

# Statistics

## Lecture 7



Feb 19-8:47 AM

Complete the chart below:

class limits	class MP	class F
10 - 18	14	5
19 - 27	23	8
28 - 36	32	2

$CW = 9$   
 $3 \text{ classes}$   
 $n = \sum f = 15$

How to find  $\bar{x}$  and  $S$  of a grouped data.

1) clear all lists  
`[2nd] [+] [f:] clear all lists [Enter]`

2) store class MP in L1 and class F in L2.

L1	L2
14	5
23	8
32	2

`[STAT] Edit`  
`[1:] Edit`

quit  $\epsilon$   
clear Screen  
`[end] [MODE]`  
`clear`

Mar 16-10:02 AM

STAT  $\rightarrow$  CALC  
1: 1-Var Stats  
 with Menu  
 List: L1  
 FreqList: L2  
Calculate  
 $\bar{x} = 21.2$   
 $S = S_x = 6.085$   
 $n = 15$

2nd 1  
 No Menu  
 L1, L2 enter  
7  
end 2

Vars 5: Statistics  
3: Sx  $x^2$   
Math 1:  $\rightarrow$  Frac  
Enter

find  $S^2$  in reduced fraction  

$$S^2 = \frac{1296}{35}$$

Mar 16-10:12 AM

Complete the chart below

class BNDRS	class MP	class F	Cum. F
12.5 - 20.5	16.5	4	4
20.5 - 28.5	24.5	7	11
28.5 - 36.5	32.5	10	21
36.5 - 44.5	40.5	4	25

4 classes  
 $CW = 8$   
 $n = 25$

Draw Ogive

Mar 16-10:21 AM

Find  $\bar{x}$  &  $S$

L1	L2
16.5	4
24.5	7
32.5	10
40.5	4

clear all lists  
class M.P  $\rightarrow$  L1  
class F  $\rightarrow$  L2

**STAT**  $\rightarrow$  **CALC**  $\rightarrow$  **1: 1-Var Stats**  
List: L1  
FreqList: L2  
**Calculate**

$\bar{x} = 28.98$   
 $S = S_x = 7.687$   
 $n = 25$

Find  $S^2$  in reduced fraction.

**VARS** **5: Statistics** **3: Sx**  **$x^2$**   
**Math** **1: Frac** **Enter**

$S^2 = \frac{4432}{75}$

Mar 16-10:29 AM

Complete the chart below

x	y	$x^2$	$y^2$	xy
3	5	9	25	15
4	8	16	64	32
5	8	25	64	40
2	6	4	36	12

$\sum x = 14$   
 $\sum x^2 = 54$   
 $\sum y = 27$   
 $\sum y^2 = 189$   
 $\sum xy = 99$   
 $n = 4$

(x, y)  $\rightarrow$  ordered - Pair  
Scatter Plot

clear all lists  
 $x \rightarrow$  L1  
 $y \rightarrow$  L2

L1	L2
3	5
4	8
5	8
2	6

**STAT**  $\rightarrow$  **CALC**  $\rightarrow$  **2: 2-Var Stats**  
x list: L1  
y list: L2  
FreqList: **clear**  
**Calculate**

$\sum x = 14$   
 $\sum x^2 = 54$   
 $n = 4$   
 $\sum y = 27$   
 $\sum y^2 = 189$   
 $\sum xy = 99$

Mar 16-10:37 AM

**STAT** → **CALC**

**8: Lin Reg(a+bx)**

Xlist: L1

Ylist: L2

**Clear**

**Calculate**

$a = 3.6$

$b = .9$

$r^2 = .6$

$r = .775$

If  $r$  &  $r^2$  missing:

**2nd** **0** ↓ ↓ ↓ ↓ --- ↓ **Diagnostic On**

**Enter** **Enter**

Mar 16-10:53 AM

I randomly selected 5 students:

Study time	QZ Score
2	7
3	8
3	9
4	10
5	7

**Scatter plot**

Study time → X → L1

QZ Score → Y → L2

**STAT** → **CALC**

**8: Lin Reg(a+bx)**

Xlist: L1

Ylist: L2

**Clear**

**Calculate**

$a = 7.808$

$b = .115$

$r^2 = .010$

$r = .101$

Mar 16-10:59 AM

Consider the Sample below

```

5|025
6|36689
7|025558
8|2388899
9|035
10|0

```

Stem Plot

$$n = 25$$

how many are below 70?

8

what % are below 70?

$$\frac{8}{25} \cdot 100 = 32$$

32%

work on

SG 7 & 8

Mar 16-11:07 AM