

Assessment Guidelines – 91580 – Investigate Time Series Data

| | Achieved (all compulsory) | Merit... Achieved PLUS | Excellence... Merit PLUS |
|-------------------|---|---|---|
| Problem | Identify a purpose for the investigation | Purpose is clear (compulsory) | Research is used to develop purpose (compulsory) |
| Plan | Select a variable to investigate that links to the purpose | Context is researched | |
| Data | <p>Graph the raw and the smoothed data</p> <p>Appropriate model is fitted and can be given as an equation, a fitted line or a graph of the smoothed data</p> <p>Must have the following:</p> <ul style="list-style-type: none"> • Recomposition graph • Seasonal Plot and estimated seasonal effects • Raw data plus predictions plus prediction intervals <p><i>Remember to include the units on the axis if appropriate.</i></p> | Graph must have a title, correctly labelled axis and any series shown on the graph(s) are clearly identified | Other relevant variables are discussed. This could include creating a new variable from the variables given |
| Analysis | <p>Give quantitative description of the trend and linked to context including stating the start and end points. (long term trend)</p> <p>Seasonal pattern described and linked to context (seasonal effects)</p> <p>Other relevant features are identified (residuals)</p> <p>Forecasts are made with correct units</p> | <p>The appropriateness of the model is justified throughout the entire range of x-values</p> <p>Other relevant features must be explained in context and comments made must be supported with statistical evidence</p> <p>Forecasts are given in context and rounded correctly</p> <p>Discussion given on how precise the predictions might be based on reliability of the trend or seasonal components</p> <p>Understanding shown that forecasts are estimates</p> | <p>Provide possible explanations for the features of the graph</p> <p>A comparison of predicted values for the most recent data values of the model could be made</p> <p>Comparison between two data sets could be made</p> |
| Conclusion | Conclusion is consistent with the purpose of the investigation | Conclusion must be given in context (compulsory) | <p>The purpose of the investigation is addressed (compulsory)</p> <p>There is a reflection on the analysis with respect to the background research undertaken</p> <p>Impact of the findings is discussed</p> |

Final grades will be decided using professional judgement based on a holistic examination of the evidence provided against the criteria in the Achievement Standard.