11 Christa used Pearson's product-moment correlation coefficient, r, to compare the use of public transport with the use of private vehicles for travel to work in the UK.

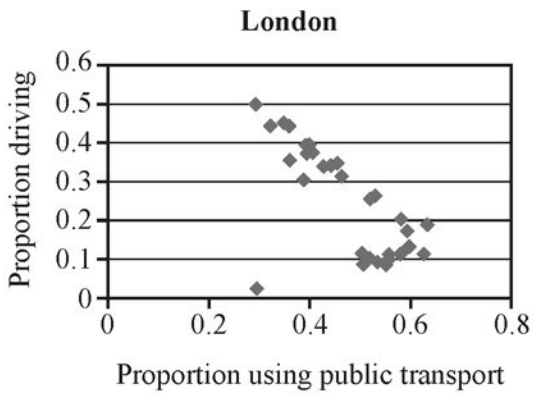
(i) Using the pre-release data set for all 348 UK Local Authorities, she considered the following four variables.

Number of employees using public transport	x
Number of employees using private vehicles	y
Proportion of employees using public transport	a
Proportion of employees using private vehicles	b

(a) Explain, in context, why you would expect strong, positive correlation between x and y. **[1]**

(b) Explain, in context, what kind of correlation you would expect between a and b. **[2]**

(ii) Christa also considered the data for the 33 London boroughs alone and she generated the following scatter diagram.



One London Borough is represented by an outlier in the diagram.

(a) Suggest what effect this outlier is likely to have on the value of r for the 32 London Boroughs. **[1]**

(b) Suggest what effect this outlier is likely to have on the value of r for the whole country. **[1]**

(c) What can you deduce about the area of the London Borough represented by the outlier? Explain your answer. **[1]**