Statistics for A-level Maths on the Casio Classwiz fx-991EX

• Entering data

Individual data values:

MENU 6 (Statistics) 1: 1-Variable Enter data (= between entries)

If you press AC then you'll go to a screen that says "Statistics 1-Variable"; this is the statistical calculation (SC) screen.
To return to the data table, press OPTN 3: Data.

Frequency table:

As above, but turn Frequency column on using SHIFT MENU (SETUP) ↓ 3: Statistics 1: On

If Freq column is left blank then calculator will assume 1 of each value, so it's OK to have it on even if not needed.

Pairs of x- and y-values:

MENU 6 (Statistics) 2: y=a+bx Enter data (= between entries, → to move to next column)

If you press AC then you'll go to a screen that says "Statistics y=a+bx"; this is the statistical calculation (SC) screen.
To return to the data table, press OPTN 4: Data.

• Calculating summary statistics

From the data screen, press OPTN 3: 1-Variable Calc OR
From the SC screen, press OPTN 2: 1-Variable Calc

(If you are in 2-variable mode then the display will show 2-Variable Calc instead.)

Useful values on results screen:

$\bar{x}$	Mean	n	Number of data items	
Σx	Sum of data values	min(x)	Lowest data value	
Σx^2	Sum of squares of data values	Q_1	Lower quartile	¦ (Not shown in
$\sigma^2 x$	Population variance	Med	Median	¦ 2-variable mode)
σx	Population standard deviation	Q_3	Upper quartile	¦
$s^2 x$	Sample variance	max(x)	Highest data value	
sx	Sample standard deviation			

• Binomial distribution

For individual probabilities P(X = x): MENU 7 (Distribution) 4: Binomial PD 2: Variable

For cumulative probabilities P(X ≤ x): MENU 7 (Distribution) ↓ 1: Binomial CD 2: Variable

Enter x (number of successes you're interested in), n (number of trials), and p (probability of success) then =

If you need to subtract from 1 then press Ans button while on "p = " screen, then MENU 1 (Calculate) 1 – Ans =

For several probabilities at once (i.e. P(X = x_1 or x_2 or x_3) for Bin PD or P(X ≤ x_1 or x_2 or x_3) for Bin CD), choose 1: List;
Enter desired x-values in the first column = Enter n and p, then = ; table is displayed with probabilities.

• Regression calculations

To find the pmcc and the equation of the regression line, enter pairs of x- and y-values as described above.

From the data screen, press OPTN 4: Regression Calc OR
From the SC screen, press OPTN 3: Regression Calc

a and b are the coefficients for the equation of the regression line in the form y = a + bx, and r is the pmcc.

• Normal distribution

To find the probability associated with given limits:

MENU 7 (Distribution) 2: Normal CD

Enter lower and upper values – e.g. for P(X < 32), Lower = -1000 (or any large negative number), Upper = 32

Enter σ and μ then press = to get probability

To find the upper limit relating to a particular probability (Inverse Normal):

MENU 7 (Distribution) 3: Inverse Normal

Enter area to LEFT of required x-value (area must be less than 1)

Enter σ and μ then press = to get the x-value

If you are given a "greater than" value then use subtraction to find the relevant area, e.g. if 70% of the distribution is above a given value then 30% will be below it so the area is 0.3.

If you need a central section then use the symmetry of the curve to find the appropriate areas for the upper and lower limits, e.g. the middle 60% will have 20% of the distribution excluded at each end, so the lower limit will correspond to an area of 0.2 and the upper limit 0.8.