

11 The pre-release material contains information concerning median house prices over the period 2004 – 2015. A spreadsheet has been used to generate a time series graph for two areas: the London borough of “Barking and Dagenham” and “North West”. This is shown together with the raw data in Fig. 11.1.

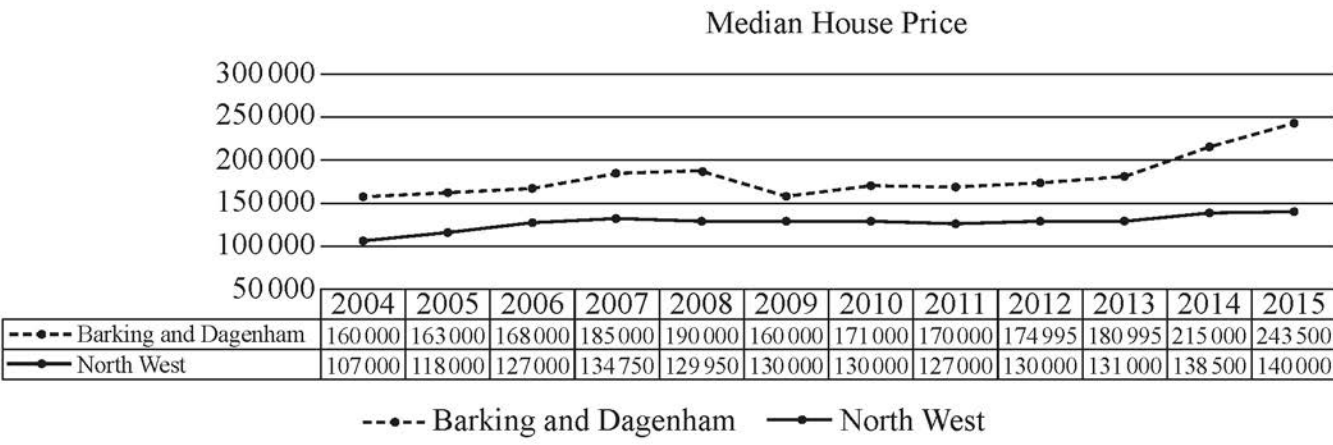


Fig. 11.1

Dr Procter suggests that it is unusual for median house prices in a London borough to be consistently higher than those in other parts of the country.

(a) Use your knowledge of the large data set to comment on Dr Procter’s suggestion. [1]

Dr Procter wishes to predict the median house price in Barking and Dagenham in 2016. She uses the spreadsheet function LINEST to find the equation of the line of best fit for the given data. She obtains the equation

$P = 4897Y - 9\,657\,847$ , where  $P$  is the median house price in pounds and  $Y$  is the calendar year, for example 2015.

(b) Use Dr Procter’s equation to predict the median house price in Barking and Dagenham in

- 2016
- 2017.

[2]

Professor Jackson uses a simpler model by using the data from 2014 and 2015 only to form a straight-line model.

(c) Find the equation Professor Jackson uses in her model. [2]

(d) Use Professor Jackson’s equation to predict the median house price in Barking and Dagenham in

- 2016
- 2017.

[2]

Professor Jackson carries out some research online. She finds some information about median house prices in Barking and Dagenham, which is shown in Fig. 11.2.

2016	2017
£290 000	£300 000

**Fig. 11.2**

**(e)** Comment on how well

- Dr Procter's model fits the data,
- Professor Jackson's model fits the data.

**[2]**

**(f)** Explain which, if any, of the models is likely to be more reliable for predicting median house prices in Barking and Dagenham in 2020.

**[1]**