# A School Story

## Comparing class results

### The story:

Ms Vera Ance is a Year 11 Geography teacher. Her colleague, Mr Norman, teaches the other Year 11 Geography class at the school. It was with some trepidation that Ms Ance knocked on the office door of the Principal, Mr Hastie. She had come to ask for extra materials and teacher assistance for her Geography class. Mr Hastie was a man of few words and somewhat prone to jumping to conclusions.

Ms Ance explained how her nerves were "like piano wires" as she struggled to cope with her Geography class. Some of the students seemed to be bored whilst others needed everything explained over and over again.

Mr Hastie, characteristically brought the meeting to an abrupt end. "I can't see what the problem is. The results from the last test show that your class average is about the same as Mr Norman's and the range of marks is identical. You'll just have to pull yourself together Ms Ance!"

Ms Ance is aware of our skills in statistical analysis and she has come to us for assistance. She has a copy of the results for the last test for her class and Mr Norman's, shown below.

|  |  |
| --- | --- |
| Results (%) for Ms Vera Ance | Results (%) for Mr Norman |
| 20, 20, 87, 42, 71, 98, 100, 84, 96,  98, 46, 96, 100, 89, 82, 98, 100, 73,  42, 13, 89, 27, 100, 27, 100, 20, 29,  89, 22, 76 | 71, 77, 69, 60, 66, 65, 63, 54, 63,  77, 57, 51, 49, 74, 77, 57, 60, 80,  65, 74, 100, 57, 66, 57, 80, 69, 77,  74, 13, 86 |

## Analysis

1. Find the mean, the median and the standard deviation of both classes
2. Determine the 5 number summaries for both classes.
3. Determine the range and interquartile range for each class.
4. Compare the two sets of class results by completing the table below:

|  |  |  |  |
| --- | --- | --- | --- |
| Characteristics | Ms Ance’s  Class Results | Mr Norman’s  Class Results | Comments on  similarities/differences |
| **Mean** |  |  |  |
| **Median** |  |  |  |
| **Standard deviation** |  |  |  |
| **Range** |  |  |  |
| **Interquartile Range** |  |  |  |
| **Outliers** |  |  |  |
| **Shape of distribution** |  |  |  |

1. Write a paragraph explaining whether or not Ms Ance has a valid complaint. Use the information from the comparison matrix above in your answer.