

2. Fred and Nadine are investigating whether there is a linear relationship between Daily Mean Pressure,  $p$  hPa, and Daily Mean Air Temperature,  $t$  °C, in Beijing using the 2015 data from the large data set.

Fred randomly selects one month from the data set and draws the scatter diagram in Figure 1 using the data from that month.

The scale has been left off the horizontal axis.

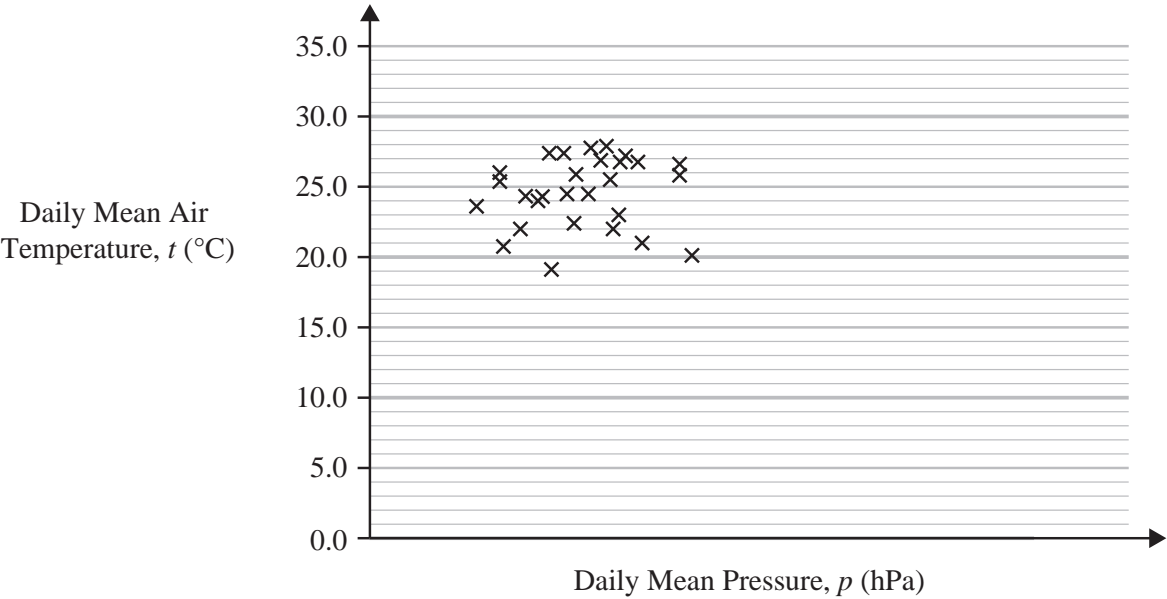


Figure 1

(a) Describe the correlation shown in Figure 1. (1)

Nadine chooses to use all of the data for Beijing from 2015 and draws the scatter diagram in Figure 2.

She uses the same scales as Fred.

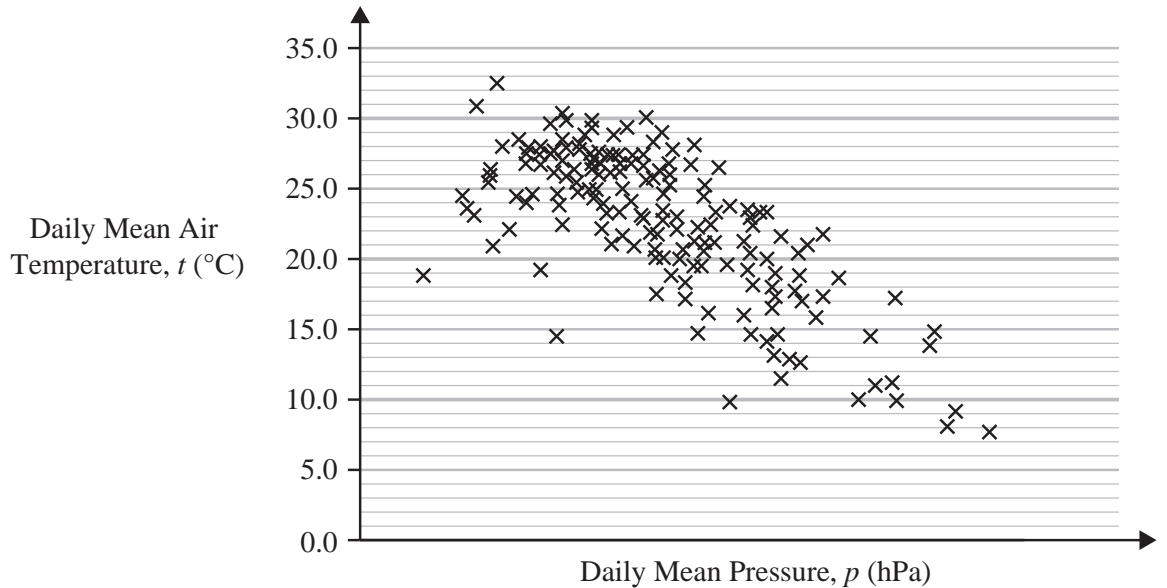


Figure 2

## Question 2 continued

- (b) Explain, in context, what Nadine can infer about the relationship between  $p$  and  $t$  using the information shown in Figure 2. (1)
- (c) Using your knowledge of the large data set, state a value of  $p$  for which interpolation can be used with Figure 2 to predict a value of  $t$ . (1)
- (d) Using your knowledge of the large data set, explain why it is not meaningful to look for a linear relationship between Daily Mean Wind Speed (Beaufort Conversion) and Daily Mean Air Temperature in Beijing in 2015. (1)