

Thomas Nelson Community College

NAS 206

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χ^2 Test

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1. Table 1 shows the relation between performances of students in mathematics and physics. Test the hypothesis that performance in physics is independent of performance in mathematics using both 5% and 1% significance.

Table 1: .

	Math high	Math mid	Math low
Physics high	56	71	12
Physics mid	47	163	38
Physics low	14	42	86

2. Two groups, A and B , each consist of 100 people who have a disease. A serum is given to Group A , but not group B . It is found that 75 people in Group A recover, and 65 from Group B . Test the hypothesis that the serum is effective at the 0.01 and 0.05 level.
 3. In Gregor Mendel's experiments with peas he observed 315 round and yellow, 108 round and green, 101 wrinkled and yellow, and 32 wrinkled and green. According to his theory of heredity the numbers should be in the proportion of 9 : 3 : 3 : 1.
 - Is there any reason to doubt his theory at the level of 0.01 or 0.05 significance?
 - What is the P value?
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