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43.Statistics There were
two widely divergent influences on the early development of
statistical methods. Statistics had a mother who was dedicated to
keeping orderly records of government units (states and statistics
come from the same Latin root status) and a gentlemanly gambling
father who relied on mathematics to increase his skill at playing the
odds in games of chance. The influence of the mother on the
offspring, statistics, is represented by counting, measuring,
describing, tabulating, ordering, and the taking of censuses-all of
which led to modern descriptive statistics. From the influence of the
father came modern inferential statistics, which is based squarely on
theories of probability. Describing collections involves tabulating,
depicting and describing collections of data. These data may be
quantitative such as measures of height, intelligence or grade
level------variables that are characterized by an underlying
continuum---or the data may represent qualitative variables, such as
sex, college major or personality type. Large masses of data must
generally undergo a process of summarization or reduction before
they are comprehensible. Descriptive statistics is a tool for describing
or summarizing or reducing to comprehensible form the properties
of an otherwise unwieldy mass of data. Inferential statistics is a
formalized body of methods for solving another class of problems
that present great of problems characteristically involves attempts to

make predictions using a sample of observations. For example, a school superintendent wishes to determine the proportion of children in a large school system who come to school without breakfast, have been vaccinated for flu, or whatever. Having a little knowledge of statistics, the superintendent would know that it is unnecessary and inefficient to question each child: the proportion for the sample of as few as 100 children. Thus, the purpose of inferential statistics is to predict or estimate characteristics of a population from a knowledge of the characteristics of only a sample of the population. 100Test