SCATTERPLOTS
INVESTIGATION
DOES TV MAKE YOU STUPID?

You are a researcher who is interested in how TV watching influences children's performance in school. You find out how many hours of TV 15 children watch, on average, a week. You then obtain their overall grade average.

Child	Hours of TV	Overall Grade Average (%)
1	5	80
2	20	67
3	6	75
4	14	70
5	12	80
6	8	85
7	1	83
8	22	56
9	17	50
10	18	65
11	18	70
12	4	80
13	14	90
14	10	75
15	11	70

PART A – GRAPH PAPER NEEDED

Q1. Use this data to make a scatterplot on your own paper.

Q2. Use the two means method to draw the line of best fit. Using the gradient and the y-intercept, work out the regression equation (in the form y= ax + b).

Q3. What sort of relationship exists between the sets of data (e.g. strong positive) and in words interpret the correlation i.e. what does it mean?

Q4. (a) Use your graph to predict the grade average for a student who watches 7 hours of TV a week.

(b) If you know that a student watches 11 hours of TV a week, use the regression equation to predict the average (to 2 decimal places).

(c) How does that compare to Student 15? Why doesn't the regression equation predict student 15's exact score?

PART B – GRAPHICS CALCULATOR NEEDED
As a good researcher you have decided this trial was helpful, but recognize that the sample size was too small for your results to be valid. So another 15 trials were conducted and the results are as follows.

Child	Hours of TV	Overall Grade Average (%)
16	26	52
17	24	55
18	23	58
19	17	72
20	16	68
21	13	74
22	12	72
23	6	83
24	17	67
25	4	84
26	23	56
27	21	63
28	27	47
29	8	79
30	9	80

Q5. Use a graphics calculator to make a scatterplot of all the data and find the regression equation. How does this compare with Part A?

Q6. Can you claim that watching TV makes people stupid? Explain.