Bream Bridge Forces:
Extension Worksheet

1. Plot your first set of results on a graph of the distance x_1 (the distance from the L.H. support to the force applied) on the x-axis vs R_1 on the y-axis.

2. Using your graph, estimate the **maximum** reaction force the bridge experiences and write down its value.

3. Plot the second set of results on **the same graph.**

4. Try to develop a general formula that relates the reaction force to the distance the load is applied from the support. This will help designers to ensure the ground where they want to place their bridge will be able to support the required load. Remember this is a simplified case, with only one load placed on the bridge at a time, whereas in reality many different loads are placed on the bridge simultaneously at different positions.

   Hint: Think about how to get an equation for the lines you have drawn on your graph and which numbers you used to obtain that. Then use the general terms in your equation to find a general solution.