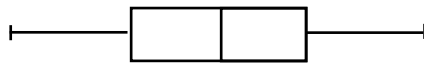


Topic 4. Statistics (Math AI SL)

GENERAL STATISTICS

- 1) The _____ is the number that occurs the _____ often, but it might be a range of values instead. This is called the _____ interval.
- 2) The _____ is the number in the middle of an ordered set.
- 3) Outlier calculations are important. The maximum outlier limit is calculated by the formula: $Q3 + \text{_____}$, and the lower outlier limit by _____. Outliers must be marked with a _____ on box and whisker plots. Label the values used to generate a box and whisker plot:



- 4) Variance is the _____ to the power of _____.
- 5) The mean score for a set of exams is 4.3. If you increase every score by 3, the mean is _____. If the standard deviation of the data is 1.2, and you increase every score by 3 the standard deviation is _____.
- 6) The mean of data is 4.3. If you double every score, the mean is _____.
- 7) Hypothesis testing. Remember: If the p-value is low, the null must _____.

T-TEST

- 8) A t-test is used to determine if there is a difference between the _____, which is represented with this symbol: _____. There are two main assumptions that are made: The first is that the data is _____ and second is that the _____ of the samples are _____. Mathematically, the null hypothesis must be written as: _____ and the alternative as: _____, or _____ or _____. You must read the question closely to determine which to use. It is important you select the _____ t-test on your calculator, as well as the correct alternative hypothesis. You must also make sure you select a _____ t-test. Just remember: _____ are fun!

PEARSON AND SPEARMAN

- 9) Pearson's correlation can only be used for _____ relationships. If relationship is monotonic, which basically means _____, use _____ instead.
- 10) _____ is less sensitive to outliers than _____ is.
- 11) For Pearson's, the line of regression must pass through the _____ and the correct ____ - _____.
- 12) Make sure to use the correct equation of regression to make predictions. If you are predicting for y , use this model: _____. If you are predicting for x , use this model: _____. In order to generate the latter, you simply _____ the _____ in your calculator.
- 13) Predictions made from values are reliable if they are inside the _____. This is called _____. It is also important for the _____ to be _____. Predictions are less reliable if made from values outside the _____. This is called _____. Also, if the _____ is _____, the prediction would be less reliable.
- 14) Carrying out Spearman's calculation is easy if you rank them correctly. Rank the following for practice:

x (score)	15	5	10	10	6	12	12	14
Rank								
y (score)	17	4	12	9	7	13	12	15
Rank								