$$Values\ of\ P(t^2>t_0^2)$$
 $N_1=N_2=10$
 0.1
 0.2
 0.5
 0.05
 0.0708
 0.1355
 0.5621
 0.01
 0.0165
 0.0396
 0.2940
 $N_1=N_2=20$
 0.1
 0.1
 0.2
 0.5
 0.05
 0.0947
 0.2345
 0.8691
 0.01
 0.0251
 0.0862
 0.6730

In only one case was it necessary to calculate as many as ten terms of the corresponding series to obtain these values.

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NOTE ON AN APPLICATION OF RUNS TO QUALITY CONTROL CHARTS

By Frederick Mosteller

Princeton University

In the application of statistical methods to quality control work, a customary procedure is to construct a control chart with control limits spaced about the mean such that under conditions of statistical control, or random sampling, the probability of an observation falling outside these limits is a given α (e.g., .05). The occurrence of a point outside these limits is taken as an indication of the presence of assignable causes of variation in the production line. Such a form