

STAT 110 – Section 13
Chapter 8 & 10 Definitions

measure – assign a number to represent a property of a person or thing

instrument – device used to make a measurement

units – used to record the measurements (feet, pounds, inches, gallons, etc.)

variable – the result of a measurement that takes different values for people or things that differ in whatever we're measuring

valid – a variable is a valid measure of a property if it is relevant or appropriate as a representation of that property

bias – systematic deviation from the true value of the property

random error – repeated measurements on the same individual give different results

reliable – when random error is small

$$\textit{measured value} = \textit{true value} + \textit{bias} + \textit{random error}$$

categorical variable – places an individual into one of several groups or categories

quantitative variable – takes numerical values for which arithmetic operations make sense (operations: adding, averaging, etc.)

frequency – the number of times a value occurs in the data

relative frequency – for a value, the proportion (fraction or percent) of all observations that have that value

distribution – tells us what values a variable takes and how often it takes those values

roundoff error – error introduced as we do arithmetic