MA4704 Tutorial 1 – Week 1 Numerical Exercises

1. Compute the arithmetic mean of the following data set. Do you feel that the arithmetic mean is an useful measure of centrality in each case

* 12,15,16,18,21,24,28,31
* 23,24,25,27,28,29,57

1. Arrange these values into ascending order, and indicate which value is the middle value (when there are an odd number of elements) or the middle pair of values(when there are an even number of elements).
   1. 8 5 17 15 12 10 7
   2. 17 37 27 24 36 30 22 16
   3. 29 31 38 12 4 23 34 2 35
2. Determine the maximum value, the minimum value, and the range of these data sets.
3. Determine the geometric mean of the following data set.
4. Determine the harmonic mean of the following data set.
5. Compute the case-wise differences of the data sets A and B (case-wise differences are A-B).
6. What is the arithmetic mean of the case-wise differences?
7. For each of the case-wise differences, subtract the mean value (answer from part 7), and compute the square of the subsequent term.
8. A crooked six-sided dice is found to yield each of the outcomes 1 to 5 with the respective probabilities. What is the probability of the outcome 6?

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| **Outcome (X)** | **1** | **2** | **3** | **4** | **5** | **6** |
| **Probability P(X)** |  |  |  |  |  |  |