS

A graphical representation of the distribution of quantitative data



Now let's make our own histogram!

Here are prices of ten cell phones (in dollars):

20, 50, 99, 150, 75, 210, 99, 110, 115, 300


**Find the mean and median of this data
using your calculator.**

Mean: \$122.80

Median: \$104.50



DETERMINING THE BIN SIZE

1. Assume the histogram will have five bins
 2. Find the range of the data (Max – Min)
 3. Divide the range by the number of bins
(we picked five. Why?)
 4. Your bin size is this number
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DETERMINING THE BIN SIZE FOR THE CELL PHONES

Here are prices of ten cell phones (in dollars):

20, 50, 99, 150, 75, 210, 99, 110, 115, 300

Range: $300 - 20 = 280$

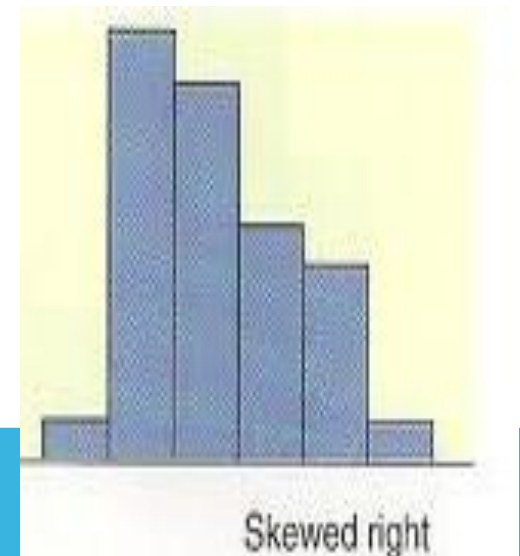
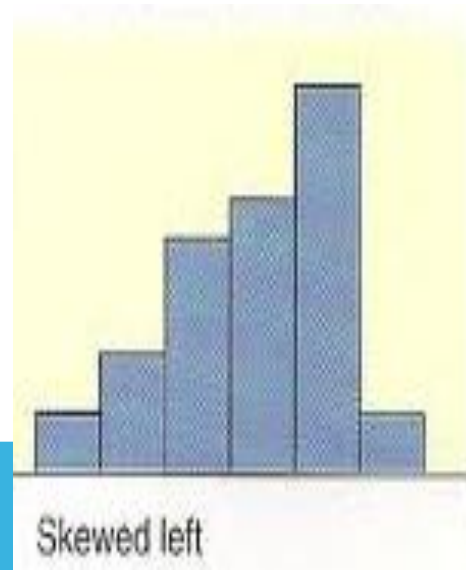
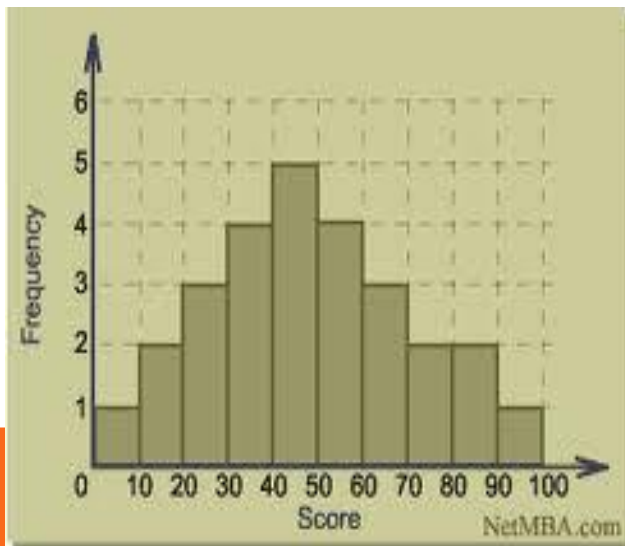
Divide by 5 (the number of bins) = 56

Start at the minimum and add 56 to create each bin.



ANALYZE YOUR FINDINGS!

Skewed- a distribution displaced at one end of the scale



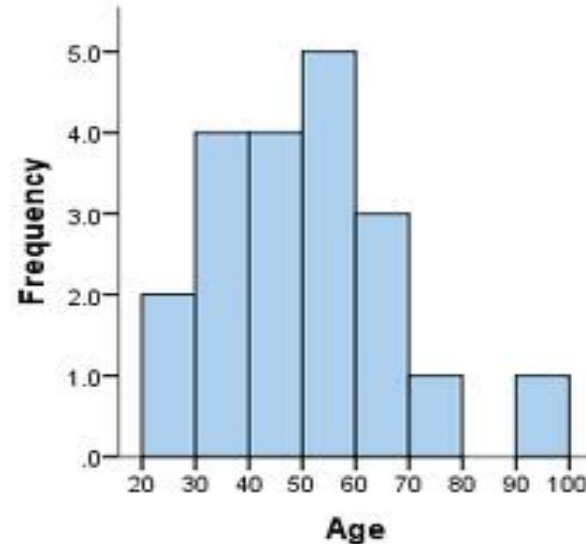
WHAT THE MEAN AND MEDIAN TELL US

Mean > Median

Skewed right

Mean < Median

Skewed left



- If a gap exists, we say that an outlier is probable.