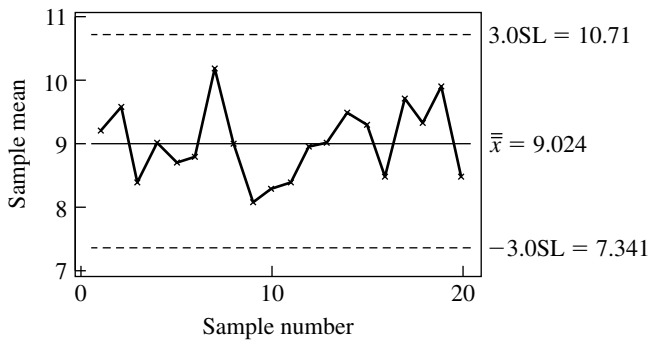




**x axis**– Same as *horizontal axis* or *abscissa*.

**x-bar**– An upper-or lower-case letter  $x$  with a line over the top of it ( $\bar{x}$ ). It is often used to denote the **mean** of a **sample**.

**x-bar chart**– A **graphical device** used to control a process **average** by inspecting the **mean** of a set of **measurements** taken from various batches or subgroups (from a pilot set of about 20 rational subgroups). The values of mean taken from each subgroup are plotted along the **vertical axis** and can then be used to control within subgroup **variation**. The **center line** of the  $\bar{x}$  chart is the average of all subgroup means ( $\bar{\bar{x}}$ ). **Control lines** are fixed at three **standard deviations** from the center line, where the standard deviation is generally estimated from the **range**. In practice, the engineer sets the limits at  $\bar{\bar{x}} \pm A_2 \bar{R}$  where  $\bar{R}$  is the average of all the subgroup ranges and  $A_2$  is a multiplier determined from some specially prepared tables. See also *c chart*, *control chart*, *p chart*, *run chart*, *s chart*.



An example of an  $\bar{x}$ -chart

**x coordinate**– The distance measured parallel to the **x axis**, from the **y axis** to a point.

**x distance**– Same as *x coordinate*.

**$x$  intercept**– The point where the **regression line** for  $x$  predicted on the basis of  $y$  crosses the **abscissa** is called the  $x$  intercept. This point marks the location of the regression line.

**$x^2$  statistic**– The term is commonly used to denote a **chi-square statistic** for testing the **independence** in a **contingency table** or testing the **goodness of fit** of a hypothesized **probability distribution** describing the characteristics of a **population**.

**$x$  variable**– In a **simple regression analysis**, the term is used to refer the **independent** or **explanatory variable**. In a **scatter diagram**, it is plotted on the  **$x$  axis**.