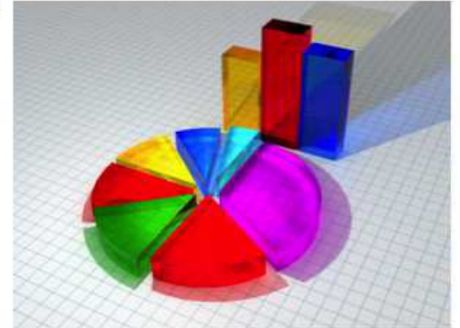


STATISTICS 1:

Types of data
Presenting data
Displaying data



HOMEWORK:

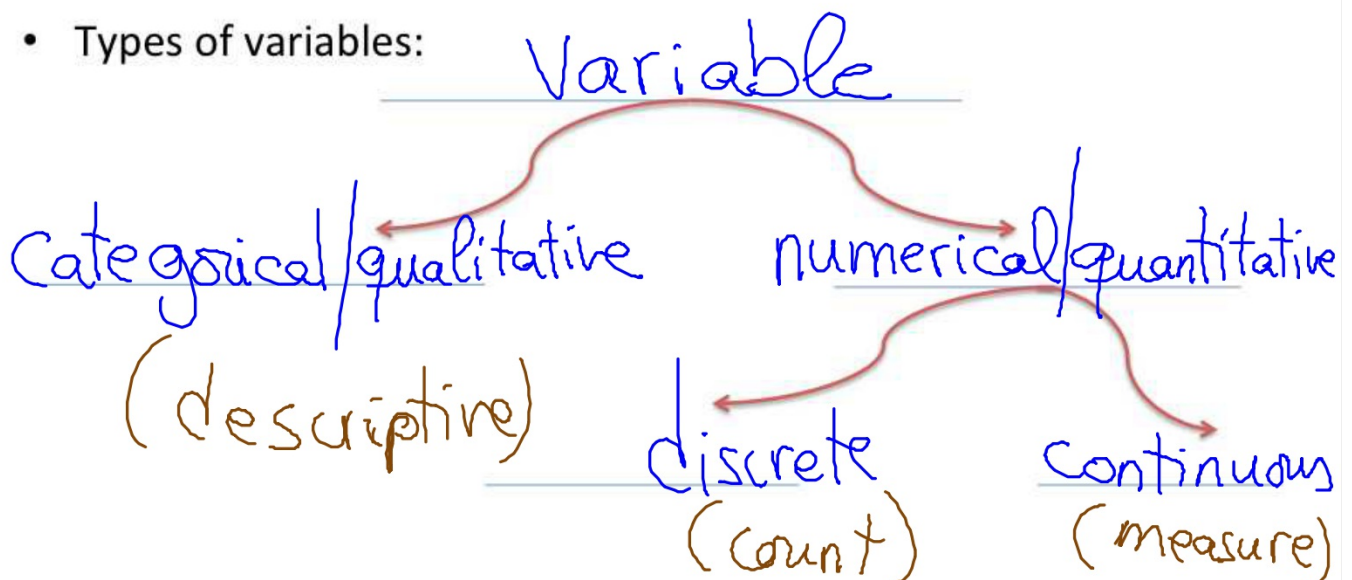
Page 46-2A: Q1+Q2

Page 48-2B: Q2+Q3+Q4+Q6

Definitions

- Data is the collection of observed values of a Variable. How can you collect this data? " x "
- Variable: is the "thingy" you are analyzing. Does it have units? it depends, but yes!!
i.e. Car colours, Height of students...

- Types of variables:



Definitions

- Qualitative Variables/Data: descriptive
 - Examples: colour of cars, favorite ice cream
type of pet Birthday month
- Quantitative Variables/Data:
 - Discrete: Something you count.
Examples: # of people in family, # of pets
 - Continuous: Something you measure.
Examples: Heights, weight, volume age
time

Examples

1. Classify the following as either *categorical*, *quantitative discrete* or *quantitative continuous*:

- Number of leaves on stems of plants
- Popular colour of cars
Quantitative, Discrete
- Number of matches in a box
Qualitative
- Time spent on homework
Quantitative, Discrete
- Transportation methods to school
Quantitative, Continuous
- Time spent commuting to school
Qualitative
- Number of T-shirts you own
Quantitative, continuous
- Distance ran during PE class
Quantitative, discrete
- Heart-rate after running
Quantitative, continuous
- Heart-rate after running
Quantitative, discrete ?

Random versus biased sample Σ (=sigma) (sum)

- Sample: n = "total number of elements" in your sample
 $\Sigma f = n$
- Random vs. Biased: read examples on page 46
- A good representative sample of an investigation should be random.

Note for when you work on your IA next year: Sometimes we cannot collect unbiased data, but that is OK, just make sure you comment on it in your IA.

Presenting the data

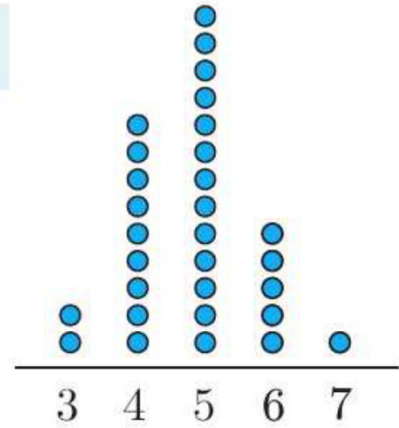
- As a list: Red, blue, red
 5, 4, 3, 4, 4, 3, 4, 6
 This presentation only works when we have only a few elements in our sample.
- Organized in a table: Called frequency table

Fuel type	Tally	Freq.
Unleaded		28
Lead Rep		12
LPG		8
Diesel		2
	Total $\Sigma f =$	50

$n = 50$

Presenting data

- Dot Plot: Mostly used journals



- Stemplots or Stem & Leaf Plots:

Note: in Stem&Leaf plots there has to be a **KEY** to know how to read the values of your variable.

Key:
 $1|7 = 1.7$

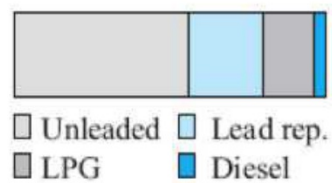
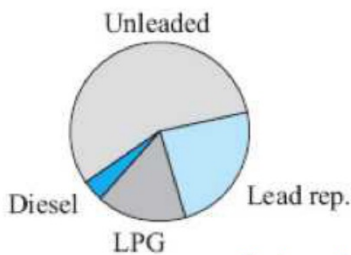
Values: 0.9, 1.7, 1.1, 2.8, 2.3, ...5.1

Stem	Leaf
0	9
1	7 1
2	8 3 6 7 6 4
3	9 3 5 5 6 8 2 1
4	7 9 3 4 2
5	1

this example of stemplot is not in ordered. I would be nicer if it was.

Displaying data

- Pie Charts and Segment Chart: mostly used with Categorical/quantitative.



- Bar Charts: Mostly used Categorical or Numerical discrete.
Not used with Numerical Continuous

