Charts in Excel

METBD 050
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Graphing Data

• In Excel, graphs are called CHARTS.
• XY(Scatter) charts are used to plot a value with respect to another value.

The chart here shows values of $y$ plotted versus corresponding $x$-values for the expression:

$$y = 2x^2 + 4x - 10$$

Making a Chart - 1

• To create an XY(Scatter) Chart, you need to have a table of data.
• Data can be arranged in columns or in rows.
• The first column or row selected contains the values for the **abscissa** (horizontal or independent variable axis).
• Second column or row is data for **ordinate** (vertical or dependent variable axis).

<table>
<thead>
<tr>
<th>Data Points</th>
<th>x-values</th>
<th>y-values</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3</td>
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<tr>
<td>1</td>
<td>5</td>
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<td>21</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>23</td>
<td></td>
</tr>
</tbody>
</table>
Making a Chart - 2

- Select the data
- Press the Chart Wizard Toolbar Button

Making a Chart - 3

Pick a chart type – do NOT use a LINE chart to plot values with respect to one another... this is the wrong type!

Making a Chart - 4

The Series tab allows the user to graph multiple functions on one chart.

Data in rows or columns?

Making a Chart - 5

Turn X and Y axes on or off

Turn major and minor gridlines on or off

Change Legend location or turn it off

Display data values or not

Specify titles

Chart preview
Making a Chart - 6

- Creates a new sheet in the workbook and places the chart on it.
- Creates the chart on an existing sheet that can be specified by the user.

Formatting Chart Objects

Right-click on the chart object to get the following pop-up menu. To format, select Format “objectname.”

Format Plot Area - 1

Right-Click on Plot Area and select “Format Plot Area…”

AVOID GRAY FILLED CHARTS Difficult to copy and fax.

Format Plot Area - 2

- Change the fill color
- Change the border line
Format an Axis - Scale

- Right-click on the axis and select **Format Axis**…

- **MINIMUM**
- **MAJOR UNIT**
- **MINOR UNIT**
- **MAXIMUM**

Format an Axis – Tick Marks

- **MINOR TICK MARK**
- **OUTSIDE**
- **MAJOR TICK MARK**

Change the AXIS line

Format an Axis - Font

- Change size and font of the numbers on the axis.
- If **Auto scale** is “checked” the text size changes as you change the size of the chart. YUCK.

Format an Axis - Number

- Change how the numbers are displayed on the axis.
- **WHITE color** and **TRANSPARENT background** hides the numbers on the axis.
Format an Axis - Alignment

Create a Chart of $Y = 2X + 4$

Change the direction of axis numbers

Add a Second Series

$Y = 2X + 4$ and $Y = -2X + 20$