**Mathematics and Statistics Achievement Standard AS91580**Investigate time series data (3.8 v1)

**A Bed for the Night**

Credits: 4

Resource A

On 24 September you will be required to carry out a statistical investigation into short term commercial accommodation in New Zealand over the last 20 years. You should be sourcing relevant contextual knowledge about the situation under investigation from places such as the internet, the school or local library, newspapers and magazines. These sources should be referenced in your report.

The following information will assist you in researching the background context for your investigation.

The variables included are given in the table below:

|  |  |  |
| --- | --- | --- |
|  | **Number of Guest Nights:** | **Occupancy Rates:** |
| **Hotels:** | HotelGuestNights | HotelOccRate |
| **Motels:** | MotelGuestNights | MotelOccRate |
| **Backpackers:** | BackpackerGuestNights | BackpackerOccRate |
| **Holiday Parks:** | HolidayParkGuestNights | HolidayParkOccRate |
|  |  |  |

The number of guest nights is calculated as the number of guests multiplied by the number of nights they stay. For example, a motel with 15 guests spending two nights would report that they had provided 30 guest nights. Data is reported in whole numbers.

The occupancy rate is the percentage of available rooms occupied each night. It is calculated by dividing stay-unit nights occupied by stay-unit nights available. For example, if a hotel had 60 of its 100 rooms occupied every night in August, it would have 60 x 31 = 1,860 stay-unit nights occupied, and its occupancy rate would be 60 percent. Data is reported in percentages.

The population is the estimate of the total population of New Zealand.

Background information, including definitions of the variables, can be found at: <http://www.stats.govt.nz/browse_for_stats/industry_sectors/accommodation/AccommodationSurvey_HOTPOct12/Definitions.aspx>

Ministry of Business, Innovation & Employment information on the CAM (commercial accommodation monitor):

<http://www.med.govt.nz/sectors-industries/tourism/tourism-research-data/commercial-accommodation-monitor-data>

eHotelier’s article on accommodation occupancy rates in NZ (May 2005).

<http://ehotelier.com/hospitality-news/item.php?id=A5133_0_11_0_C>

Impact of Rugby World Cup 2011:

<http://www.stats.govt.nz/browse_for_stats/economic_indicators/NationalAccounts/impact-of-rugby-world-cup.aspx>

Tourism New Zealand’s news release on world economic conditions (February 2009): http://www.newzealand.com/travel/trade/whats-happening/news/2009/2/economic-conditions-biting-into-tourism-markets.cfm