

ONE VARIABLE DATA

Descriptive Statistics - *graphs, charts*
numerical summaries

Inferential Statistics - *predictive*

Measures of central tendency -

Mean - *average*

μ
 ↑
 mean of
 a population

\bar{x}
 ↑
 mean of
 a sample

$$= \frac{\sum x}{n}$$

add up → \sum
data → x
 n → *#*

Median - *middle #*

Mode - *most common #*

Measures of variance -

Standard deviation -

$$\sigma = \sqrt{\frac{\sum (x - \bar{x})^2}{n}}$$

std. dev. of a population

$$s = \sqrt{\frac{\sum (x - \bar{x})^2}{n - 1}}$$

std. dev. of a sample

Quartiles - quarters

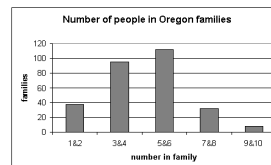
Range - Max. - Min.

Interquartile range - Upper quartile - Lower quartile

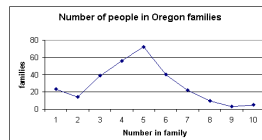
Outliers - U.Q. + 1.5 · I.R.
L.Q. - 1.5 · I.R.

Graphs -

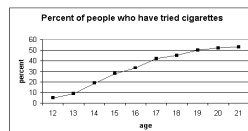
Histogram -



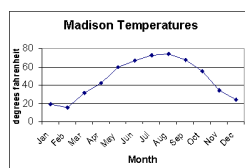
Frequency distribution -



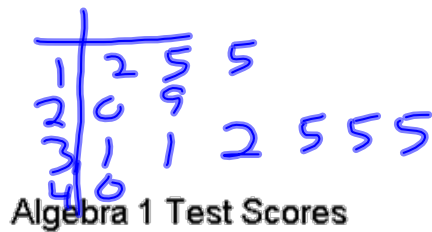
Ogive -



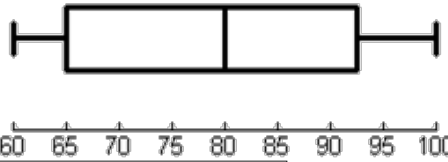
Time series graph -



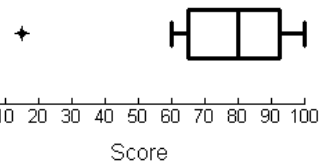
Stem and leaf -



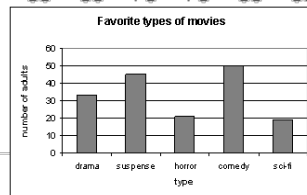
Box plot -



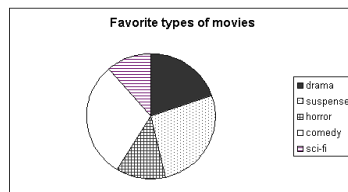
Algebra 1 Test Scores



Pareto chart -



Pie chart -



Ex 1. Use a data set we have collected to find each of the following:

mean: $\bar{x} = 25$

median: 12

mode: 10 and 12

standard deviation: ≈ 36

lower quartile: 10

upper quartile: 23

range: 120

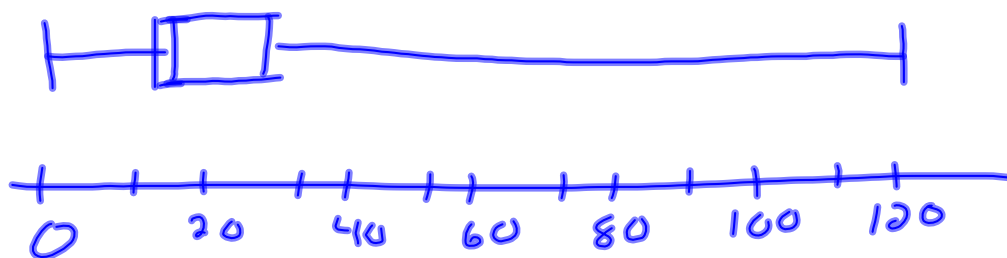
interquartile range: 13

outliers:

$$23 + 1.5(13) = 42.5$$

$$10 - 1.5(13) = -9.5$$

Ex. 2 Make a box plot of the data from the previous example.



Homework
p.31
#1-22, 31-33

Due Wednesday, September 11