

this descriptive  
time: methods

variables  
& the  
values

AMS 7  
Th Oct 1  
15

next  
time: normal  
curve

they take on

variable

values

eye color

Qual. (N) nominal  
blue, brown

hair color

dichotomous  
nominal  
black, brown, red  
blonde, blue

success at  
maze running

Qual. very ordinal not dich.  
slow, slow, moderate, fast, very fast

plant  
size

height  
(cm)

Quant. cont.  
7.42 cm, 7.017 cm, ...

# of  
leaves

Quant. discrete  
46, 39, ...

height

Quant. Cont.

✓ tomato plant  
2 is twice  
as tall as fig. 2

vs.

temperature  
(daily max)

Quant. Cont.

$\frac{20\text{cm}}{10\text{cm}}$

~~74°F is twice  
as hot as 37°F~~

internal  
scale

0 cm  
of height  
= absence  
of height

74°F is 34°F higher  
in temp. than 40°F

ratio-  
scale

like water

wing length (cm)

1 row  
for  
each  
butterfly

4.4  
3.6  
4.1  
i  
3.9

n = 24

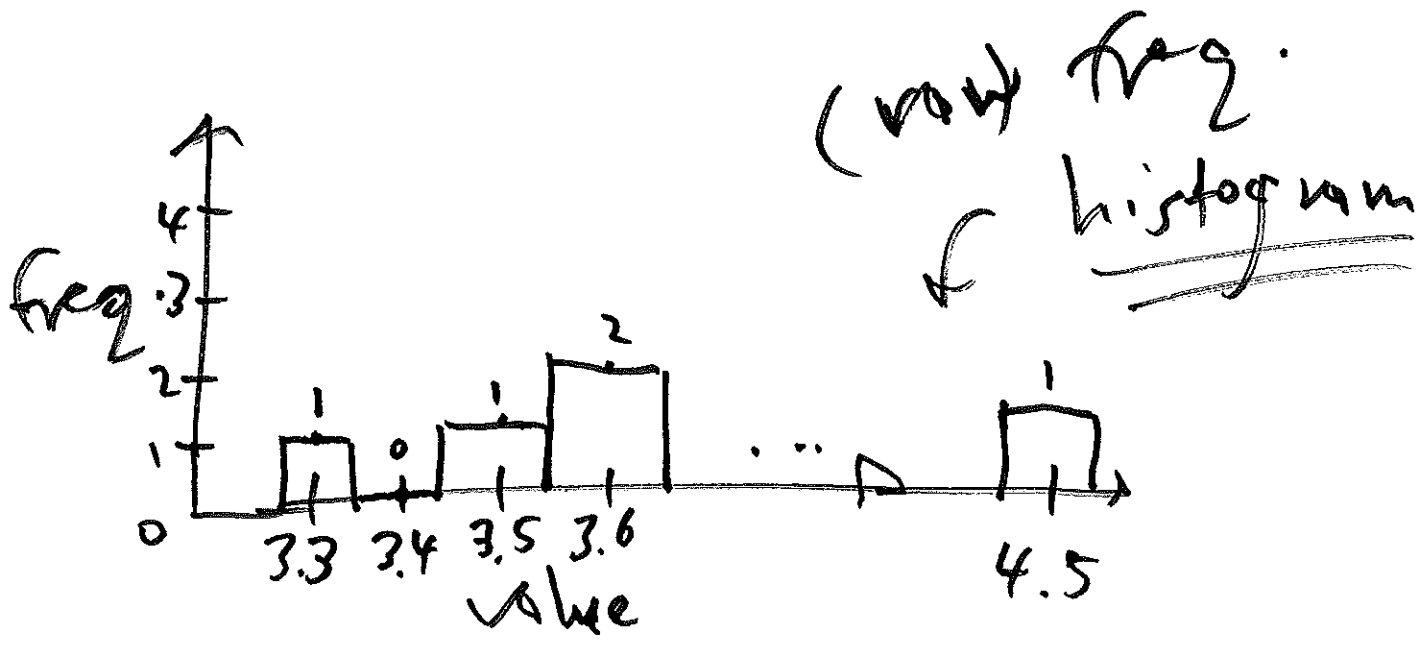
sort →

3.3  
3.5  
3.6  
3.6  
.  
4.5

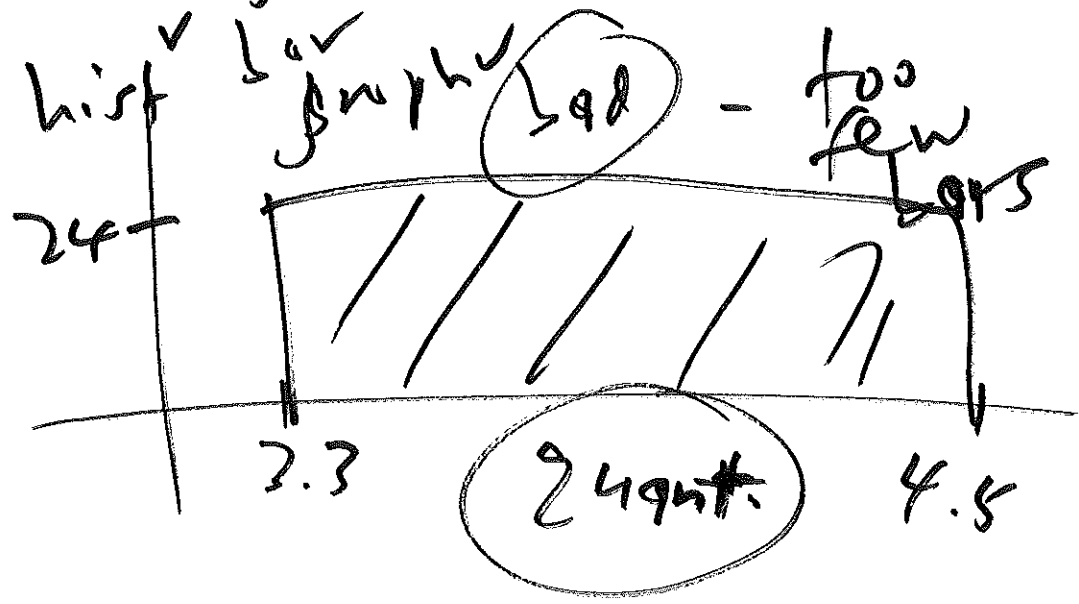
<u>value</u>	<u>(raw) (counts) frequency</u>
3.3	1
3.4	0
3.5	1
3.6	2
⋮	⋮
4.5	1

h = 24

(raw) frequency distribution

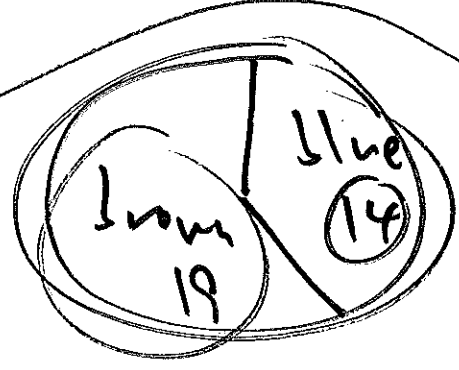
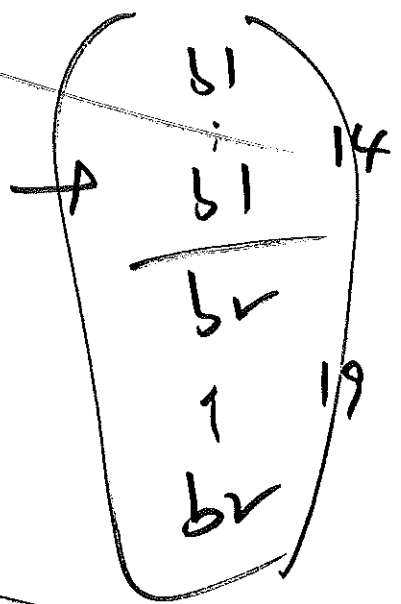
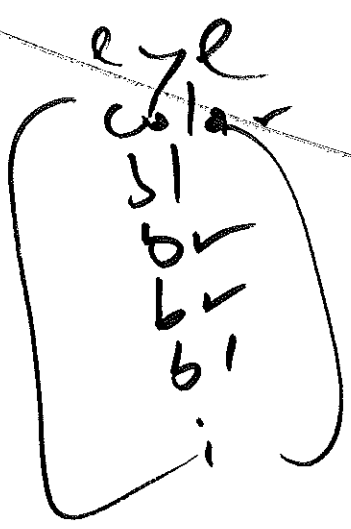


Q: is there only 1 unique hist. for any given variable? A: No



This is another hist. for

hair



pie chart

to caution  
 vine (v)  
 1 row  
 for  
 each  
 best

qual.  
 neutral  
 hist? no  
 ok

bar  
 graph  
 ok?  
 yes

v	56
v	
b.e	60
s.e	
t.b.	46
t b	
t & b	49

amount  
 of bl. pig.  
~~5.5.7~~  
~~5.6.4~~  
 1 row  
 for  
 each  
 sunfish

qual.  
 neutral  
 hist  
 ok? no

bar  
 graph  
 ok?  
 yes

# of pups

1 row	5
for	3
each	5
plant	6
	1
	1

quant  
disc.  
ratio

hist ok?

# aphids

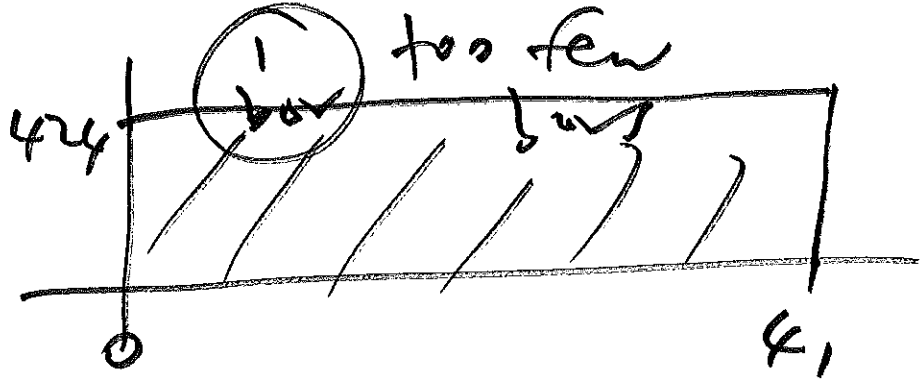
1 row	19
for	33
each	4
plant	1

quant  
disc.  
ratio

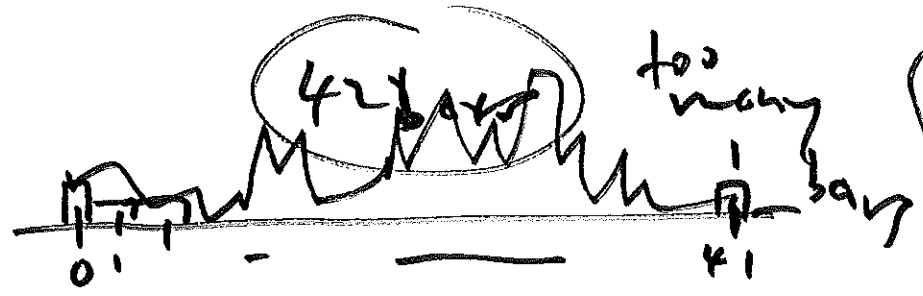
$n = 424$

hist. ok. ?

plant



bad  
a list.



another  
bad list

phosphorus concentration

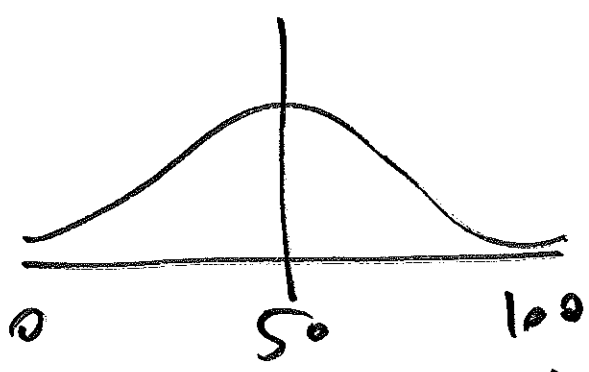
low for each plant

8.67
9.13
8.28
.
.

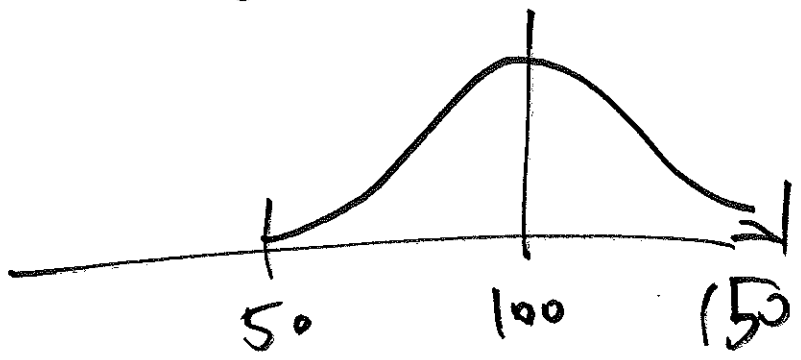
$n = 130$

- Quant.
- Cont.
- ratio

hist ok? yes

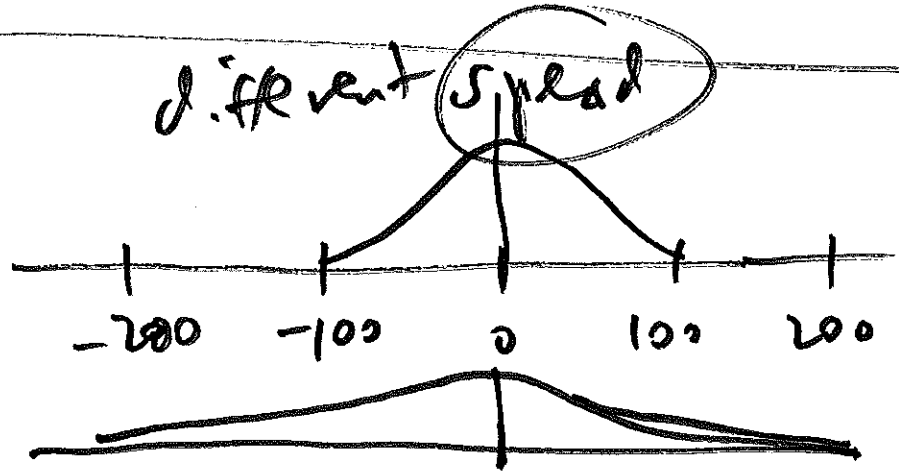


different center  
 same spread

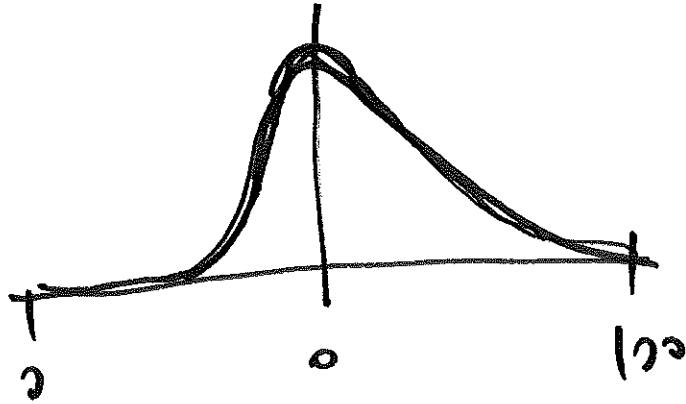
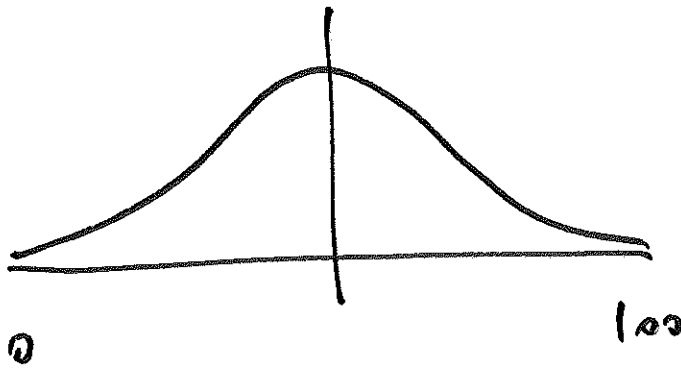


same shape

different spread



same shape  
 same center



same  
center ✓

same  
spread ✓

d. Different  
shape

⑧