Becoming Proficient in Excel

Athena Leadership Workshop

Fall 2013

What is proficient in Excel?

Overview

I. Excel basics
   I. Navigating Excel
   II. Formula basics
   III. Intro to Charts
II. Building on the basics
   I. Charts in depth
   II. Formulas/functions
III. Pulling it all together in your own spreadsheet
   I. Track your personal data…

Spreadsheet Basics

- Start with Sheet 1
- Worksheets vs Workbooks
- Saving a Workbook
- Naming a Worksheet- Sheet 1 = “X and Y”
- Copy a Worksheet
- Find more ways of managing worksheets on the Worksheet Basics Tutorial Page

Layout

- Columns (letters), Rows (numbers), Cells (1 letter, 1 number)
- Entering data in a cell
- Selecting cells

Make some calculations

- Series Fill with numbers (e.g. 1-19)
- Always begin a function with ‘=‘
- Multiply X and Y
  - Sheet “X and Y”
  - Series Fill with Formulas
- Calculate percentages
  - Sheet “Grades”
- Absolute vs. Relative referencing

Functions

- Find functions in Excel
- A list of some of the common functions you might use:

  =Average(set of numbers)→ average of set

  =Sum(set of numbers)→ sum of set

  =Max(set of numbers)→maximum number in set

  =Min(set of numbers)→ minimum number in set

  =Median(set of numbers)→ median of set

  =Exp(number)→ exponent of number

  =Ln(number)→ natural log of number

Functions-Cont

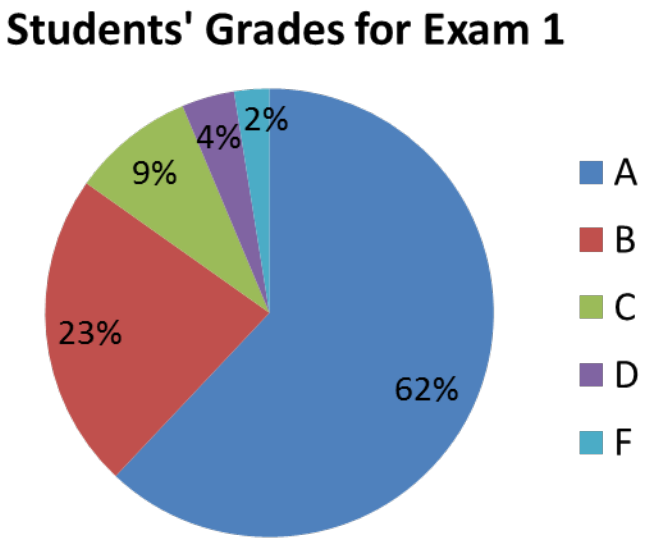
- Be aware of blank cells
- Notice the explanation of the function to understand how it treats characters/text and other formulas
  - The ‘explanation’ occurs when you’ve typed the function name, but before you’ve typed ‘(‘ .
- Formatting Text & Borders

Chart Types

- Pie Chart
- Bar/Column Chart
- Scatter Plots
- Line Charts

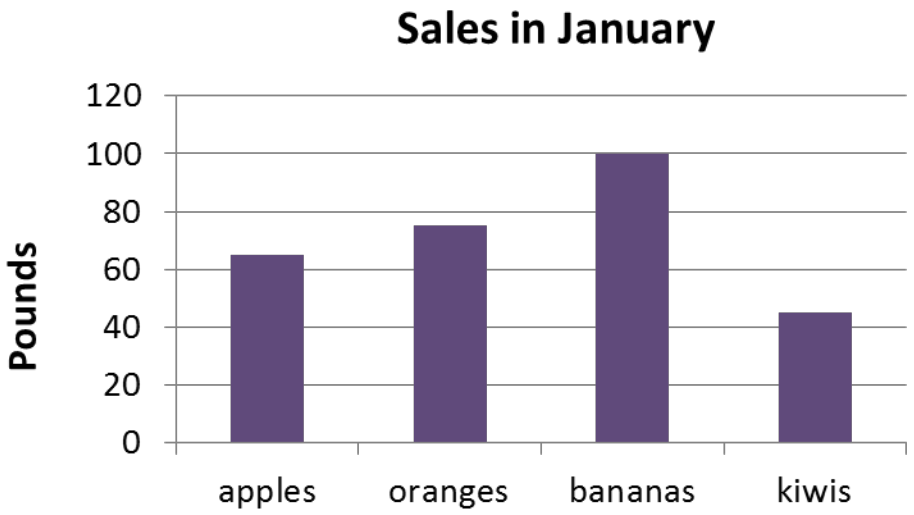
Pie Charts

- Great for looking at pieces of a whole, often percentages
  - Grades of a class
  - Exports by industry
  - Monthly Sales/Expenditures
  - Production by country



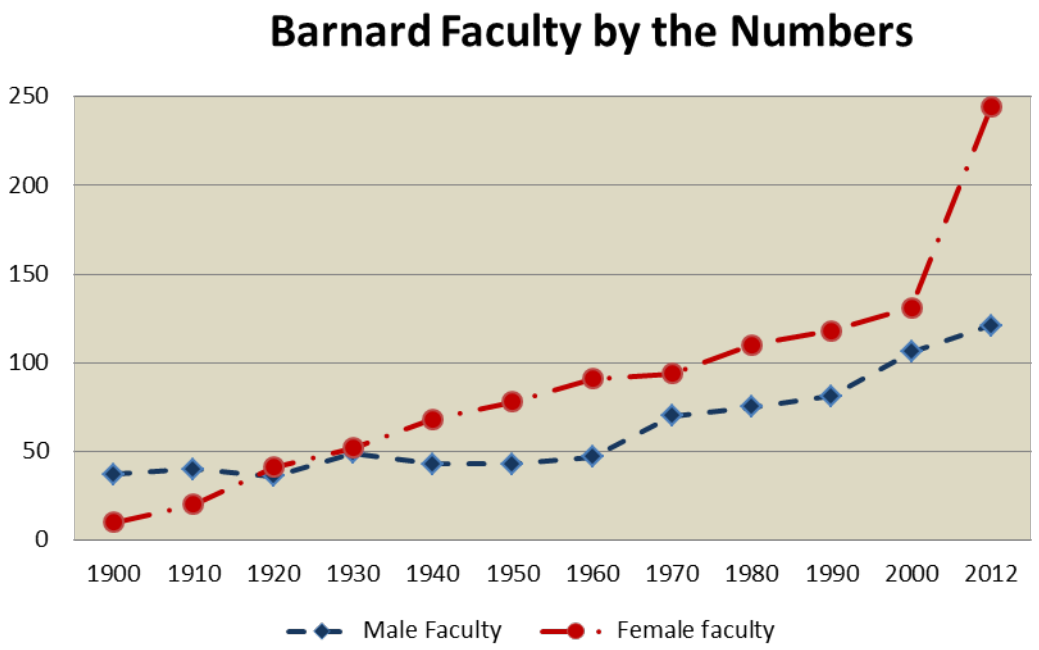
Bar/Column Charts

- Great for comparisons of groups, sometimes means (averages) or medians (mean & median are both measures of central tendency)
  - Median income between men & women
  - Projected and actual budgets (raw numbers, frequencies)
  - Revenue and expenses
  - Item sales



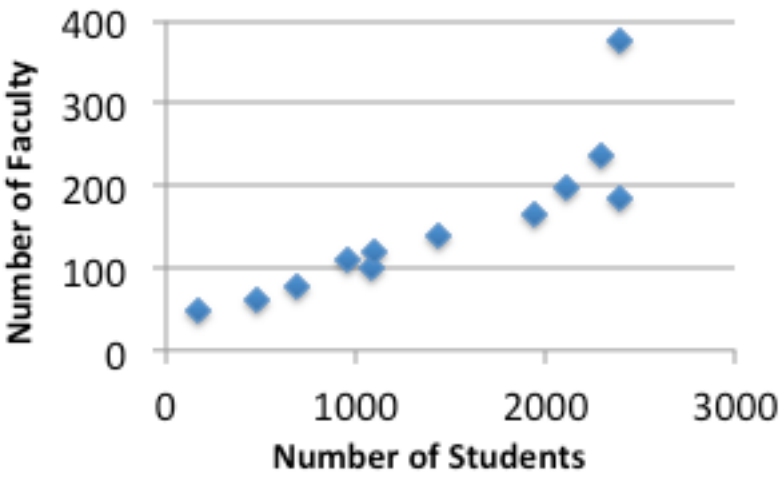
Line Charts

- Great for seeing changes over time
  - Population growth
  - Temperatures in New York City (average temperature per month; daily highs or lows)
  - Sales/Expenditures

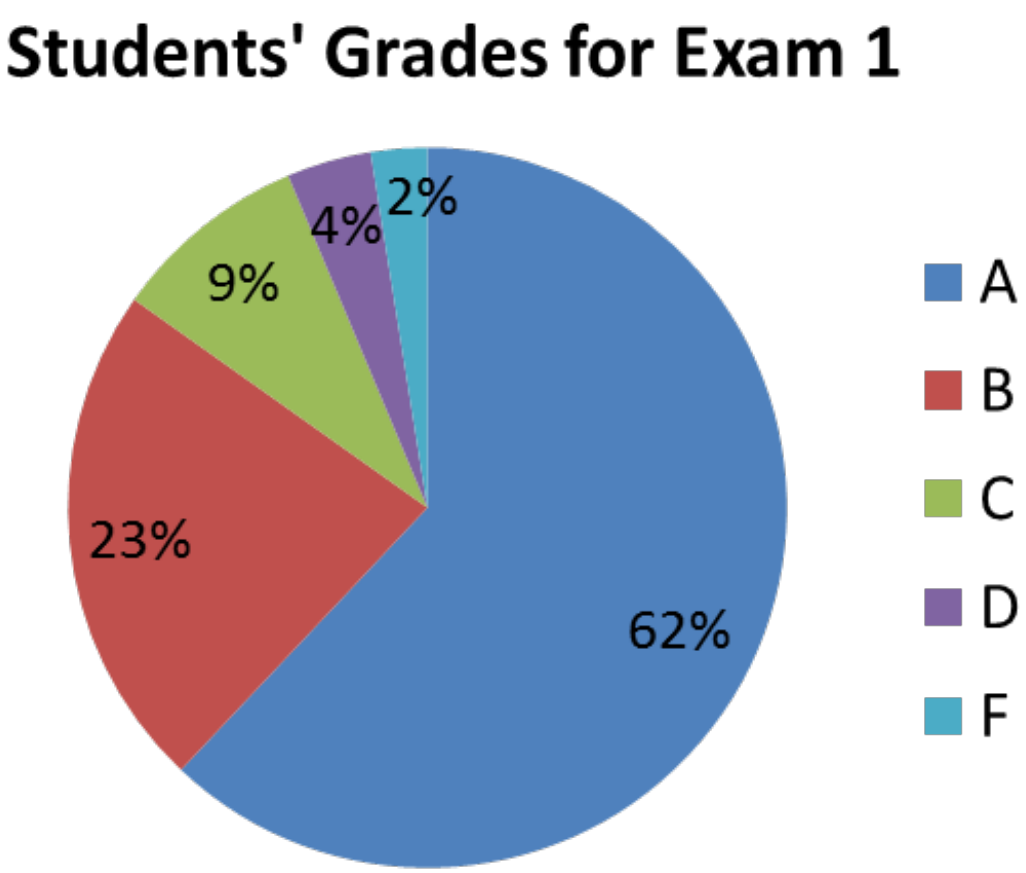


Scatter Plot

- Great for looking at relationships between variables, do two variables increase or decrease together?
  - Relationship between obesity and GDP
  - Relationship between website visits and sales
  - Relationship between cost of beef and cost of pork
  - Relationship between number of Barnard faculty and number of students



Pie Chart



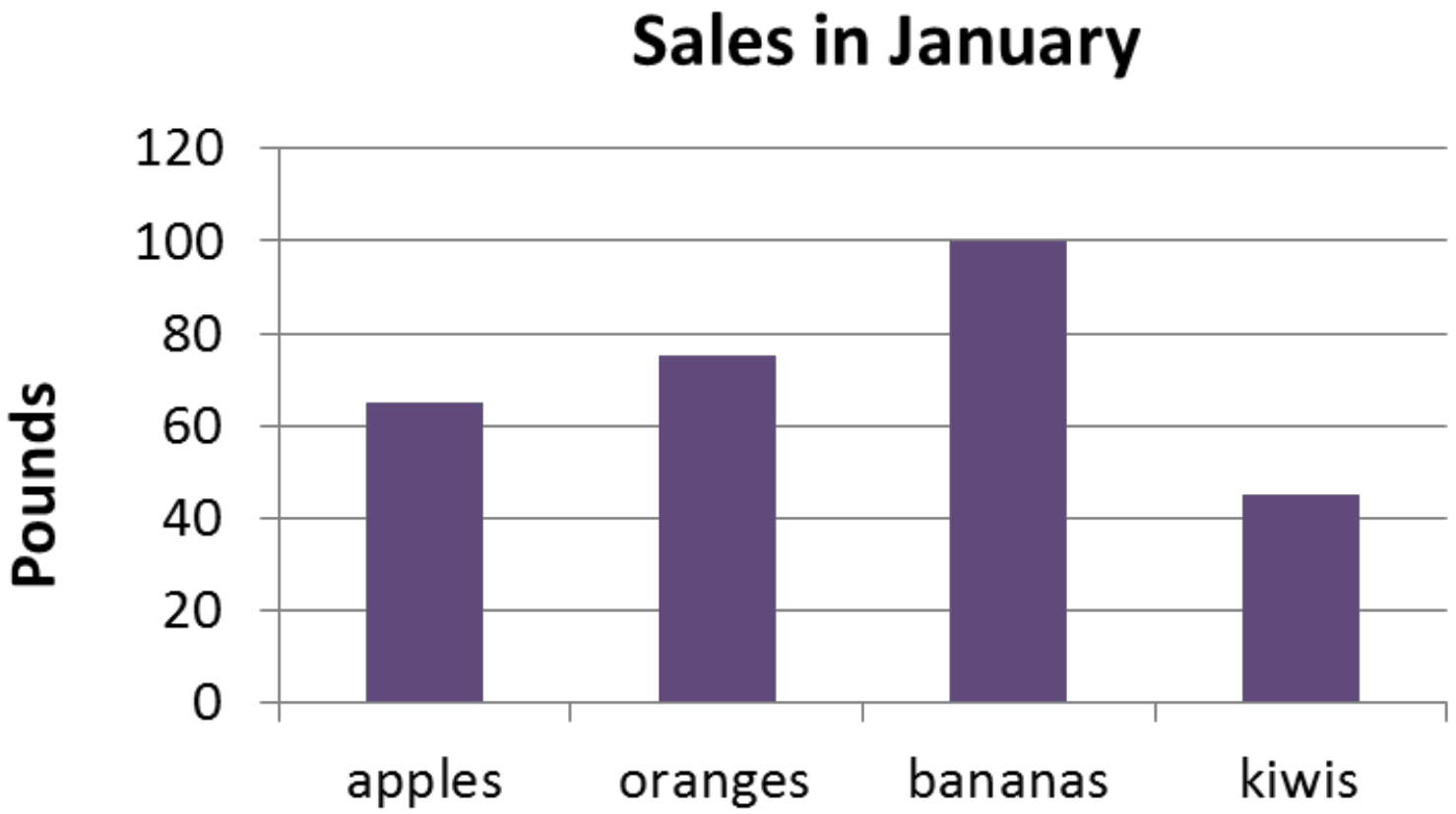
Pie Charts

- Go to the “Grades” tab
  - Select the numbers in the Percent of Students location
  - If you select the numbers and the grades the pie chart gets funky!
  - Insert Tab→ Charts→ Pie→ first option

Pie Charts Cont.

- Insert Grades into the legend through “Select Data”
  - Right click→ Select Data
  - Horizontal (Categorical) Axis Labels → Edit → Select A-F under Grades
- Add a title
- Add data labels (right click on chart: Add Data Labels
  - Format them by selecting them & right clicking

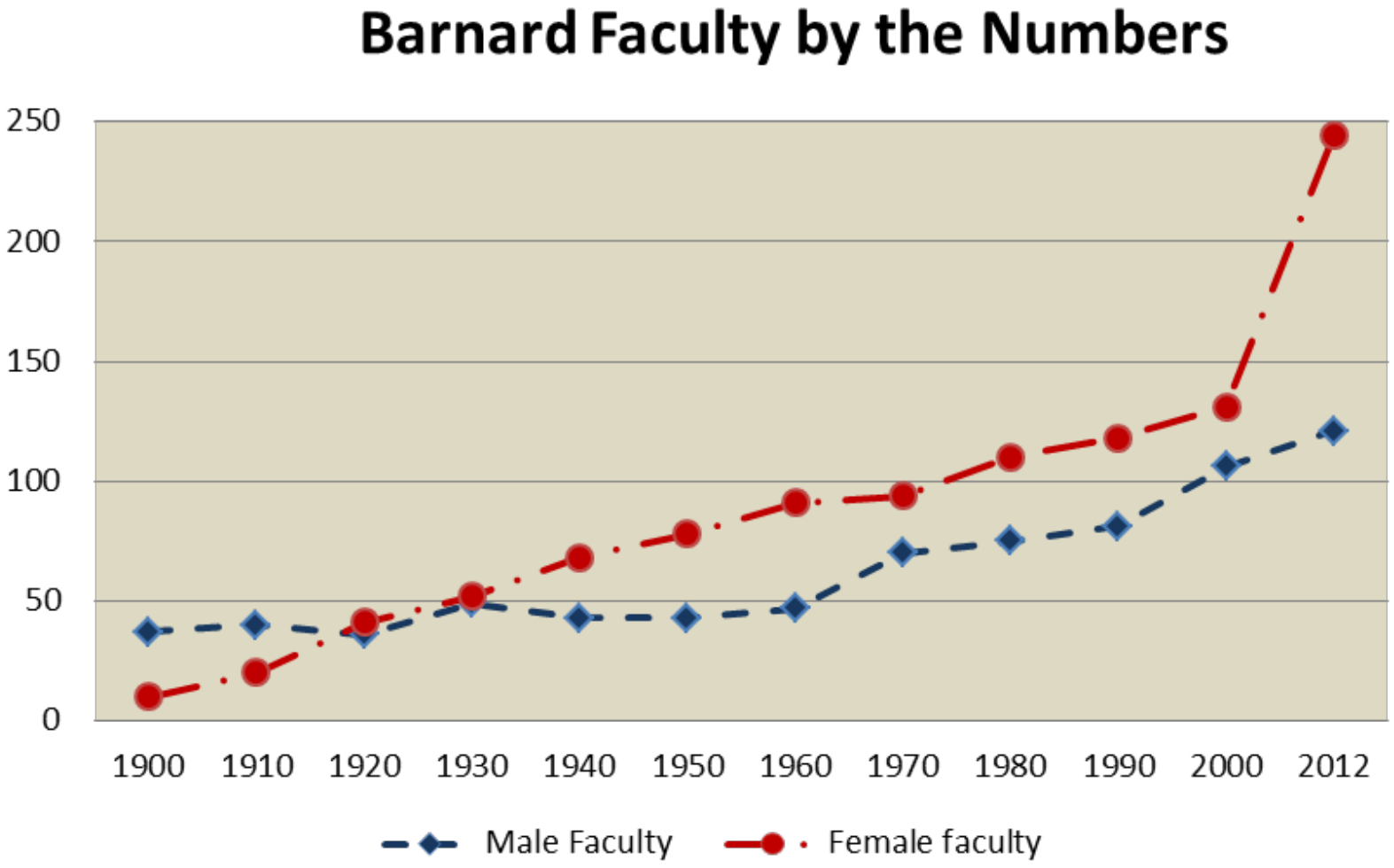
Bar Charts


Sales in January
Pounds
120
100
80
60
40
20
0
apples
oranges
bananas
kiwis

Bar Charts

- Go to the “Sales” tab
  - Select the labels in the Item location AND the numbers under Quantity
  - Insert Tab→ Charts→ COLUMN→ first option
  - Delete Legend
  - Insert title
  - Insert Vertical Axis Label

Line Charts


Barnard Faculty by the Numbers
250
200
150
100
50
0
1900
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000
2012
Male Faculty
Female faculty

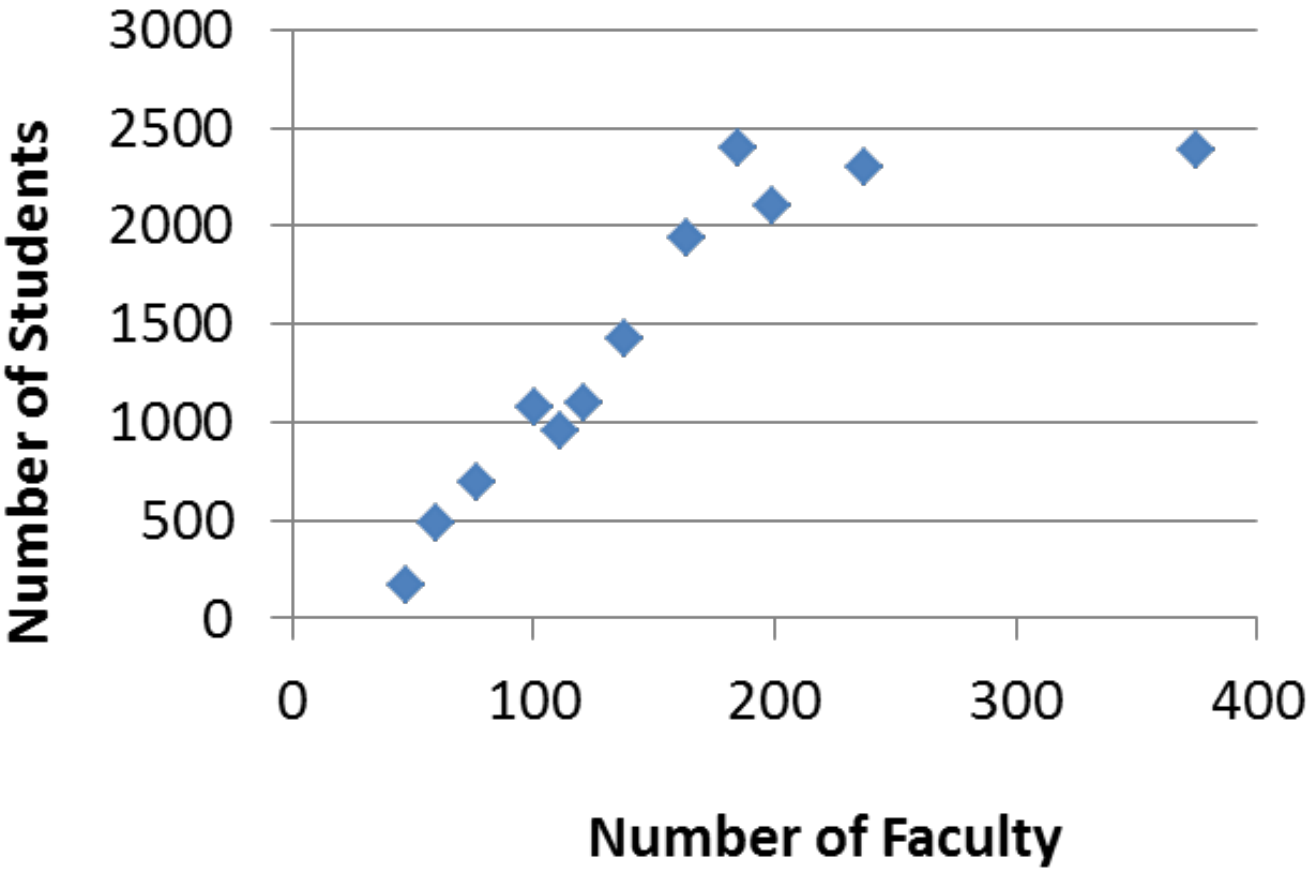
Line Charts

- Go to the “Faculty Data” tab
  - Select the labels AND the numbers for Male Faculty & Female Faculty
  - Insert Tab→ Charts→ Line→ 4th option
  - Insert title
  - Use Chart Layouts- Option 3 under the Design tab (Chart Tools!)

Line Charts Cont.

- Insert the Years on the horizontal axis through "Select Data"
  - Right click→ Select Data
  - Categorical (Horizontal) Axis → Edit → Select Years 1900-2012
- Add a title
- Format the Plot Area
- Format the Data Series

Scatter Plot



Scatter Plot

- Go to the “Faculty Data” tab
  - Select the labels AND the numbers for Total Faculty & Total Students
  - Insert Tab→ Charts→ Scatter → first option
  - Insert Vertical Axis Label
  - Insert Horizontal Axis Label
  - Format the Axes
  - Trendlines…

Format the Chart Review

A list of things to format…

1. Change the chart title and add axis titles.
2. Format the horizontal and vertical axes.
3. Add gridlines by right clicking on the axis and selecting ‘Add minor (or major) gridlines’
4. Change chart size.
5. Format the legend and plot area.
6. Format the data series.

If-Then statements

- If-Then statements are logical statements
  - If(something is true), then(something happens)
  - If the subway train (stops at your stop), then (you get off)
  - If you (order your meal), then (the server will bring it to you)
  - If you (signed up for an Excel workshop), then (show up)

If-Then in Excel

- Really: if-then-else
  - If (something is true) then (do something) else (do something else, or nothing)
  - =if(logic statement, output for true, output for false)
  - If current year shows an increase in percent voting from previous year…