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The Q test, also known as Dixon's Q test, is a statistical method used to identify and reject outliers in a dataset that assumes normal distribution. The test was developed by Robert Dean and Wilfrid Dixon, among others. To apply the Q test, arrange the data in increasing order and calculate Q, which is the ratio of the absolute difference between the outlier in question and the closest number to it, divided by the range of the data. If Q is greater than a reference value (Qtable) corresponding to the sample size and confidence level, then reject the questionable point. The test can only be used once per dataset and should be used sparingly. The reference values for Qtable depend on the sample size and confidence level, with higher values indicating greater confidence. For example, at 90% confidence, the maximum value of Q is 0.412 for a sample size of 10. The article provides an example of applying the Q test to a dataset, where it is determined that 0.167 is an outlier at 90% confidence but not at 95% confidence. The text also notes that there are related tests available for detecting multiple outliers, but these are less frequently used than the single-outlier version. Finally, the article provides tables summarizing the limit values of the two-tailed Dixon's Q test for different sample sizes and confidence levels. Spectrum sensing is a crucial aspect of wireless communication, and the Dixon's Q test has been widely used in various applications. A notable paper on this topic was published in IET Communications in 2014 by W. J. Dixon. The test itself originated from the work of W. J. Dixon in his book "The Annals of Mathematical Statistics" in 1950. Interestingly, a similar function called 'dixon.test' is also available in GNU R's package 'outlier'. The use of Dixon's test has been explored in various fields, including cognitive radio communications. For instance, Shivanshu Shrivastava discussed its application in his paper on the topic.

Q-test table 95 confidence. Q test table 90 confidence. Tukey test q table. Dixon q test table. Q test value table. Q test critical values table. Q-test table pdf. Test q tablet. Dixon q test critical values table. Cochran q test table.