

## 2020 MA3 Week 4 Investigation

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 vs height
- Head circumference vs height

### Step 1

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

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

From this, you can form two sets of bivariate data as shown (you will need 20 pairs)

Set 1	
List 1	List 2
Hand span	Height

Set 2	
List 1	List 2
Head circumference	Height

### Exercises

1. Draw scatter plots for each set of bivariate data.
2. What are the values of  $r$  and  $r^2$ ? (you can use the online calculator from Week 3).
3. Interpret these values.
4. What is the linear regression equation? (you can use the online calculator from this week).
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 measurements useful in predicting height? Why?

**Note: you should have two values for each of data sets.**