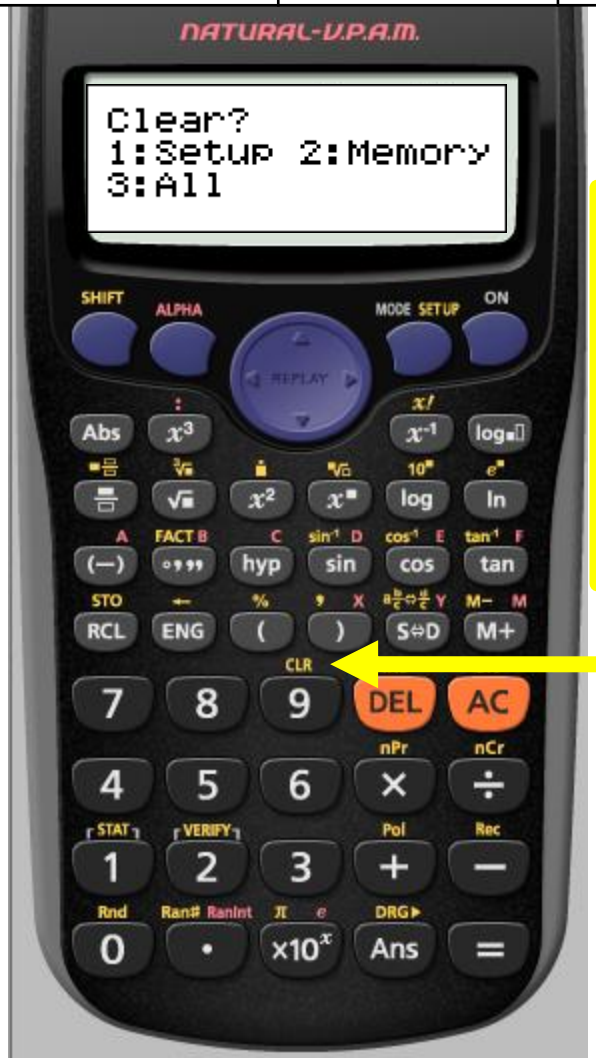
Finding Statistics from a Grouped frequency table

Height (x cm)	130 - 140	140 – 150	150 – 160	160 – 170	170 – 180
Frequency	5	7	8	6	4

The table shows the height of 30 students
Find the

(i) Min
(ii) Max
(iii) Range
(iv) Mean
(v) Standard Deviation from the calculator



We first need to make sure the calculator is **CLeaR** of all previous content

SHIFT 9

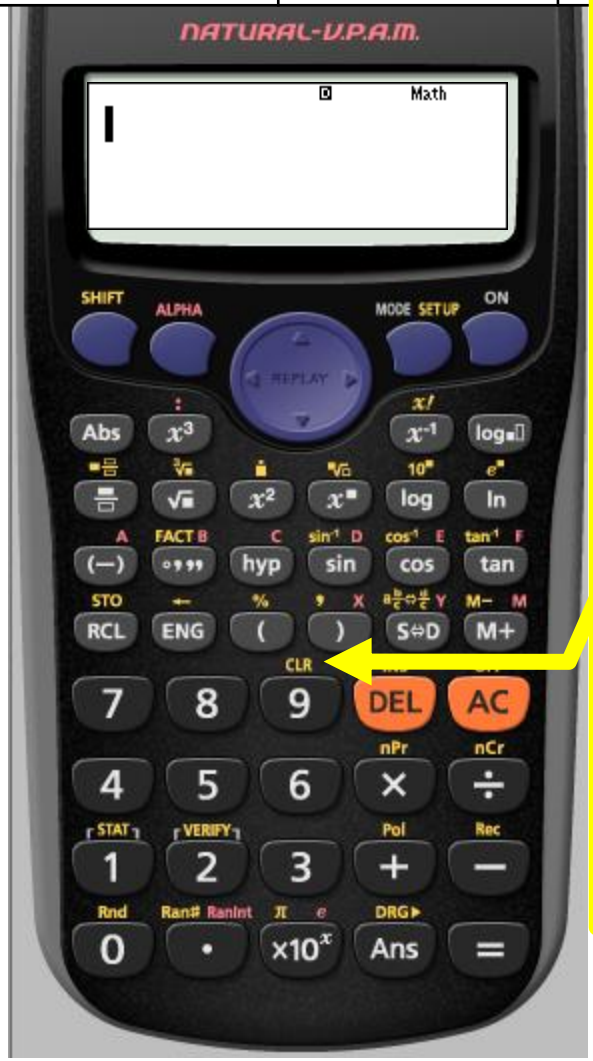
Finding Statistics from a Grouped frequency table

THE END

Height (x cm)	130 - 140	140 – 150	150 – 160	160 – 170	170 – 180
Frequency	5	7	8		

The table shows the height of 30 students
Find the

(i) Min
(ii) Max
(iii) Range
(iv) Mean
(v) Standard Deviation
from the calculator



We first need to make sure the calculator is

CLeaR

of all previous content

SHIFT 9

3: All

3

Yes

=

Reset All

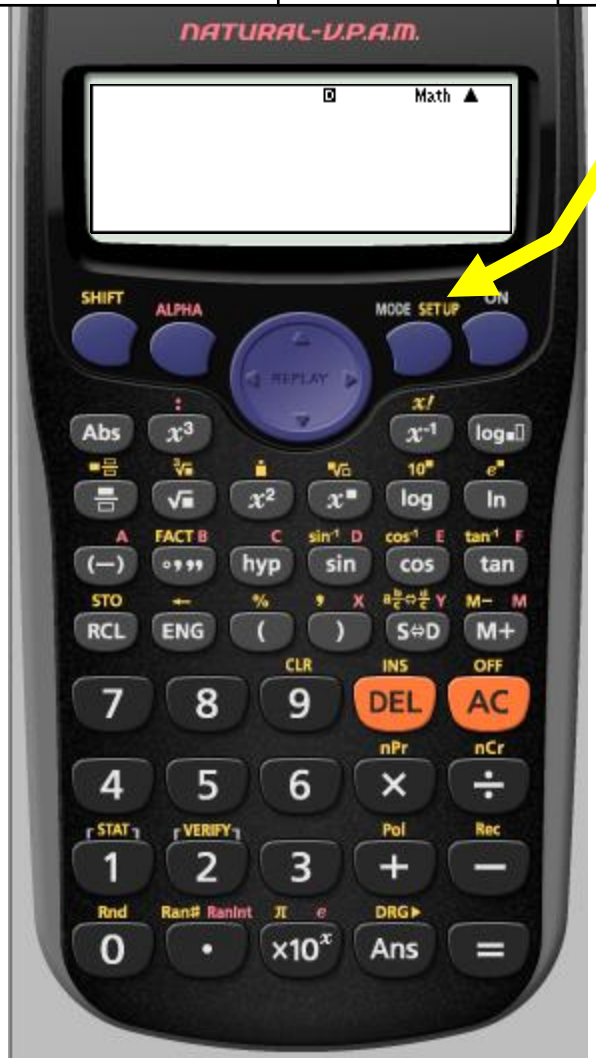
AC

Finding Statistics from a Grouped frequency table

THE END

Height (x cm)	130 - 140	140 – 150	150 – 160	160 – 170	170 – 180
Frequency	5	7	8	6	4

The table shows the height of 30 students
Find the
(i) Min
(ii) Max
(iii) Range
(iv) Mean
(v) Standard Deviation
from the calculator



We need to SETUP the calculator to allow us to input
Stat with frequency ON

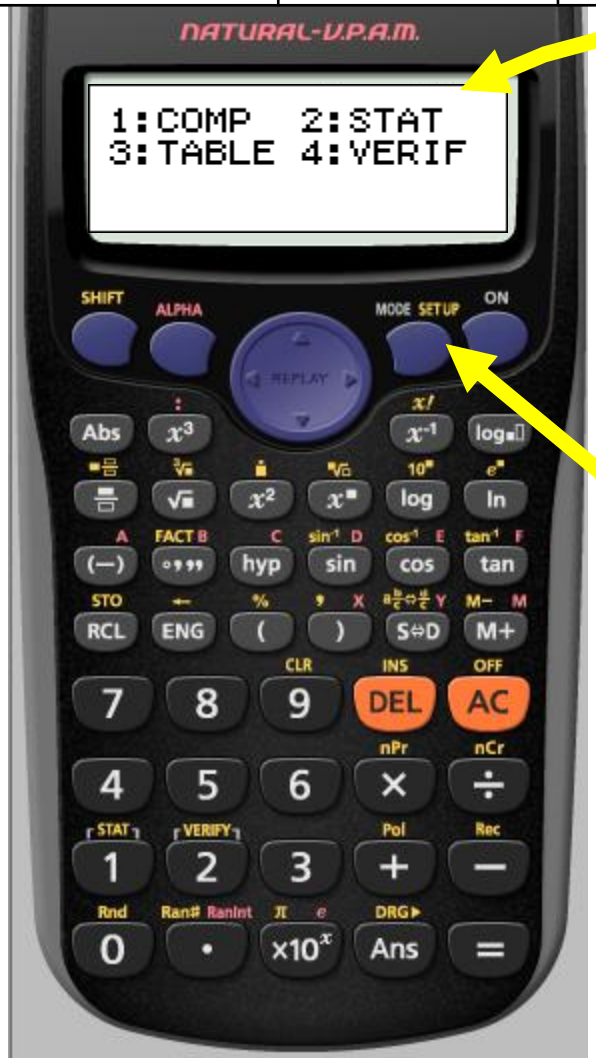
SHIFT MODE ▼ 3 1

Finding Statistics from a Grouped frequency table

THE END

Height (x cm)	130 - 140	140 – 150	150 – 160	160 – 170	170 – 180
Frequency	5	7	8	6	4

The table shows the height of 30 students
Find the
(i) Min
(ii) Max
(iii) Range
(iv) Mean
(v) Standard Deviation
from the calculator



Statistical and Regression Calculations

Put the calculator into STAT mode

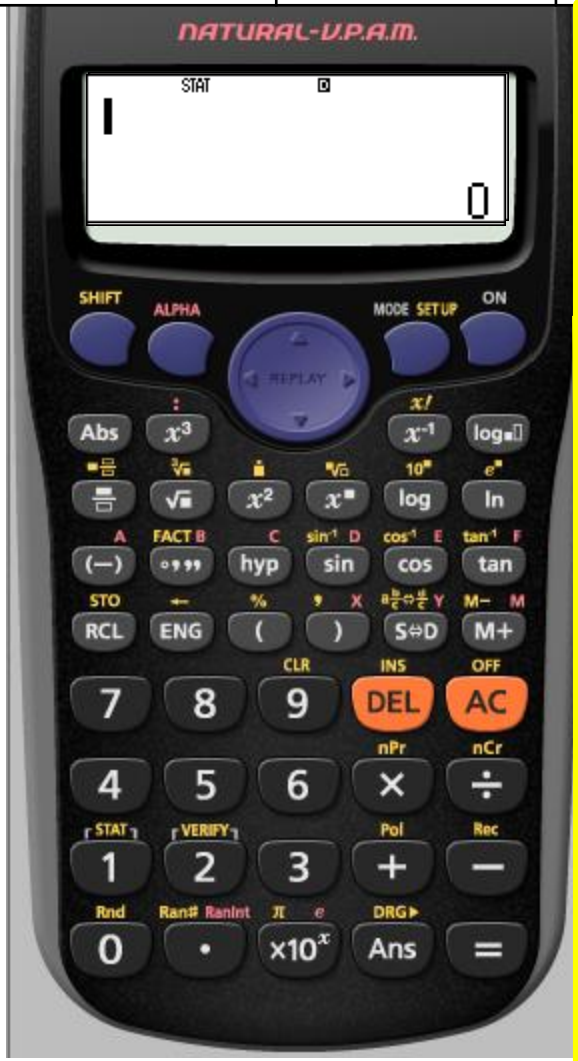
MODE 2

Finding Statistics from a Grouped frequency table

THE END

Height (x cm)	130 - 140	140 – 150	150 – 160	160 – 170	170 – 180
	135	145	155	165	175
Frequency	5	7	8	6	4

The table shows the height of 30 students
Find the
(i) Min
(ii) Max
(iii) Range
(iv) Mean
(v) Standard Deviation
from the calculator



We only have 1 variable so Select

1

Enter the number column first pressing

=

after each one.

(the frequency automatically sets to 1)

Go to the top of the next column

▼ ▶

Enter each frequency pressing

=

After each one

Once they have all been entered press

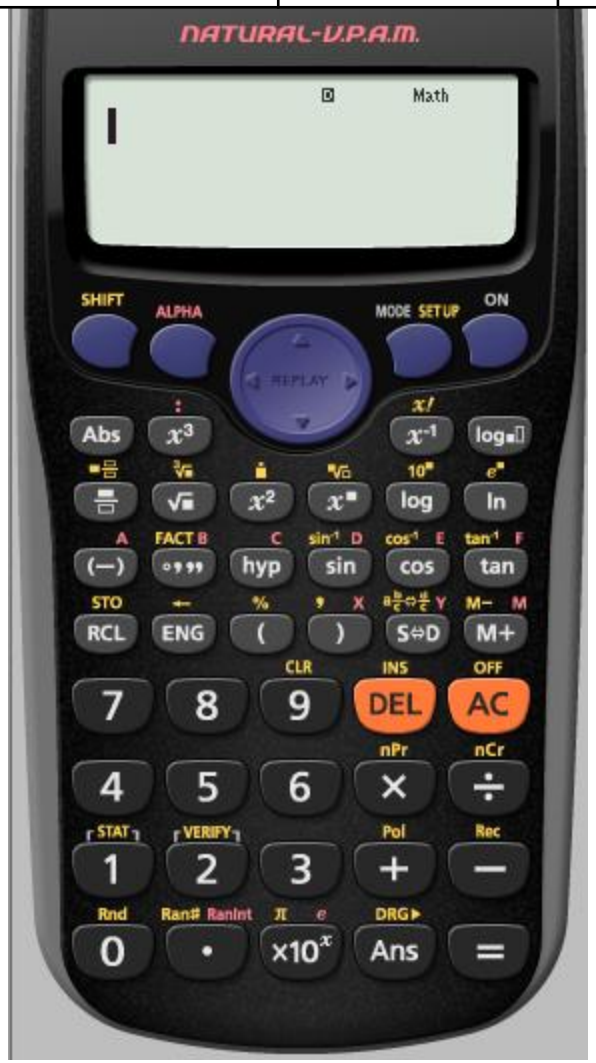
AC

Finding Statistics from a Grouped fr

Height (x cm)	130 - 140	140 – 150	150 – 160	160 – 170	170 – 180
Frequency	5	7	8	6	4

The table shows the height of 30 students
Find the

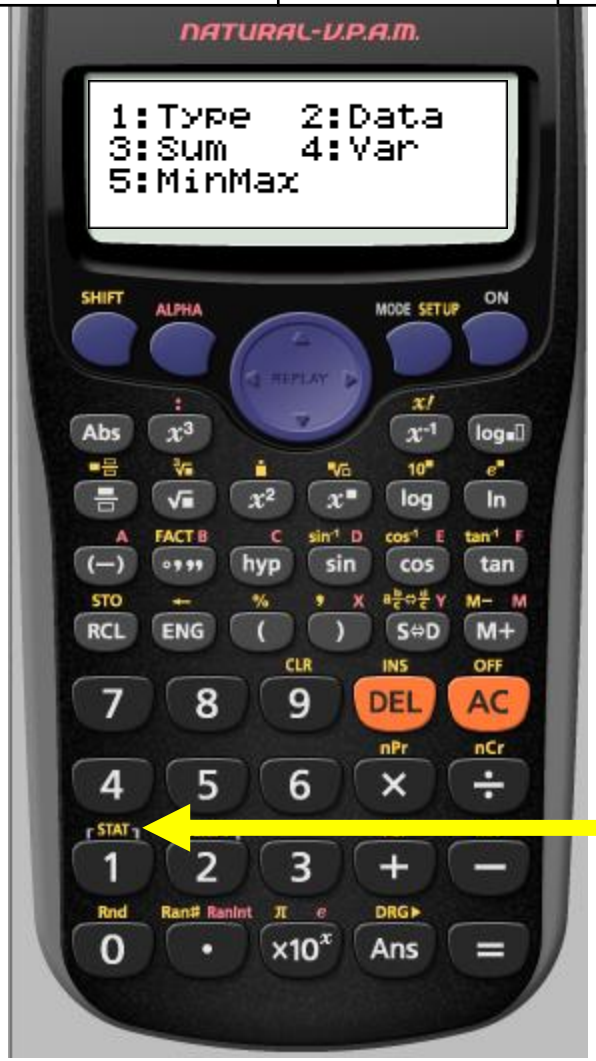
(i) Min
(ii) Max
(iii) Range
(iv) Mean
(v) Standard Deviation from the calculator



Finding Statistics from a Grouped frequency table

Height (x cm)	130 - 140	140 – 150	150 – 160	160 – 170	170 – 180
Frequency	5	7	8	6	4

The table shows the height of 30 students
Find the
(i) Min
(ii) Max
(iii) Range
(iv) Mean
(v) Standard Deviation from the calculator



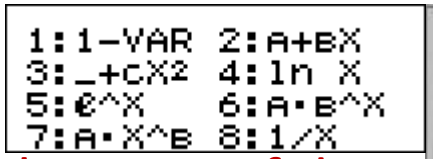
We now need to analyse the statistics we have input

SHIFT 1

Finding Statistics from a Grouped frequency table

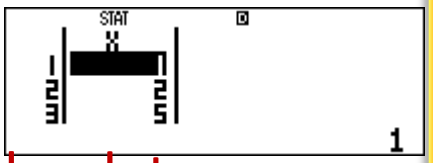
THE END

1: Type



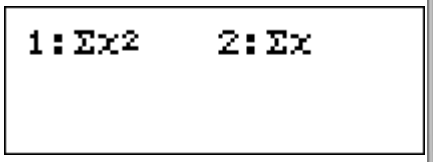
change the type of data

2: Data

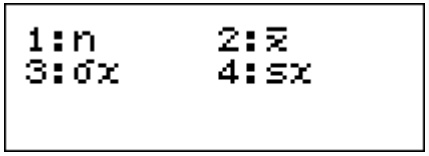


Edit the data

3: Sum



4: Var



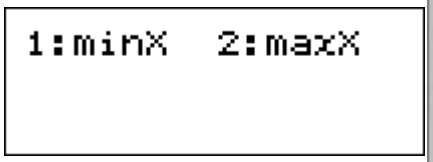
1: How many terms

2: Mean of data

3: Population Standard Deviation

4: Sample Standard Deviation

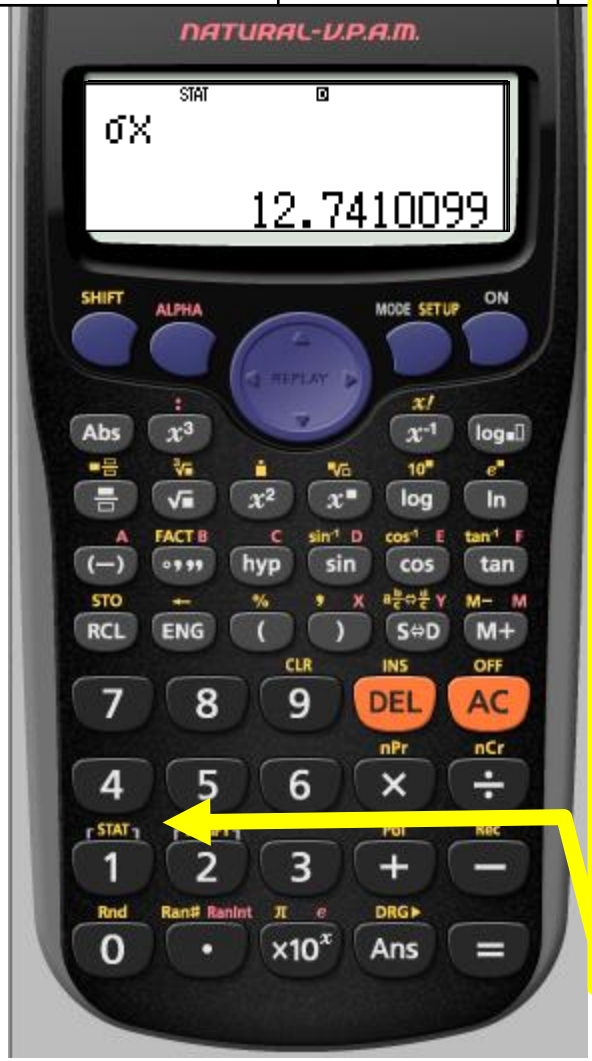
5: Min and max of x



Once you have chosen your required output you need to press =

Height (x cm)	130 - 140	140 – 150	150 – 160	
Frequency	5	7	8	

The table shows the height of 30 students
Find the
(i) Min
(ii) Max
(iii) Range
(iv) Mean
(v) Standard Deviation from the calculator



(i) Min

SHIFT 1 5 1 =

= 135

(ii) Max

AC SHIFT 1 5 2 =

= 175

(iii) Range

= 175 – 135

= 50

(iv) Mean

AC SHIFT 1 4 2 =

= 154

(i) Standard Deviation

AC SHIFT 1 4 3 =

= 12.74

Finding Statistics from a Grouped frequency table

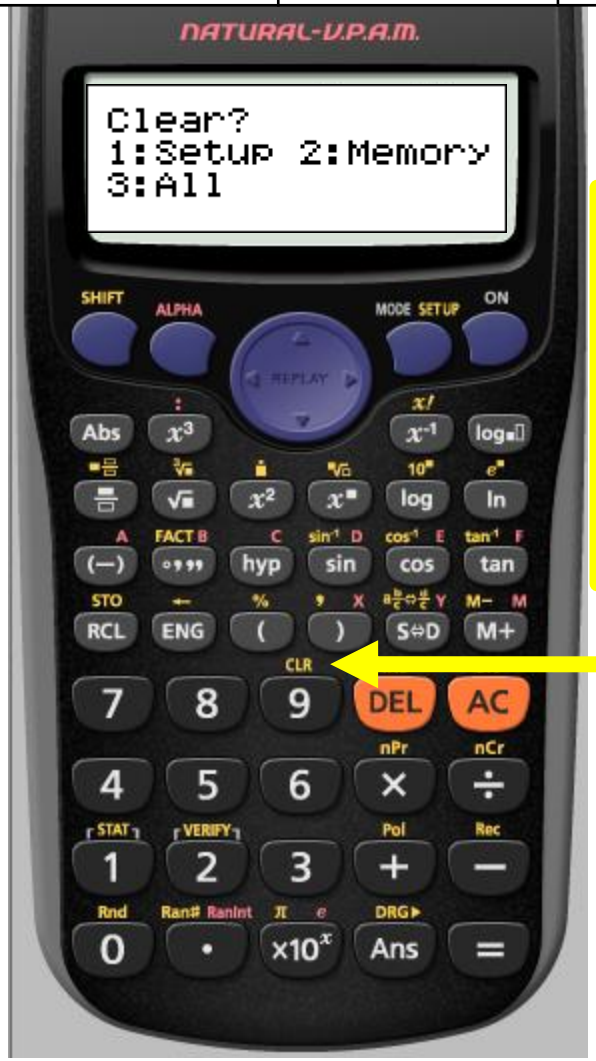
THE END

Finding Correlation Coefficient & Line of Best Fit

Height (x cm)	130 - 140	140 – 150	150 – 160	160 – 170	170 – 180
Frequency	5	7	8	6	4

The table shows the height of 30 students
Find the

(i) Min
(ii) Max
(iii) Range
(iv) Mean
(v) Standard Deviation from the calculator



We first need to make sure the calculator is **CLeaR** of all previous content

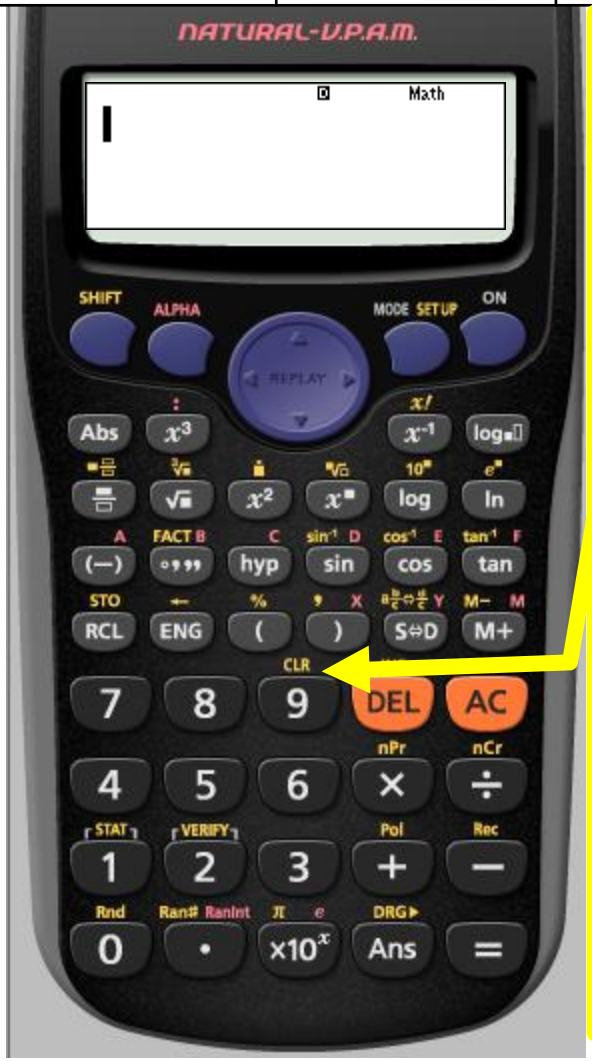
SHIFT 9

Finding Statistics from a Grouped frequency table

THE END

Height (x cm)	130 - 140	140 – 150	150 – 160	160 – 170	170 – 180
Frequency	5	7	8	6	4

The table shows the height of 30 students
Find the
(i) Min
(ii) Max
(iii) Range
(iv) Mean
(v) Standard Deviation
from the calculator



We first need to make sure the calculator is
CLeaR
of all previous content

SHIFT 9

3: All

3

Yes

=

Reset All

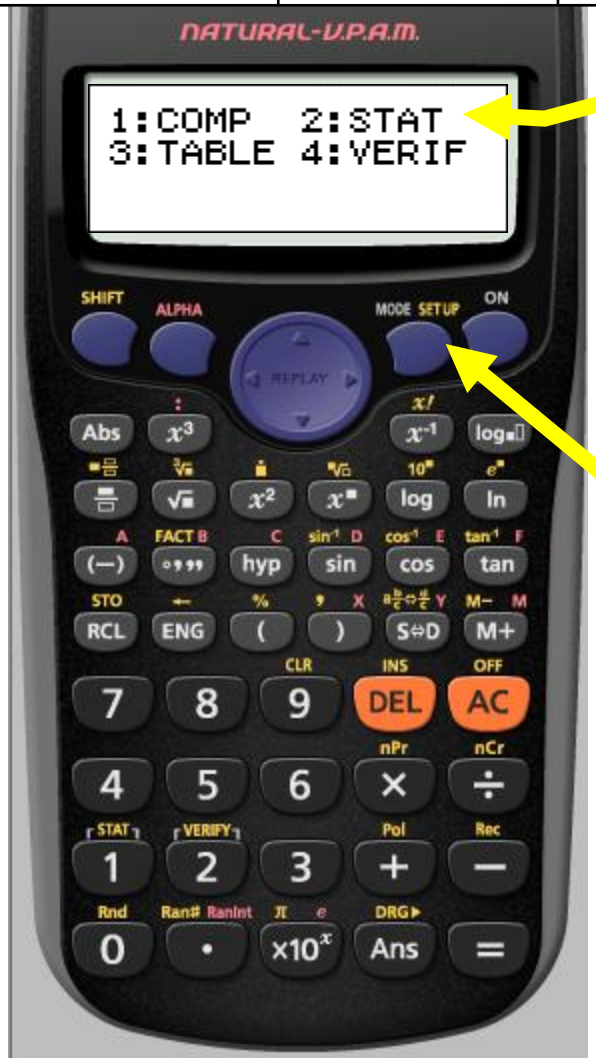
AC

Finding Statistics from a Grouped frequency table

THE END

Height (x cm)	130 - 140	140 – 150	150 – 160	160 – 170	170 – 180
Frequency	5	7	8	6	4

The table shows the height of 30 students
Find the
(i) Min
(ii) Max
(iii) Range
(iv) Mean
(v) Standard Deviation
from the calculator



Statistical and Regression Calculations

Put the calculator into STAT mode

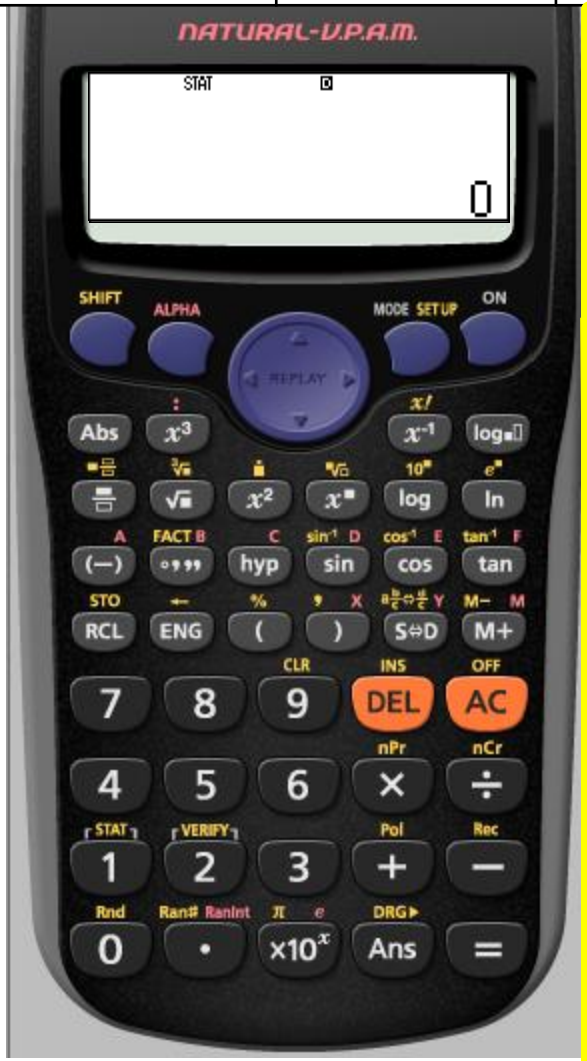
MODE 2

Finding Statistics from a Grouped frequency table

THE END

Height (x cm)	130 - 140	140 – 150	150 – 160	160 – 170	170 – 180
Frequency	5	7	8	6	4

The table shows the height of 30 students
Find the
(i) Min
(ii) Max
(iii) Range
(iv) Mean
(v) Standard Deviation
from the calculator



We have 2 variables so Select

2

Enter the Rainfall row first pressing

=

after each one.

Go to the top of the next column

▼ ▶

Enter each frequency pressing

=

After each one

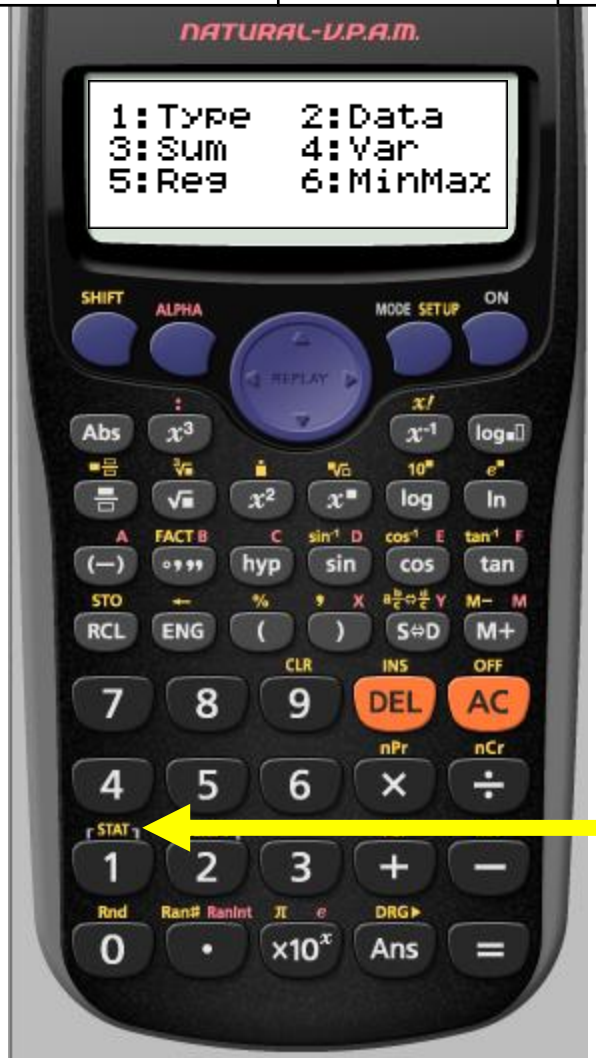
Once they have all been entered press

AC

Finding Statistics from a Grouped fr

Height (x cm)	130 - 140	140 – 150	150 – 160	160 – 170	170 – 180
Frequency	5	7	8	6	4

The table shows the height of 30 students
Find the
(i) Min
(ii) Max
(iii) Range
(iv) Mean
(v) Standard Deviation
from the calculator



We now need to analyse the statistics we have input

SHIFT 1

Finding Statistics from a Grouped frequency table

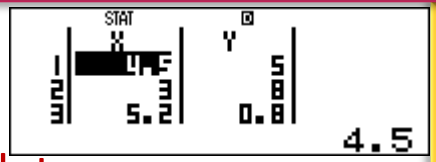
THE END

1: Type

```
1:1-VAR 2:A+BX
3:_+CX²  4:ln X
5:e^X    6:A·B^X
7:A·X^B  8:1/X
```

change the type of data

2: Data



Edit the data

3: Sum

```
1:Σx²    2:Σx
3:Σy²    4:Σy
5:Σxy    6:Σx³
7:Σx²y   8:Σx⁴
```

```
1:Type   2:Data
3:Sum    4:Var
5:Reg    6:MinMax
```

4: Var

```
1:n      2:x̄
3:σx     4:sx
5:ȳ      6:σy
7:sy
```

1: How many terms

2(5): Mean of data

3(6): Population Standard Deviation

4(7): Sample Standard Deviation

5: Regression

```
1:A      2:B
3:r      4:x̂
5:ŷ
```

For the Line of Best fit

1: y intercept

2: Slope

3: Correlation Coefficient

4: Estimated value of x for a given value of y

5: Estimated value of y for a given value of x

6: Max Min

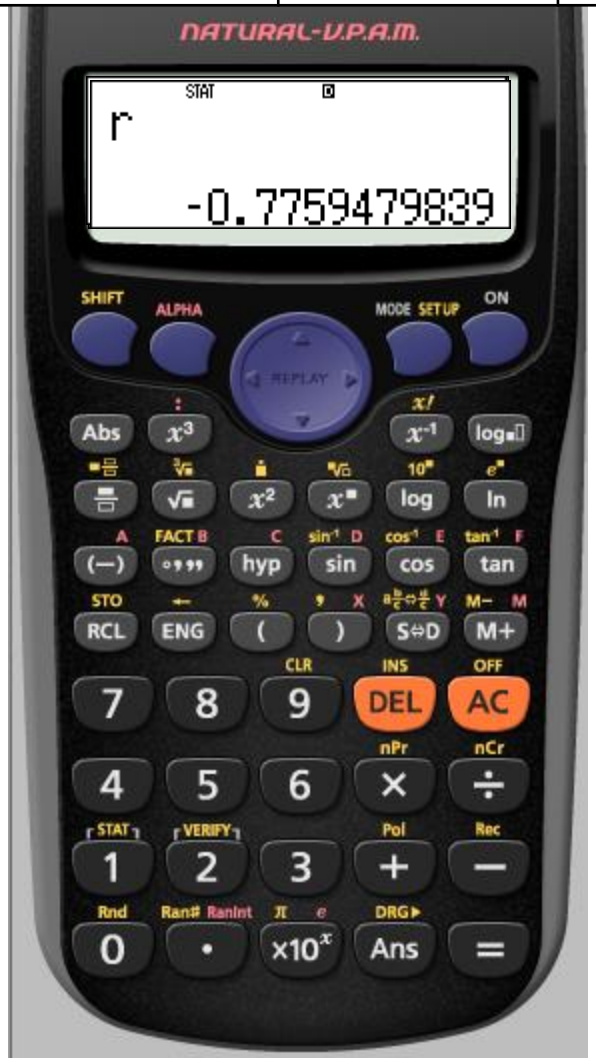
```
1:minX   2:maxX
3:minY   4:maxY
```

Find Max/Min for each column

Once you have chosen your required output you need to press =

Height (x cm)	130 - 140	140 – 150	150 – 160	160 – 170	170 – 180
Frequency	5	7	8	6	4

The table shows the height of 30 students
Find the
(i) Min
(ii) Max
(iii) Range
(iv) Mean
(v) Standard Deviation
from the calculator



We want to find the correlation coefficient
Which is part of regression
5

SHIFT 1 5 3 =

And we use the letter
r

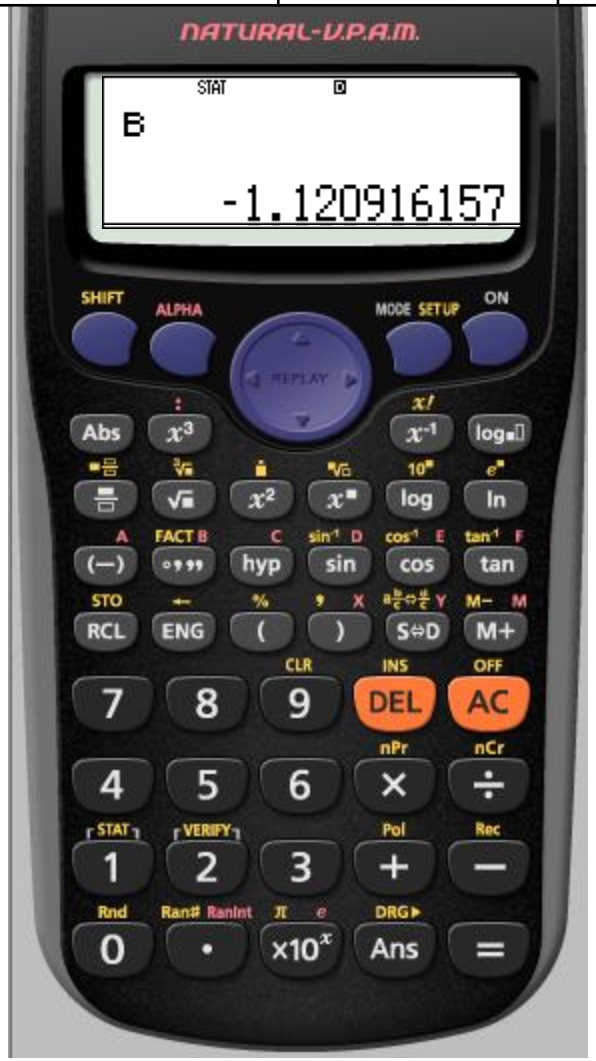
Finding Statistics from a Grouped frequency table

THE END

Height (x cm)	130 - 140	140 – 150	150 – 160	160 – 170	170 – 180
Frequency	5	7	8	6	4

The table shows the height of 30 students
Find the

(i) Min
(ii) Max
(iii) Range
(iv) Mean
(v) Standard Deviation from the calculator



To find the Equation for the line of Best Fit

$Y = A + B\,x$

A

AC SHIFT 1 5 1 =

$A = 8.66$

B

AC SHIFT 1 5 2 =

$B = -1.12$

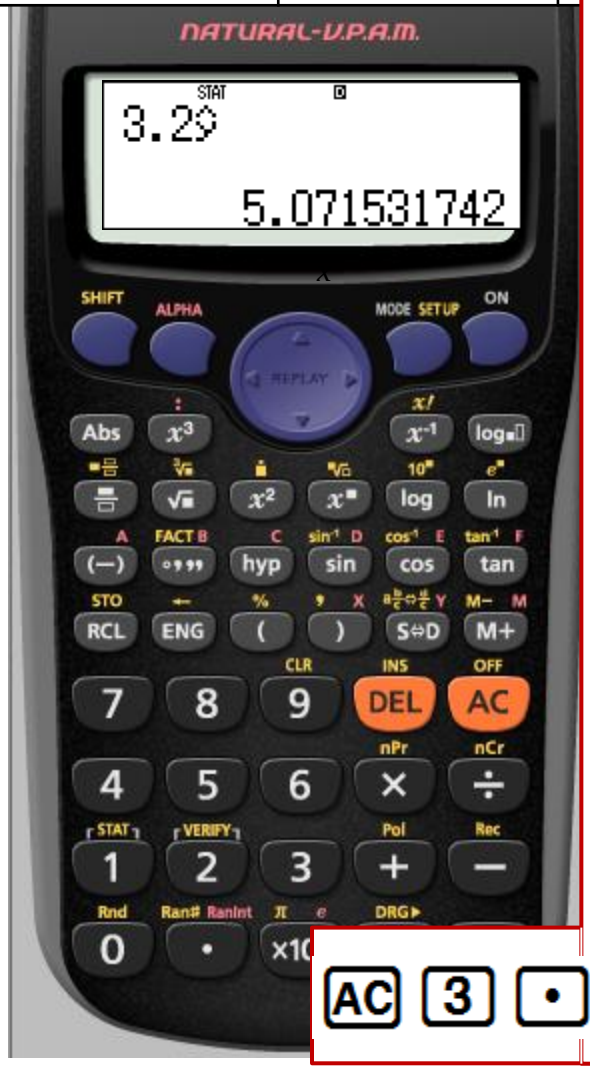
Line of Best Fit

$y = 8.66 - 1.12x$

Finding Statistics from a Grouped frequency table

Height (x cm)	130 - 140	140 – 150	150 – 160	
Frequency	5	7	8	

The table shows the height of 30 students
Find the
(i) Min
(ii) Max
(iii) Range
(iv) Mean
(v) Standard Deviation
from the calculator



Using the Equation of the line of Best Fit

e.g. To find the value of y when x is 9

Press 9

Then in regression choose $\tilde{x}$ (4)

AC 9 SHIFT 1 5 4 =

e.g. To find the value of x when y is 3.2

Press 3.2

Then in regression choose $\tilde{x}$ (4)

AC 3 • 2 SHIFT 1 5 5 =

Finding Statistics from a Grouped frequency table

THE END