**MA4 Week 7 Investigation 2014**

This week we are going to look at two sets of bivariate data and see if the correlations found can be the basis for predictions.

We are going to look at

* hand span v’s height
* head circumference v’s height

Step 1

Measure your hand span, head circumference and height (write these on the board).

Other members of our class will do the same (and write them on the board).

From this you will form two sets of bivariate data as shown (20 pairs will be OK).

**Set 1 Set 2**

List 1 List 2 List 1 List 2

Hand span Height Head circumference Height

Using CAS or scientific calculator analyse each set separately to find r and r2 as well as ‘a’ and ‘b’ so that you can form the Linear regression equation of the line of best fit.

**Exercises**

1. Draw scatterplots for each set of bivariate data.
2. What are the values of r and r2 ?
3. Interpret these values.
4. What is the linear regression equation?
5. Use this to estimate the height of a person with a hand span of 28 cm (extrapolation).
6. Use the equation to estimate the height of a person with a head circumference of 45 cm (interpolation).
7. Is either (or both) of these measures useful in predicting height? Why?