

XL1A_V0E Graph Categorical Count Data using Excel2013 1

Graph Nominal Frequency Data using Excel 2013

by
Milo Schield
*Elected Member: International Statistical Institute (ISI)
US Rep: International Statistical Literacy Project (ISLP)
Vice President: National Numeracy Network (NNN)
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*Related materials at www.StatLit.org/pdf/Excel2013-Graph-Nominal0-Slides.pdf
[Excel2013-Graph-Nominal0-Demo-output.pdf](http://www.StatLit.org/pdf/Excel2013-Graph-Nominal0-Demo-output.pdf)*

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Goal: Graph Nominal Frequency Data

Assignment: Create six charts (pie, column and bar)

- Three for count data as shown on slides 5, 8 and 9.
- Three for percent data as shown on slide 10.

Creating enhanced charts (c.f., slide 12) is not required.

Data is from the 2014 Pew Survey on Religion in the US.
www.pewforum.org/2015/05/12/americas-changing-religious-landscape/

Data for this assignment is available at:
www.StatLit.org/XLS/Excel2013-Graph-Nominal0-Data-Input.xlsx

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Two ways: Select Data or Copy/Paste/Modify Chart

First time:

1. Select B5:C8.
2. Insert/Chart.

Subsequent times:

- 1a. Re-select same data
- 1b. Insert chart
- 2a. Copy/paste the last graph
- 2b. Select part of new graph
- 2c. Right mouse and select "Change chart type"
- 2d. Change type as needed.

Religious Tradition	US Adults
Christian	24,582
Religious, non-Christian	1,529
Unaffiliated/None	7,427
TOTAL	33,538

Do not include TOTAL row!

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Insert Pie Chart: 2-Dimension

Never use a 3-D pie chart. Areas are distorted!

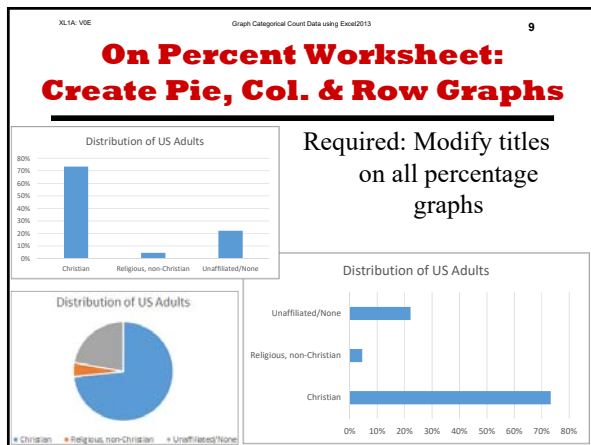
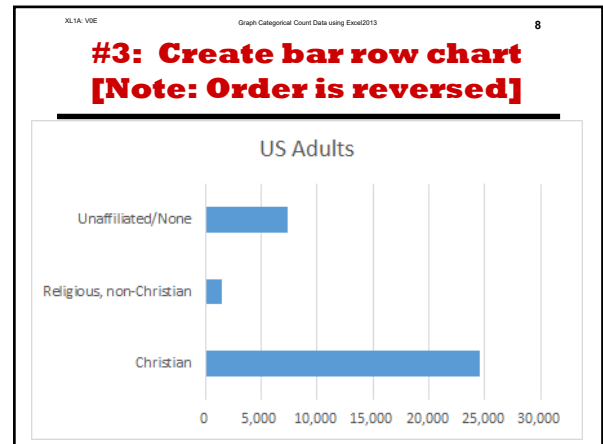
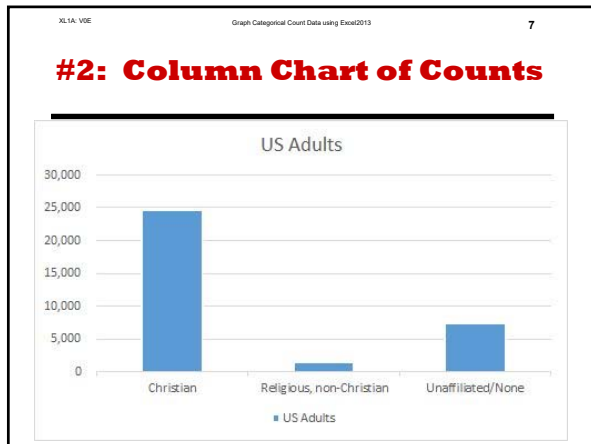
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#1: Pie Chart of Counts

■ Christian ■ Religious, non-Christian ■ Unaffiliated/None

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Copy/paste last chart or Select data; Insert column chart



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Appendix: Optional No extra points!

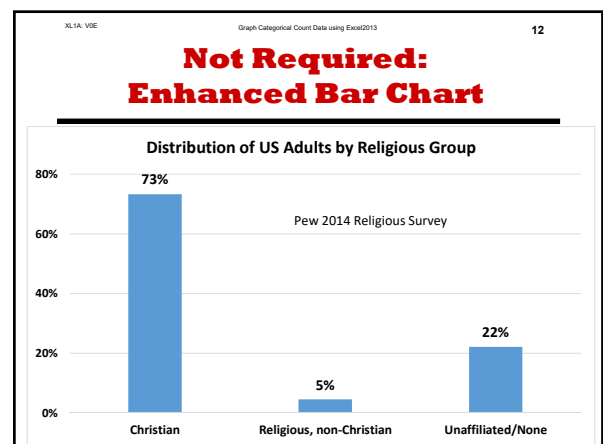
Making charts suitable for high-level presentations

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Not Required Enhanced Bar Chart (%)

Creating these charts is easy – when given summary data. For a professional presentation, select and enhance:

1. Select the percent charts. If the sample is representative then the sample percentages also apply to the population.
2. Enhance the charts so they are more readable
 - Increase font size and bold. Change color from grey to black.
3. Enhance the charts so they are self-documenting
 - Add some indication of the data source.
4. Optional: Add data labels – depending on the audience



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Two ways: Select Data or Copy/Paste/Modify Chart

First time:

1. Select B5:C8.
2. Insert/Chart.

A	B	C
2	Pew Study: Racial and Ethnic Comp	
3	http://www.pewforum.org/religious-lan	
4		
5	Religious Tradition	US Adults
6	Christian	24,582
7	Religious, non-Christian	1,529
8	Unaffiliated/None	7,427
9	TOTAL	33,538

Do not include TOTAL row!

Subsequent times:

- 1a. Re-select same data
- 1b. Insert chart

Since all graphs use B5:C8,

- 2a. Copy/paste the last graph

- 2b. Select part of new graph,
- 2c. Right mouse and select
“Change chart type”

- 2d. Change type as needed.

Insert Pie Chart: 2-Dimension

Insert Pie or Doughnut Chart
Use this chart type to show proportions of a whole. Use it when the total of your numbers is 100%.
Click the arrow to see the different types of pie and doughnut charts available and pause the pointer on the icons to see a preview in your document.

2-D Pie

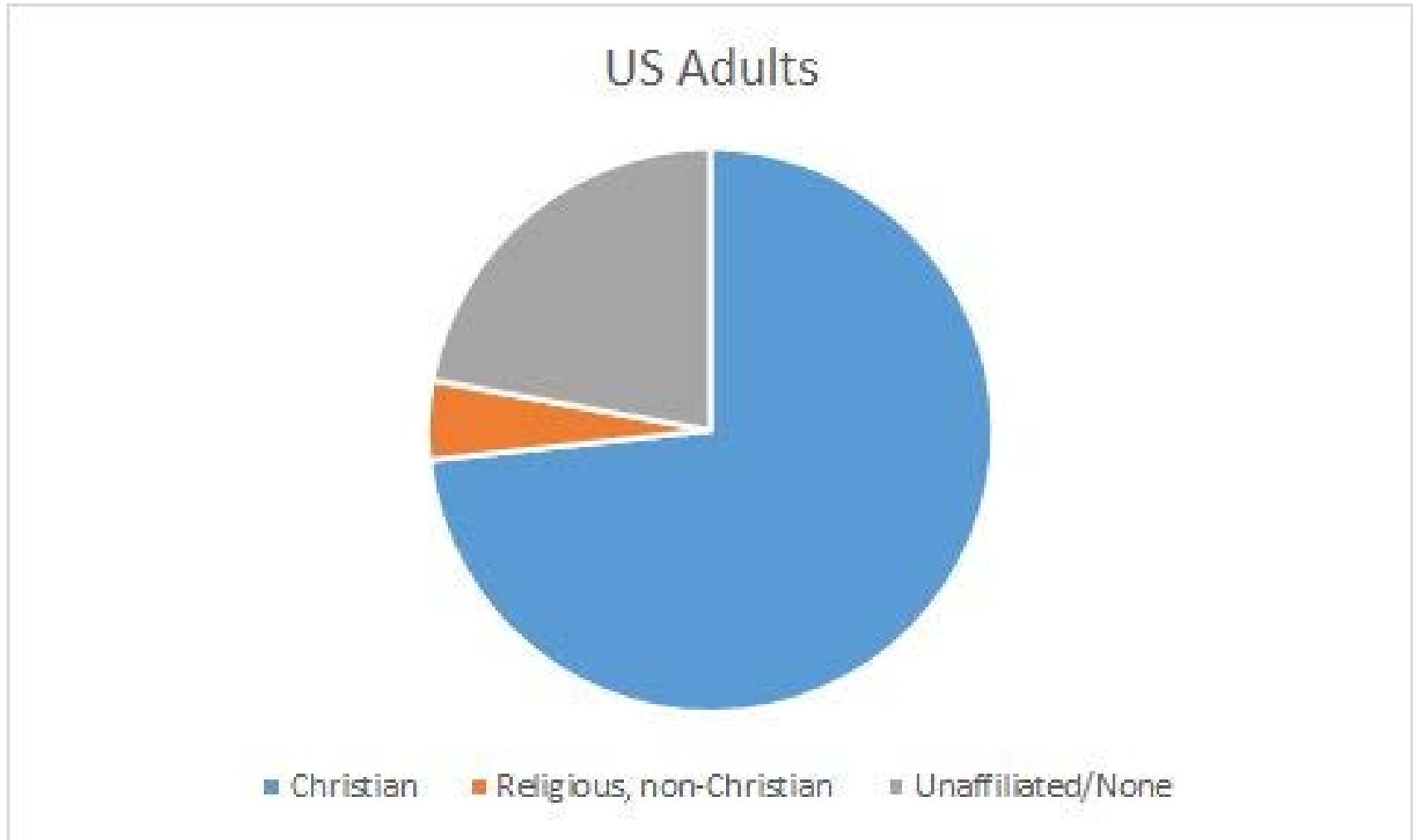
Pie
Use this chart type to:
• Show proportions of a whole.

Use it when:
• Numbers equal 100%.
• The chart contains only a few pie slices (many slices make the angles hard to estimate).

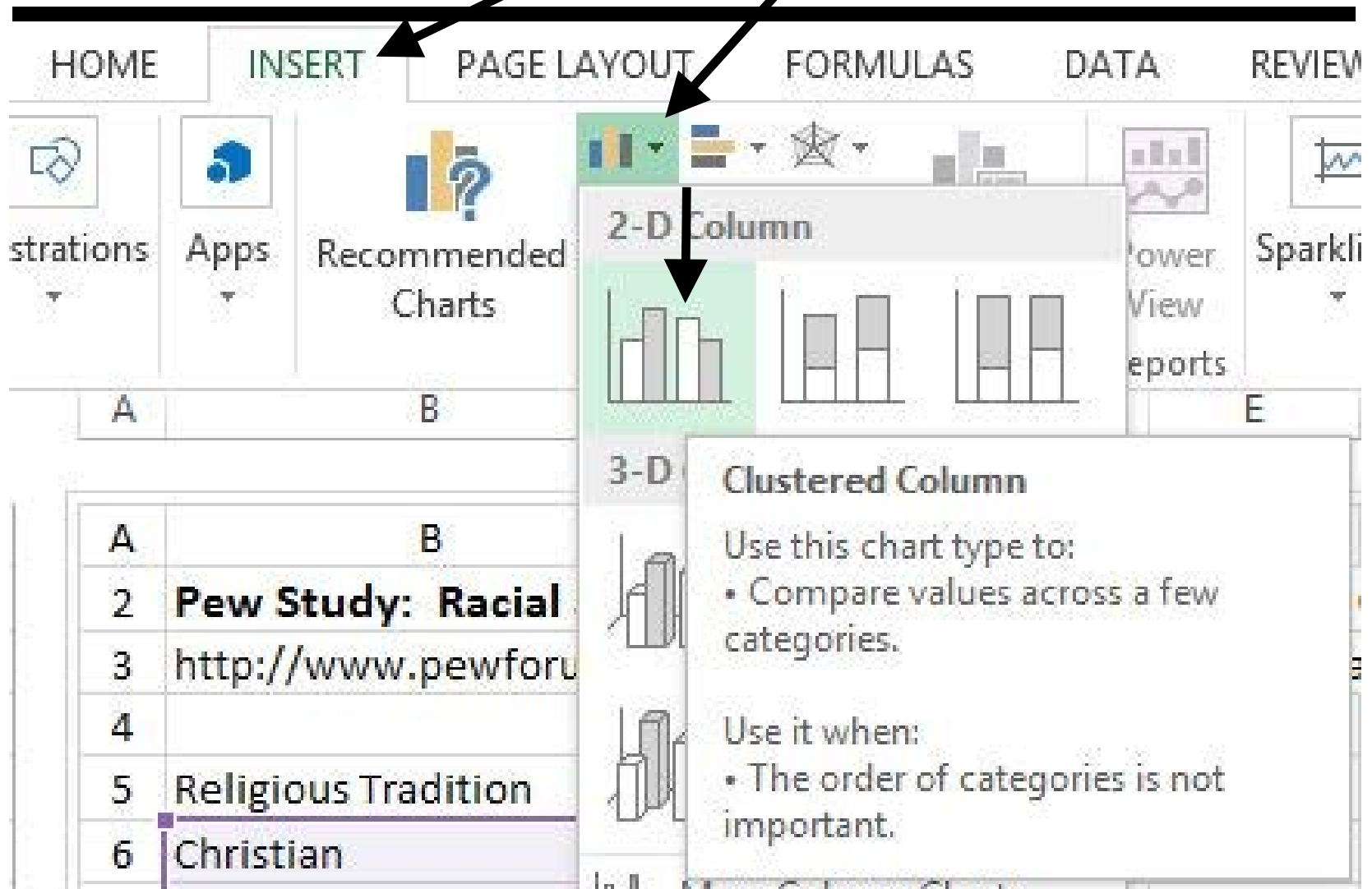
A	B
2	Pew Study: Racial
3	http://www.pewforu
4	
5	Religious Tradition
6	Christian

Never use
a 3-D pie chart.
Areas are distorted!

#1: Pie Chart of Counts



Copy/paste last chart or Select data; Insert column chart



The screenshot shows the Microsoft Excel 2013 interface. The 'INSERT' ribbon is active, and the 'Charts' group is expanded to show '2-D Column' chart options. A tooltip for the 'Clustered Column' chart type is displayed, providing the following information:

Clustered Column

Use this chart type to:

- Compare values across a few categories.

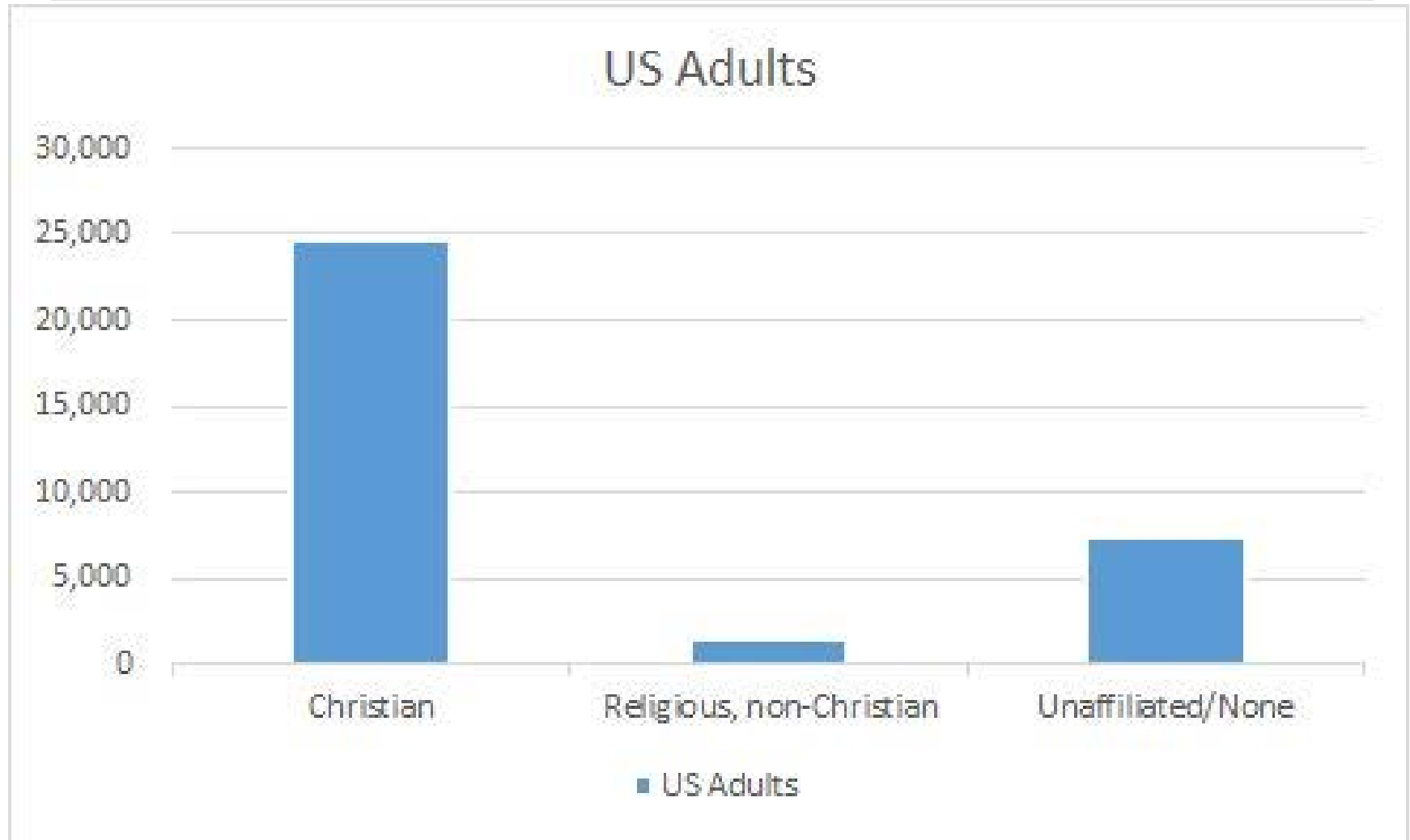
Use it when:

- The order of categories is not important.

The background shows a worksheet with the following data:

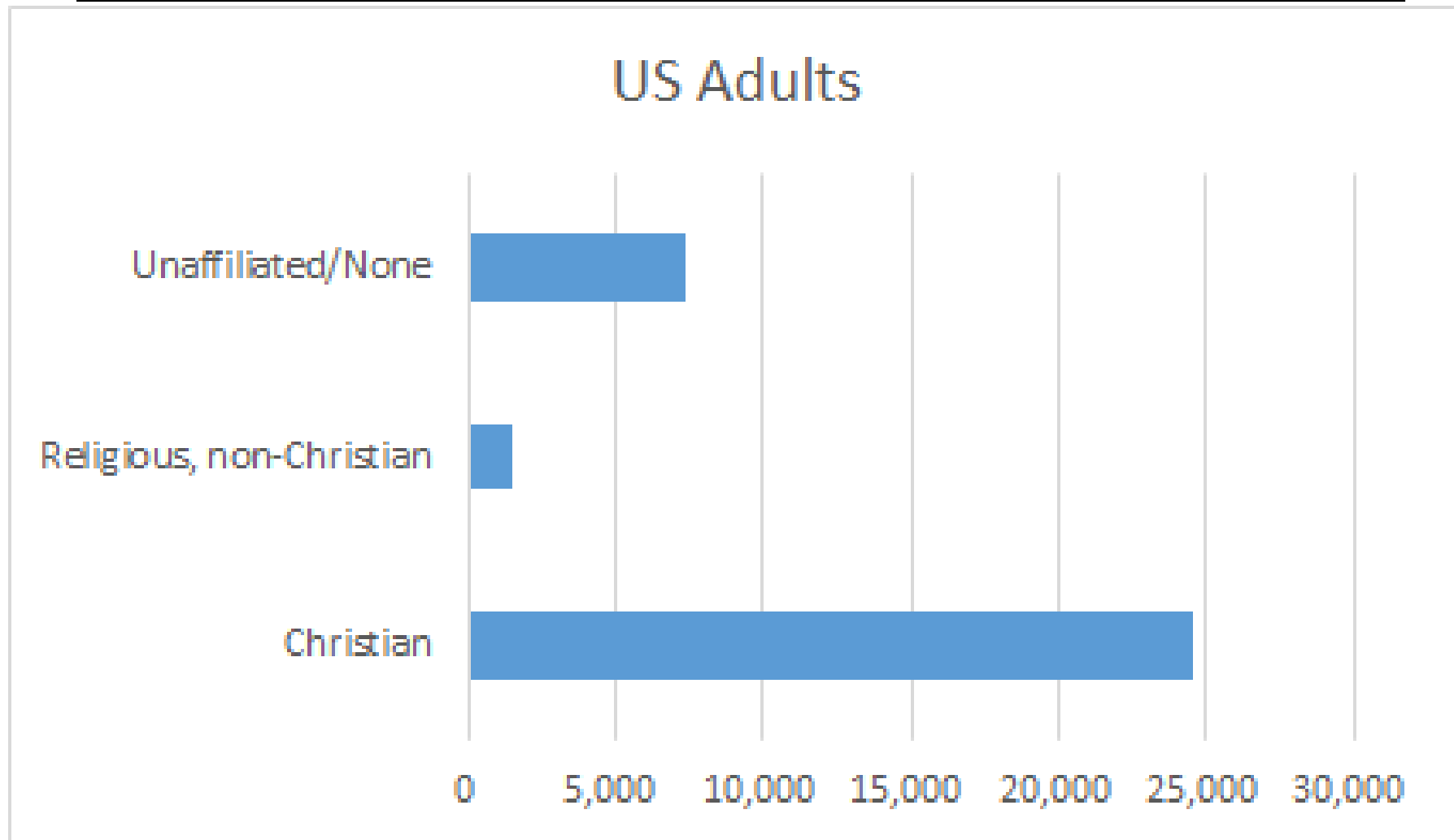
A	B
2	Pew Study: Racial
3	http://www.pewforu
4	
5	Religious Tradition
6	Christian

#2: Column Chart of Counts



#3: Create bar row chart

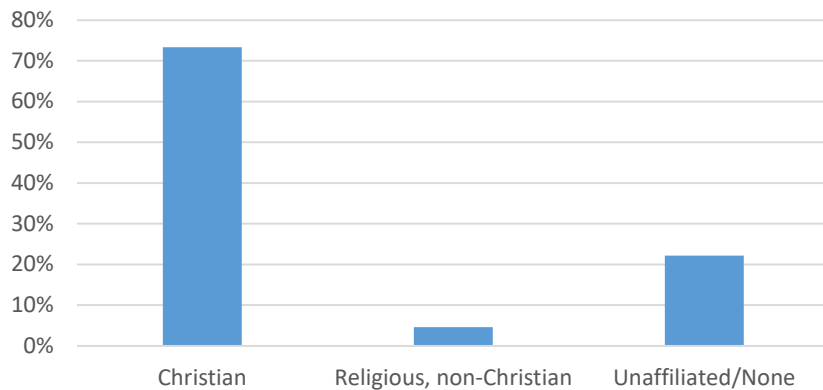
[Note: Order is reversed]



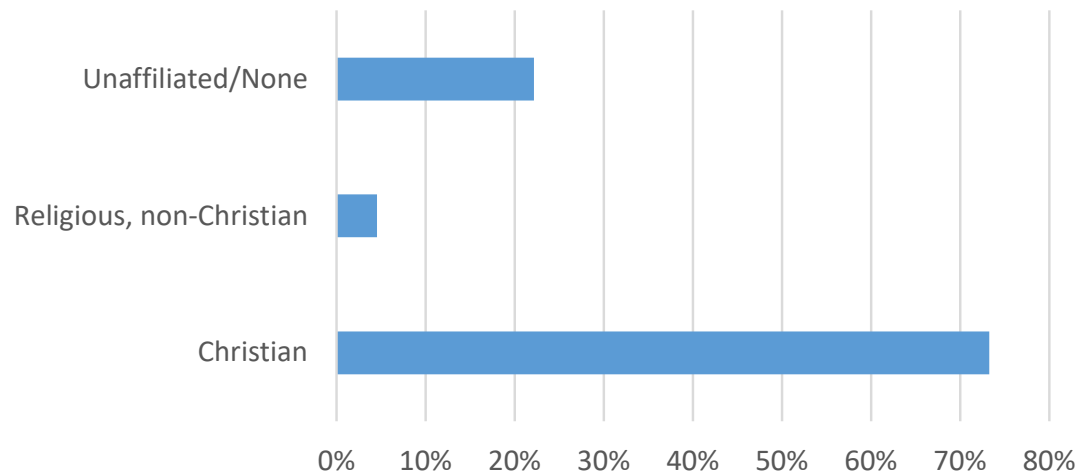
On Percent Worksheet: Create Pie, Col. & Row Graphs

Required: Modify titles on all percentage graphs

Distribution of US Adults



Distribution of US Adults



Distribution of US Adults



■ Christian ■ Religious, non-Christian ■ Unaffiliated/None

Appendix: Optional

No extra points!

Making charts suitable for high-level presentations

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