

CORRECTION FOR THE MOMENTS OF A FREQUENCY DISTRIBUTION IN TWO VARIABLES¹

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In certain statistical problems it is beneficial to divide the given data into classes or groups and investigate the distribution in this form. The moments determined for the distribution divided into classes differ from the moments determined from the original data. It is the object of this article to show how to modify the former to secure the latter for a frequency distribution in two variables.

After the data, given for a frequency distribution of one variable, have been divided into classes the class mark is then the representative of the items in a class. This is assuming that the mean of the items falling in a class is equal to the class mark. For a large number of items in a class, distributed throughout the entire class, the class mark differs very little from the average of the items in the class. But the average of the items raised to a power is not equal to the class mark raised to the same power. Hence corrections should be made to the moments determined from a distribution which is divided into classes.

For a distribution of two variables x and y the data are divided into xy -classes, where the class mark of an x -class

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