Further Probability & Statistics

A-Level Further Mathematics · Vocabulary in context

Word	Example
probability density function /ˌprɒbəˈbɪlɪti ˈdensɪti ˈfʌŋkʃn/	A **probability density function** describes a continuous random variable.
cumulative distribution function /ˈkjuːmjʊlətɪv ˌdɪstrɪˈbjuːʃn ˈfʌŋkʃn/	The **cumulative distribution function** $\mathrm{F}(x)$ gives $\mathrm{P}(X \leq x)$. $\mathrm{F}(x) \qquad \mathrm{P}(X \leq x)$
percentiles /pəˈsentaɪlz/	The 10th and 90th **percentiles** mark the bottom and top tenth of the data. 10 90
median /ˈmiːdiːən/	Put the values in order before you find the **median**.
hypothesis test /haɪˈpɒθəsɪs test/	The **hypothesis test** found no evidence against the 30-minute claim. 30
confidence interval /ˈkɒnfɪdəns ˈɪntəvl/	A narrow **confidence interval** means the estimate is precise.
pooled estimate /puːld ˈestɪmət/	A **pooled estimate** combines the data from two samples.
chi-squared test /kaɪ skweəd test/	A **chi-squared test** checks whether our counts are close to the expected counts.
theoretical distribution /θɪəˈretɪkl ˌdɪstrɪˈbjuːʃn/	The binomial is a **theoretical distribution**.
degrees of freedom /dɪˈgriːz ɒv ˈfriːdəm/	A mechanism with one **degree of freedom** needs one motor.
goodness of fit /ˈgʊdnəs ɒv fɪt/	A test of **goodness of fit** compares data with a model.

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independence /ˌɪndɪˈpendəns/	**Independence** means one event does not affect the other.
contingency table /kənˈtɪndʒənsi ˈteɪbl/	A **contingency table** shows counts for two variables.
non-parametric test /nɒn ˌpærəˈmetrɪk test/	A **non-parametric test** does not assume a normal distribution.
sign test /saɪn test/	The **sign test** counts plus and minus signs only.
Wilcoxon signed-rank test /ˈwɪlkɒksn saɪnd ræŋk test/	The **Wilcoxon signed-rank test** ranks the sizes of paired differences.
Wilcoxon rank-sum test /ˈwɪlkɒksn ræŋk sʌm test/	The **Wilcoxon rank-sum test** compares two separate groups using ranks.
probability generating function /ˌprɒbəˈbɪlɪti ˈdʒenəreɪtɪŋ ˈfʌŋkʃn/	A **probability generating function** holds all the probabilities in one formula.
Further Probability & Statistics /ˈfɜːðə ˌprɒbəˈbɪlɪti ænd stəˈtɪstɪks/	**Further Probability & Statistics** covers new distributions and tests.