

A simple explanation for 66.7% limiting values in tetrad analysis

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Abstract

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ball is transferred to the tube (Fig. 2). There are now two white and one black ball remaining in the box. Therefore, at the second transfer, there is twice as much chance of taking a white as there is of taking a black ball. There is, therefore, twice as much chance of forming a second-division segregation sack as there is a first. There are, therefore, under random segregation, twice as many second-division segregation asci ($4/6$) as there are first ($2/6$). Therefore, under random conditions, there are $4/6$ (= 66.7%) second-division segregation asci.

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This note is in response to Griffiths and Person (1973 NN#20: 37). Suppose a box contains two black and two white balls, which are to be transferred to a linear sack in turn and without looking (Fig. 1). At the first dip into the box, there is a 50:50 chance of taking out a black or a white ball. Suppose a black

ball is transferred to the tube (Fig. 2). There are now two white and one black ball remaining in the box. Therefore, at the second transfer, there is twice as much chance of taking a white as there is of taking a black ball. There is, therefore, twice as much chance of forming a second-division segregation sack as there is a first. There are, therefore, under random segregation, twice as many second-division segregation asci ($4/6$) as there are first ($2/6$). Therefore, under random conditions, there are $4/6$ (= 66.7%) second-division segregation asci.

Fig.1



Fig.2

