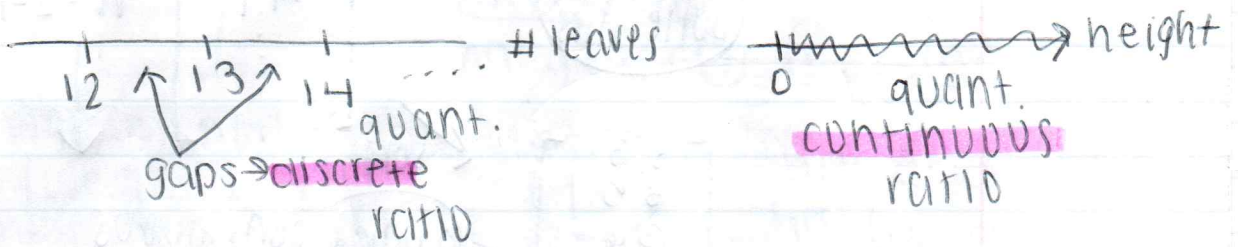
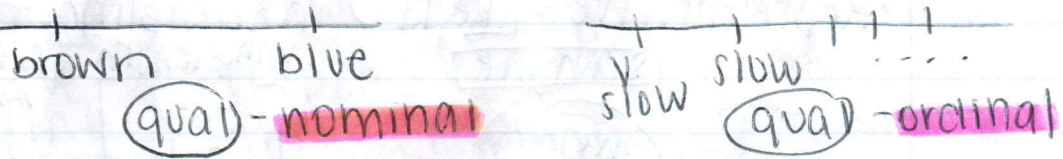
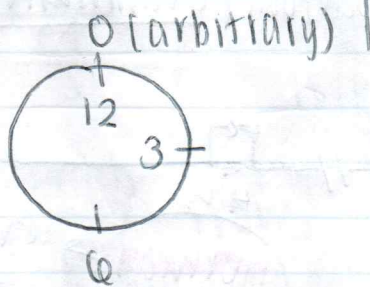


Stats Lecture #3: Variable types + histograms



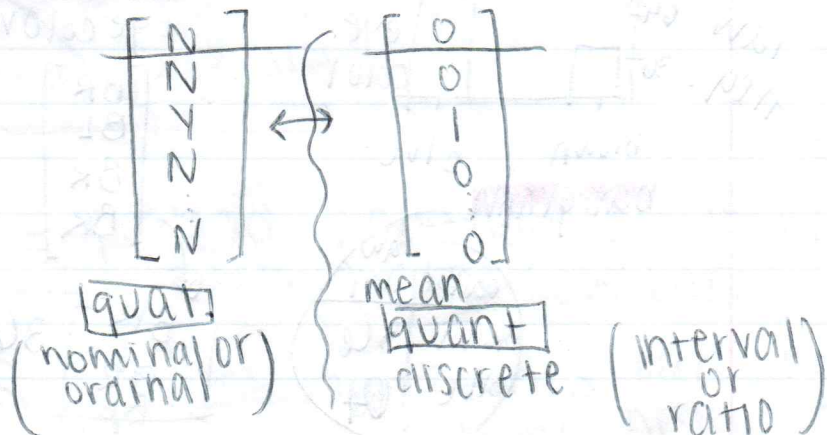
Ratio scale - can talk about ratio between 2 values
~~can't have a ratio between 90 and 45~~

	yesterday	today	
max. temp in s.c.	90°F	45°F	- no natural zero, so ratio is arbitrary so can't have ratio



quant. cont. interval (at 6pm in was 3hr later than 3pm)

sample
 the observed deer
 disease?
 $I = Y$
 $0 = N$



Descriptive Methods

• Representative = like IID in sampling from a pop.

sample

the observed butterflies

wing length (cm)

4.4
3.6
4.1
...

n = 24

3.3
3.5
3.6
...

sort

quant continuous

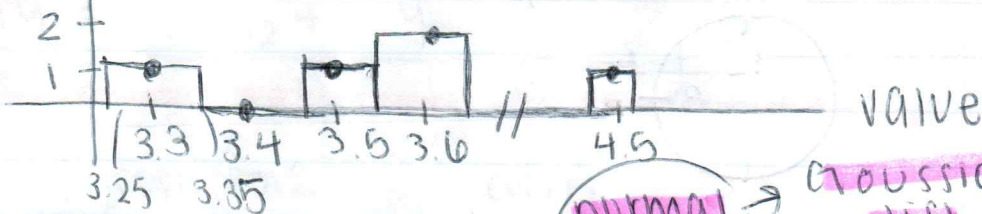
discretized by measurement

raw frequency

histogram → kind of bar graph

special bar, only quantitative

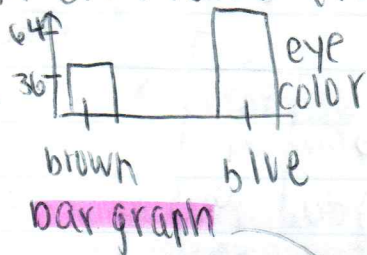
raw freq. (count)



• C.F. GAUSS (1790-1840)

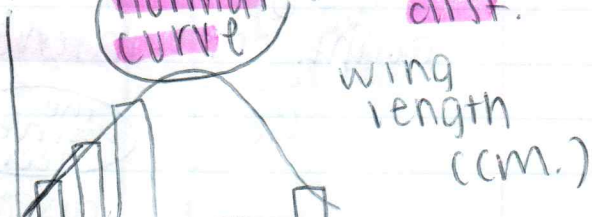
A. de MOIRE (1710)

raw freq.



bar graph

value	raw freq
brown	36
blue	64



normal curve

Gaussian dist.

eye color

qual

n = 100
1 row
for each animal

BR
BL
BR
BR

BR
BR
BL

36
14

270121521016 # : M010102 of (C0101 + 281000)

vine
eve
vine
:
:

1 row
for each
nest

qual
nominal
not dich
bar graph(y) hist. (n)

*insure think
about if raw or
summarized data

pigmentation

solid black
faintly speck.
:
:

1 row
for
each
sunfish

qual
ordinal
not dich

bar graph(y)
hist (n)

pups (litter size)

4
5
4
3
:

1 row
for
each
litter

quant
discrete
ratio

~~bar graph(y)~~
hist (y) \downarrow
better
to
make hist

aphids

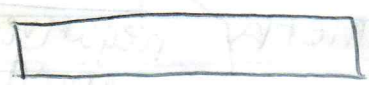
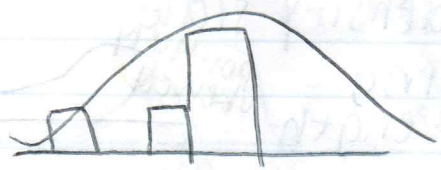
21
31
4
:

1 row
for
each
clover
plant

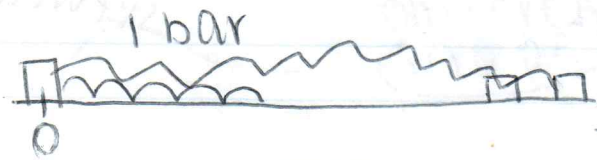
$n = 424$

quant
discrete
ratio

~~bar graph(y)~~
hist (y)



(all shape info. lost)
- too few bars



42 bars
- too many bars
bad hist. - too jittery