



GCSE Additional Mathematics

Paper 2: Statistics Examination Tips

Below is a collection of useful tips for students sitting Paper 2: Statistics.

Topic	Tips
Definitions	<ul style="list-style-type: none"> • Know the definition of all the statistical terms in the specification. • Be able to distinguish between discrete and continuous variables.
Histograms	<ul style="list-style-type: none"> • Always use a continuous scale on the horizontal axis. • Be careful when choosing boundaries. For example, if values are given in the ranges 1-5, 6-10, 11-15, etc., then the boundaries are at 0.5, 5.5, 10.5 etc. • Calculate the frequency density (frequency divided by class width) for each range of values and always plot it on the vertical axis.
Mean and Standard Deviation	<ul style="list-style-type: none"> • Be able to calculate the mean and standard deviation of: <ul style="list-style-type: none"> ○ a list of numbers; ○ a frequency distribution; ○ a grouped frequency distribution; and ○ data presented in problems. • Show clearly the full development of your answers. Do not just use your calculator only write down the final answers. • Know that when you change all the raw data by adding, subtracting, multiplying or dividing, then you change the mean similarly. • Know that when you change all the raw data by multiplying or dividing, then you change the standard deviation similarly.
Probability	<ul style="list-style-type: none"> • Draw Venn diagrams or tree diagrams, where appropriate, to help organise your answers. • Show clearly the full development of your answers. • You must give your answers as fractions, decimals or percentages. If the probability is given as a fraction in the question, then you should work in fractions, etc.
Time Series	<ul style="list-style-type: none"> • Know the definitions for, and be able to give examples of: <ul style="list-style-type: none"> ○ secular trend; ○ seasonal variation; ○ cyclical variation; and ○ random variation. • Know the reason for using moving averages. • Use the graph of the original data to determine the most appropriate moving averages to choose. • Know how to use moving averages to extrapolate further information.

Topic	Tips
Bivariate Analysis	<ul style="list-style-type: none"><li data-bbox="517 300 1406 360">• Use the mean of each of the two variables as a starting point for your line of best fit.<li data-bbox="517 394 975 427">• Know how to deal with tied ranks.<li data-bbox="517 461 1302 495">• Be able to calculate Spearman's rank correlation coefficient.<li data-bbox="517 528 1225 562">• Understand the significance, if any, of this coefficient.