

Start Up Screen

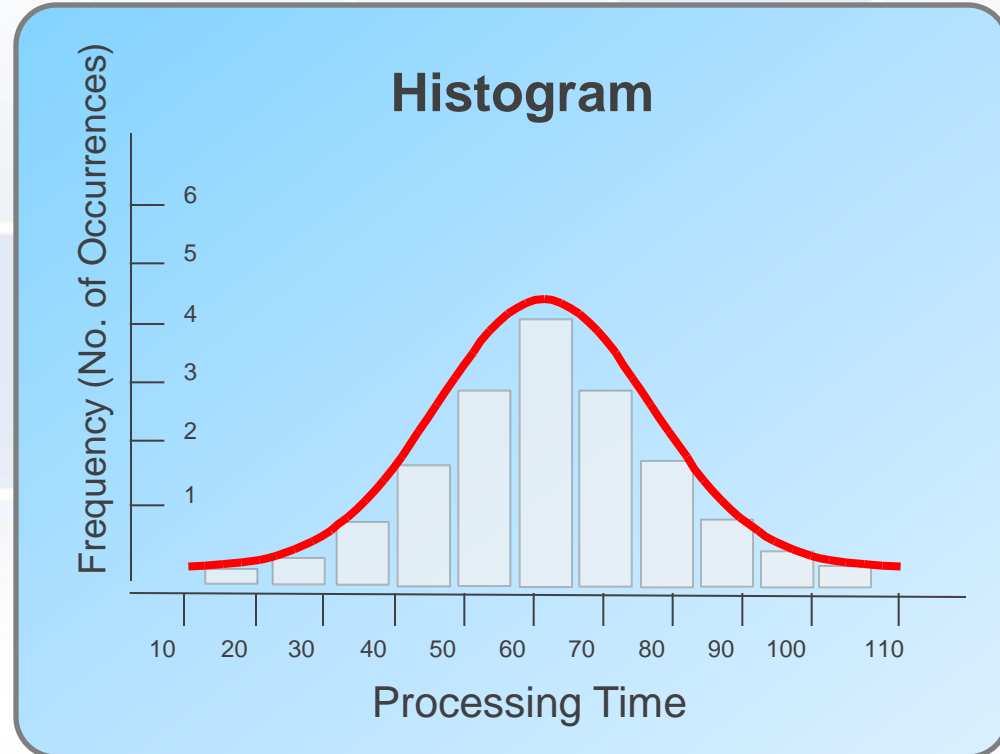
Graphical Methods

Take Aways



Definition of Histogram

- 👍 A histogram is a specialized type of bar chart
- 👍 Idea of how frequently data occurs in a process
- 👍 Provides an easy-to-read picture of location & variation of data
- 👍 Leads to a discovery of possible 'X's
- 👍 Most often used in descriptive studies



When to use a Graphical Summary

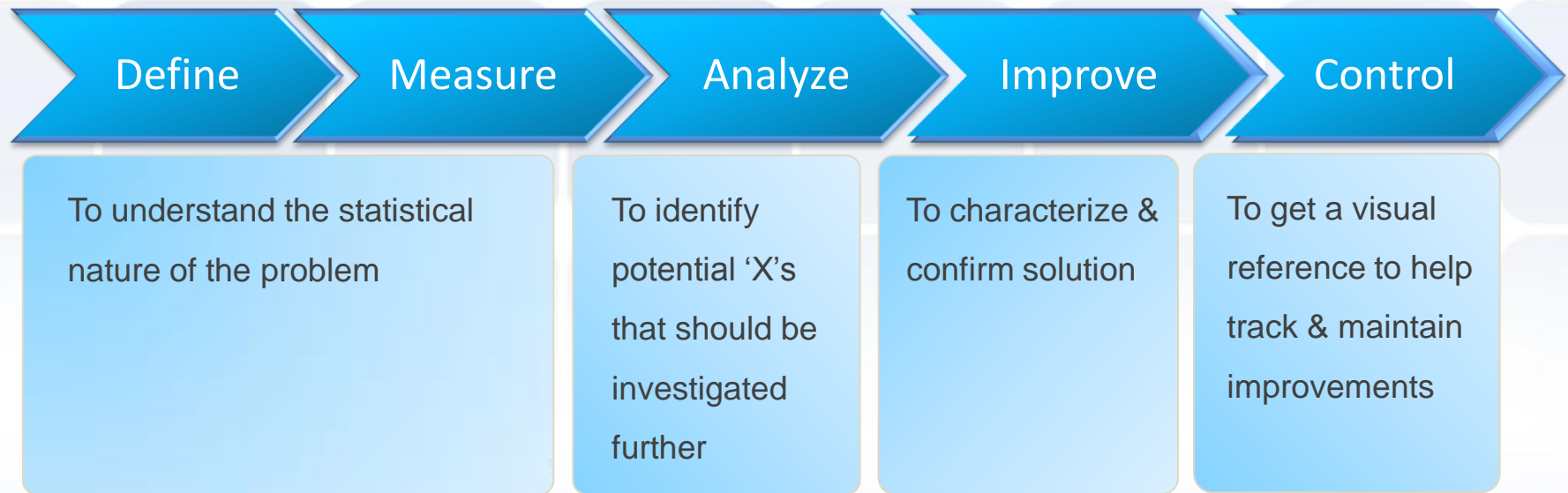
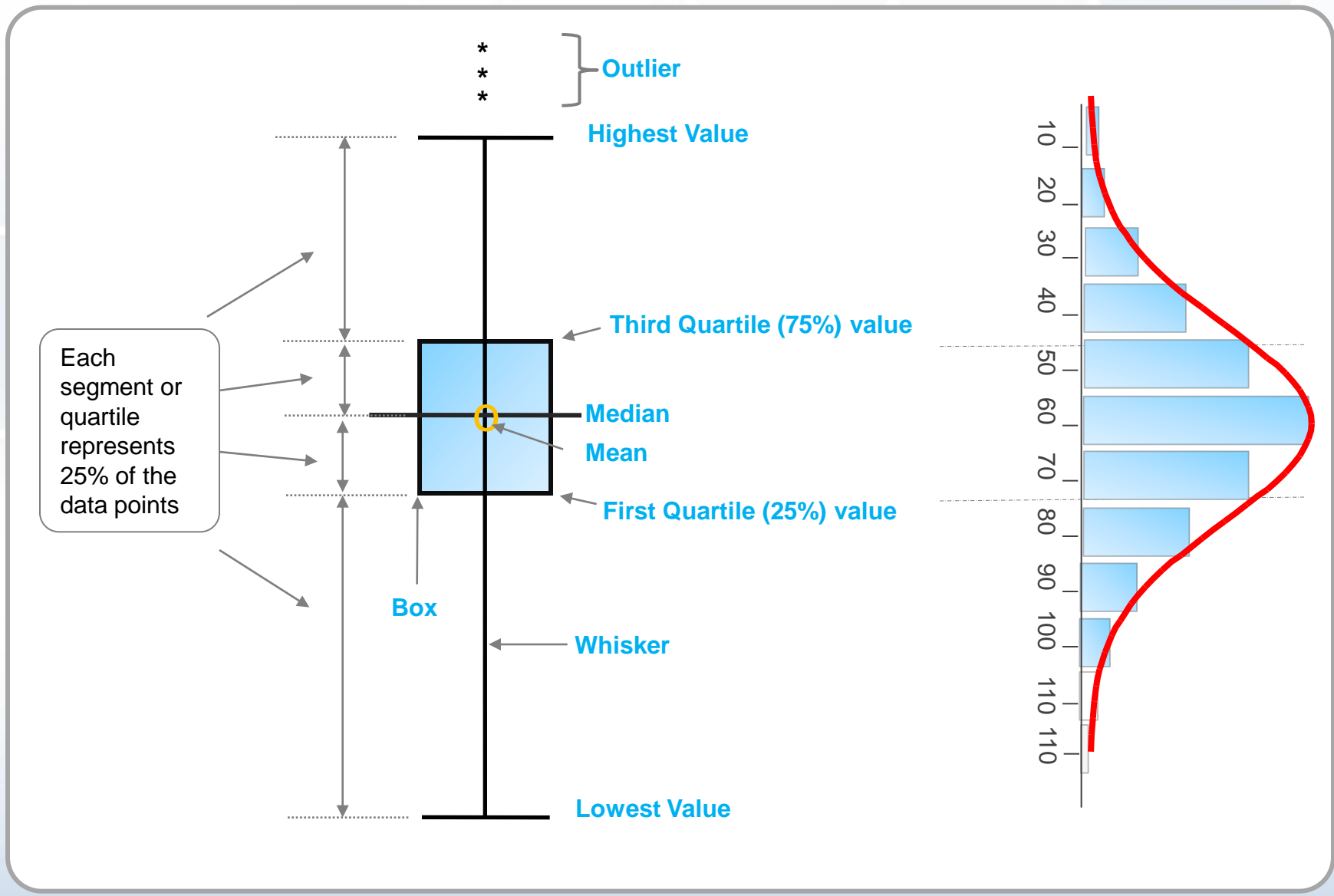


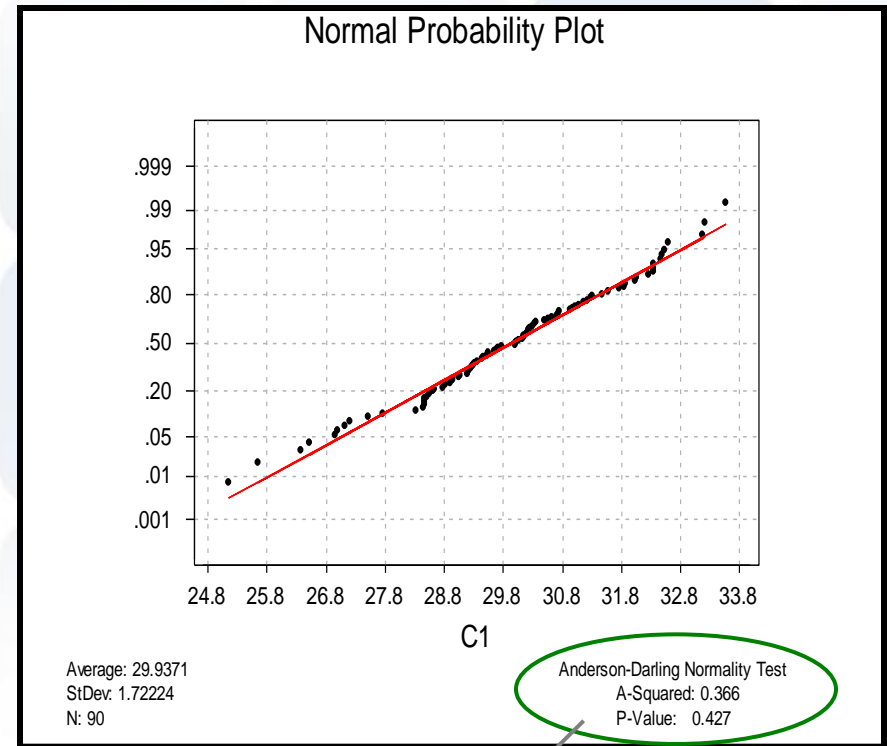
Illustration of Box Plot



Normality Test

How do we know if data is Normal?

- 👍 Aka Normal Probability Plots, are conducted to confirm if the distribution of a sample data fits a Standard Normal Distribution
- 👍 It uses the cumulative percentage distribution of the sample data to give a visual display about the likely shape of the process output distribution
- 👍 Anderson-Darling test is most common test done using Minitab & its P-Value needs to be ≥ 0.05 to pass the normality test



'P-Value' Determines the normality of the data

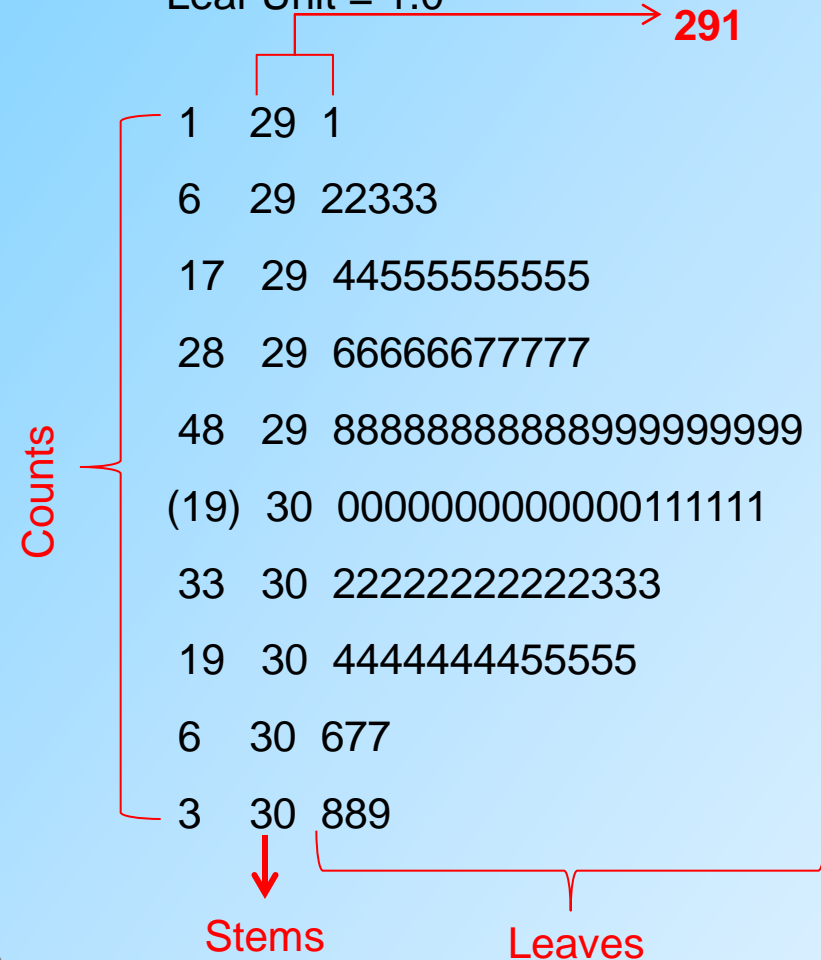
Illustration of Stem-and-Leaf Plot

- 👍 **Leaf:** Each value in leaf column represents a digit from one observation. The leaf unit specifies digit used
- 👍 **Stem:** This value represents digit immediately to left of leaf digit
Actual data value is split into a Stem & Leaf
- 👍 **Count:** Value of count for a row above median represents total count of data for that row & rows above. Value of count for a row below median represents total count of data for that row & rows below

Stem-and-Leaf Display: C1

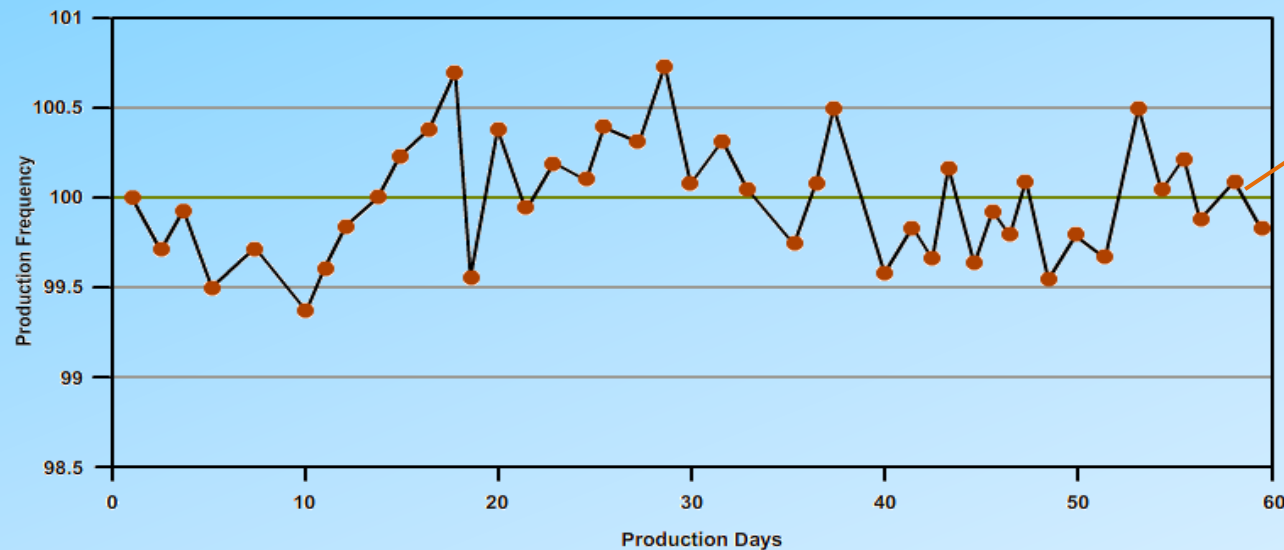
Stem-and-leaf of C1 N = 100

Leaf Unit = 1.0



Definition of Run Charts

- 👍 A tool to depict behaviour of process under investigation over a period of time
- 👍 A **run** is defined as a single point or a series of sequential points where no point is on the other side of the median
- 👍 Patterns help identify the presence of special cause variation



Scatter Plot

- 👍 A graph used to analyze correlation between two variables
- 👍 Useful to identify cause-and-effect relationships & root causes of problems



Interpretation of Scatter Plots

Direction of Relationship

Depending on relationship, we can establish how one factor affects another

Shape of Relationship

Depending on shape, we can establish if relationships exist & whether linear or non-linear

Strength of Relationship

Depending on density of dots, we can establish strength of relationship between two factors

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- Deriving & executing **Business & Functional Strategies**
- Making **Customer Experience** a competitive advantage
- Improving profitability by leading **Business Transformation** initiatives

Consulting Clientele

