

Explore the myriad of powerful statistical analysis tools used in today’s business world. Use the What-If features like Goal Seek, Scenario Manager and Data Table, to see how changing values create a wide range of calculation outcomes. Perform random sampling of data along with creating random assignments to tasks and group creation. Calculate moving averages and predict trends with various forecasting tools. Rank data on certain values, measure data frequency and calculate weighted averages. Measure variance to help make the best decisions and choices. Determine correlative strength between data sets. Use regression to estimate relationships that help make better predictions. Insert function formulas that perform statistical calculations and fill in missing data. Use the Solver tool to find the best mix of suggested cell values that result in an optimized and desired results.

GOAL SEEK

- Use the Goal Seek Tool to Determine what One Cell’s Value Needs to be, to Result in a calculation’s result in another.
- **Example 1: Mortgage** – What is the Max Amount We Can Borrow, If the Interest Rate is 8%, Where the Monthly Principle and Interest Payment Needs to be \$900?
- **Example 2: Profit** – What Needs to Be the Projected Revenue in the Kiteboard Product Category, that Currently Enjoys a 72% Profit Margin, to Earn \$985,000 in Profit?
- **Example 3: Area** – What Needs to be the Diameter of a Circular Pizza, to Fill an Order for 300 Square Inches of Pizza.

SCENARIO MANAGER

- Use the Scenario Manager to Store and Display Multiple Versions of Data, in the Same Cells.
- Create a Scenario Summary Report Showing Side-by-Side Display and Comparisons.

DATA TABLE

- Create an Excel Data Table to See Multiple Possibilities for a Single Calculation When Just One Answer is not Enough.
- Creating an Alternate 2-Variable Data Table.

RANDOM SAMPLING

- Pull Random Samples using the Sample Tool.
- Use Nested Functions to Pull a Random Sample of Unique Names from a List.

RANDOM ASSIGNMENT CREATOR

- Generate Unique Random Task Assignments from Lists of People or Other Things.
- Randomly Assigning People to Teams While Limiting a Person’s Affiliation to a Single Team.

MOVING AVERAGES - TRENDS – FORECASTS

- Moving Averages Smoothing Data Spikes.
- Trends/Forecasts Calculate Future Values.

CHART AND DIAGRAM COMPARATIVE ANALYSIS

- Tiered Chart Analysis - Trend and Forecast.
- Pie/Bar Charting – Group Breakdown Analysis.
- Starburst Charting – Correlative Comparatives.

RANK DATA – FREQ. DIST. - WEIGHTED AVERAGES

- Ranking Data Versus Sorting Data.
- Use Frequency Distribution to Find the Frequency (count) of Each Value in a Range.
- Graph Freq. Dist. with a Histogram.
- Calculate Weighted Averages Where Some Values Have More Weight Than Others.
- **Example 1 – Weighted Average of COG’s** Calculate a Product’s Average Purchase Cost by Averaging Past Purchases with Varied Quantities Purchase at Various Prices.

VARIANCE CALCULATIONS AND COMPARISONS

- VAR Function to Find the Best Route of Action.
- **Example 1: Equipment Choice** – Determine the Best Machine to Be Used, by Measuring and Finding Machine with the Least Variance.

CORRELATION AND REGRESSION PREDICTIONS

- Use Correlation Tool to Determine How Strongly 2-sets of Data Variables are Related. to Each other. Price of Gold to Price of Oil.
- Use Regression Tool to Estimate Relations Between Variables. Understand and Predict.

CONVERSION AND STATISTICAL CALCULATION TOOLS

- Use the Convert Function to Convert Distance, Force, Pressure, Area, Time, Energy, Volume. Temperature, Liquid and Weight Measures into Other Measures.
- Use Indexing to Measure Relative Importance.
- Apply Statistical Functions to Calculate Data.
- Solve Linear and Quadratic Equations, Easily.
- Use the VLOOKUP to Fill-In Missing Data.

SOLVER-MATRIX SOLUTIONS

- Learn How to Access This Powerful Tool Using the Add-Ins Feature.
- Use the Solver to Find and Insert Optimum Cell Values for Best Calculation Outcomes.
- Set Constraints that Keep Solver’s Solutions within Reasonable and Physical Limitations.
- **Example 1: Maximize Manufacturing Profit.**
- **Example 2: Maximize Profit in Production.**
- **Example 3: Maximize Store Inventory Profit.**
- **Example 4: Minimize Waste in Fabrication.**
- **Example 5: Projected Sales/Profit Target.**
- **Example 6: Minimize Transportation Costs.**
- **Example 7: Minimize Deployment Costs.**