

Supply and Demand Tools

- ROUND: rounds a number to the specified decimal places. “=ROUND(number,number of digits)”
- Know that ROUND changes the value to the new rounded number.
- ROW: returns the row number of a reference. “=ROW([reference])” (Note [] means that reference is not necessary for function to work. Without reference, the function returns row number of row where function is located.)
- MOD: returns the remainder from dividing a number by a divisor. “=MOD(number,divisor)”.
- MOD(ROW(),2): Know what this function does. It returns a 1 for all odd rows and 0 for all even rows. **MUST REMEMBER THIS FORMULA.**
- Naming Cells: you can use the box in the top left corner to change the name of any cell. This box is called the “Name Box”.
- Alternatively: Ribbon→ Formulas→ Define Name.
- If you correctly named the cell it will display in Name Box if you select cell. Also does not remove the ColumnRow name. Ex. If you change A1 to first, A1 will still work as a reference.
- Name Manager: Shows all named cell(s) in the workbook. Can edit names here as well. Located on Ribbon→ Formulas→ Name Manager
- Excel remembers patterns to auto-fill down. Select existing pattern and drag down to auto-fill. Ex. if pattern is 3,2, Filling down will fill in 1,0,-1,....
- Conditional formatting: Ribbon→ Home→ Conditional Formatting: Allows you to format cells based on the contents. Can format based on rules (such as “larger than” or “less than”) or any formula you choose. Must select all cells you want to format before selecting Conditional Formatting. Important to watch video on how to use conditional formatting!
- If conditional formatting is done correctly, format should update automatically when values change
- Protecting cells: Locks a cell so it cannot be edited. Edit cell’s Protection: Ribbon → Alignment → Protection → Locked. To lock the spreadsheet (which locks all cells that you haven’t unlocked): Ribbon → Review → Protect Sheet.
- Concatenation: process of joining text or cells together. & is the glue to connect cells together. Remember how to use “” and “&” to join cells. Be careful with spaces. Can combine with functions and references. ex. =“The answer is ”&C24&“.”
- Collapse ribbon: Gives you more room on the screen. Right click on ribbon and select collapse ribbon OR click on ^ in bottom right corner of ribbon. To bring back the ribbon click on any of the header names and click the pin in the bottom right corner of the ribbon. OR Double click on Home Button to collapse/return ribbon
- Automatic calculation on/off: Stops excel from calculating any functions in the spreadsheet. Ribbon → Formulas→ Calculation Options → Manual. To run calculations, click on calculate now or turn back on automatic calculations or press F9.

Make the Table

- Changing the sheet name (double click on sheet name)
- Superscript text: select the text you want to superscript, click on arrow in lower-right corner of font box in ribbon, select Superscript under Effects.
- Home tab formatting: Bold, Fill color, Font color, Font size, Alignments, Borders.
- Alternating row colors using Conditional formatting: Highlight table → Conditional Formatting → New Rule → Use a formula to determine which cells to format → $=\text{MOD}(\text{ROW}(),2)=0$ (or 1 for odd rows) → Format → Pick formatting
- To change a rule: Highlight table → Conditional Formatting → Manage Rules

Make the Graph

- Review on inserting a scatter plot: Select Data → Insert → Charts: Scatter Plot
- Removing decimal places from axis: Double-click on axis → Format Axis: Number → Change number of decimal places
- Change bounds (min and max) of axis: Double-click on axis → Format Axis: Axis Options → Change the min or max under Bounds
- Add tick marks: Double-click on axis → Format Axis: Tick Marks → Select desired tick marks
- Using Chart Elements: Select graph → Click on + sign
- Chart elements allows you to add/remove: axis titles, chart title, gridlines, and a legend. Can also move the legend position
- Goal Seek: Allows the user to set a cell equal to a value by changing the value of another cell.
- Using goal seek: Highlight cell you want to set equal to a value → Data → What-if Analysis → Goal Seek → Set Cell (already correct if you did step 1 correctly) → Change “Equal to” to desired value → Set “By changing cell” → Click OK
- For goal seek to work you must have used references correctly!
- Know how to use goal seek to find the quantity that makes Supply equal to Demand!! (Supply-Demand=0)
- Adding an equilibrium to a graph (or adding any data to a graph): Click on graph → Click on third box with funnel → Click on “Select Data” in bottom right → Click Add → Fill in Series Name, Series X values, and Series Y values.
- Formatting curve/line on graphs: Click on curve/line → Format Data Series → Can change dash type, width, color, etc.
- Review of joining cells (know how to do this!)
- Data Validation: restrict values that can be imputed into a cell: Select Cell → Ribbon: Data → Data Validation → Setting: Allow: Decimal → Data: between → Set Min and Max → Error Alert → Set Title and Error message.

Clean Up

- Inserting graphics: Ribbon → Insert → Pictures → Select File.
- Adding the Developer tab: File → Options → Customize Ribbon → Select Developer tab → Ok.
- Recording a Macro: Ribbon → Developer tab → Record Macro → Fill in Macro Name and Shortcut key → Click OK to start recording → Record all actions you want in the macro → Stop Recording!!
- Recording a macro will record every action you take in Excel, if you forgot to stop recording your macro will be for all actions taken!
- To delete a macro: Developer tab → Macros → Select the macro you want to delete → Click Delete.
- Adding a button: Developer tab → Insert → Form Controls → Button(first option) → Drag mouse on sheet to draw button box → Select Macro you want assigned to button
- Buttons can be used to run macros instead of shortcut key
- Application of tools discussed earlier: (un)locking cells and protecting sheets, collapsing ribbon, removing gridlines and headings.
- Saving as a macro: Excel Macro-Enabled Workbook

What to Know for Exam

- ROUND(),ROW(),MOD(),MOD(ROW(),2)
- Naming Cells (all ways)
- Auto-fill patterns
- Conditional Formatting
- Protecting Cells
- Joining Cells (& and “”)
- Collapsing Ribbon
- Automatic Calculations
- Superscript text
- General formatting: bold, fill color, text color, borders, center, etc.
- Axis formatting: decimals, bounds, tick marks
- Chart formatting: axis titles, gridlines, legend
- Goal Seek (Find quantity where Supply equals Demand)
- Add data to a graph
- Format lines on graph: ex. change line to a dash line
- Data validation (restrict values of a cell)
- Insert graphics
- Add Developer Tab
- Record a Macro and Add a button