Correlation coefficient and equation of line of best fit using Casio fx-83ES, Natural Display

Find the correlation coefficient and the equation of the line of best fit for the following set of data using a calculator.

Input the following data on fat grams and total calories in fast food

		Total Fat (g)	Total Calories
1	Hamburger	9	260
2	Cheeseburger	13	320
3	Quarter Pounder	21	420
4	Quarter Pounder with Cheese	30	530
5	Big Mac	31	560
6	Sandwich Special	31	550
7	Sandwich Special with Bacon	34	590
8	Crispy Chicken	25	500
9	Fish Fillet	28	560
10	Grilled Chicken	20	440
11	Grilled Chicken Light	5	300

1. Number each row of data if this is not already done, to make less likely to miss a row as data is input.
2. Press SHIFT , MODE, ▼ 3(STAT) 2(OFF), MODE 2 STAT
3. MODE, 2(STAT), 2(A+BX)
4. Input the data into column x first. (Press = after inputting each data item)
5. Then press ▼ then ▶ and input values into column y.
6. **When all data items have been entered press AC**
7. Press SHIFT and 1(STAT)
8. Choose 7(Reg i.e. regression)
9. Choose 3 (r i.e. correlation coefficient), press =
   Gives correlation coeff of .9746

Optional for teachers:

To find the equation of the line of best fit y = A+Bx (N.B.not required on the syllabus – HL students only are required to draw a line of best fit by eye – OL do not have to draw a line of best fit.)

We are looking for the values of **A (intercept on the y-axis)** and **B (slope of the line)** from step 2 above.

1. Press SHIFT, 1(STAT), 7(REG), 1(A) followed by = which gives A=193.85. (This appears in row 12, column Y)
2. Press SHIFT, 1, 7, 2 followed by = which gives B = 11.731. This appears in row 12 column Y.

The equation of the line of best fit is: y = 193.85+11.731x