Def. 1.1

The ***mean*** of a sample of n measured responses is given by

The corresponding population mean is denoted by

Def. 1.2

The ***variance***of a sample of measurements is the sum of the

square of the differences between the measurements and their mean, divided

by *n* − 1. Symbolically, the sample variance is

The corresponding population variance is denoted by the symbol

Def. 1.3

The ***standard deviation***of a sample of measurements is the positive square root

of the variance; that is,

The corresponding *population* standard deviation is denoted by

Def. 2.6

Suppose *S* is a sample space associated with an experiment. To every event *A*

in *S* (*A* is a subset of *S*), we assign a number, *P(A)*, called the *probability* of

*A*, so that the following axioms hold:

Axiom 1: *P(A)* ≥ 0.

Axiom 2: *P(S)* = 1.

Axiom 3: If  *. . .* form a sequence of pairwise mutually

exclusive events in *S* (that is, ), then