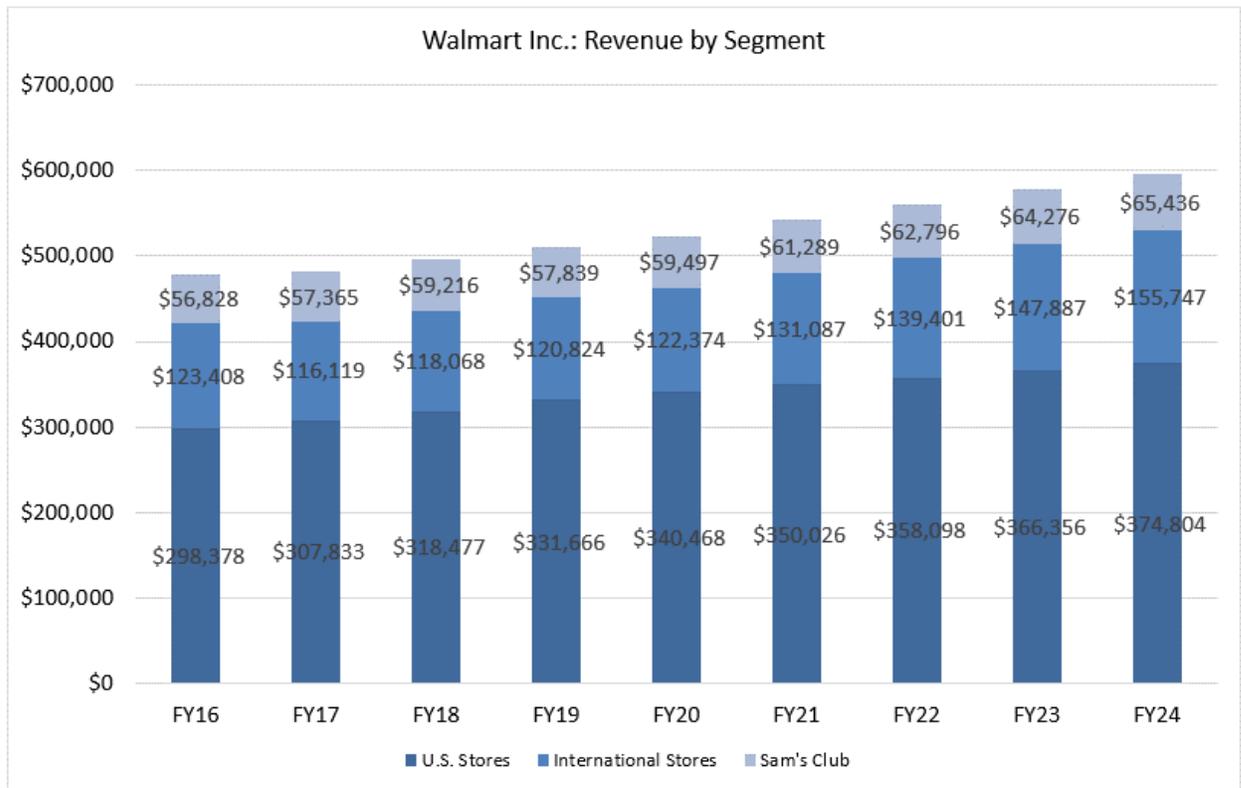


# Excellence with Excel

## – Certification Quiz Questions

### Module 5 – Charts & Graphs

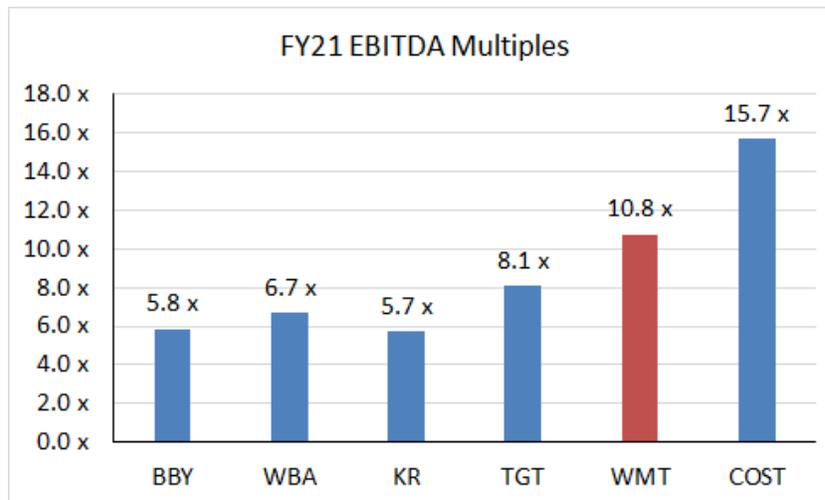
1. Consider the Stacked Column Chart shown below for Walmart’s Revenue by Segment (figures are in millions of USD):



Which of the following changes should you make to the graph to improve its formatting and make it easier to read and interpret?

- a. Apply the following custom number format to both the vertical axis labels and the data labels: \$0,, \M
- b. Apply the following custom number format to both the vertical axis labels and the data labels: \$0, \B

- c. Make all the font sizes consistent (the Legend uses a smaller font than the rest currently).
  - d. Change the color scheme to lighter colors so that the black data labels are more visible against the column backgrounds.
  - e. Change the "Gap Width" of the data series source for the data labels so that they fit more easily on the columns.
  - f. Make the borders of the horizontal and vertical axes solid black lines.
  - g. Add additional vertical gridlines so that the individual years are easier to see.
  - h. All of the above.
  - i. Answer choices 1, 3, 4, 5, and 6.
  - j. Answer choices 1, 4, 5, and 7.
  - k. Answer choices 2, 4, 5, and 7.
  - l. Answer choices 2, 3, 5, and 6.
- 2. Consider the graph of valuation multiples for a set of comparable public companies ("public comps") shown below, with Walmart (WMT), the subject company, shown in red rather than blue:**



**What is the BEST way to create this effect in an Excel chart and show the company you're analyzing in a different color when displaying valuation multiples?**

- Select the subject company's column manually, right-click it, and change the fill color for just that column.
- Create two separate graphs, one with the data for all the companies, and the other with just the subject company's data, and then put them on top of each other and group them.
- In Excel, create one column with the real data and another "helper" column, and use the NA() function everywhere in the helper column except for the subject company's number. Graph both series in a Clustered Column Chart and then change the "Series Overlap" to 100%.
- Create a "hidden" secondary vertical axis and plot the subject company's red column on that secondary axis.

**3. Consider the "Football Field" chart shown below for Walmart's valuation, taken from the lesson on this topic in the Excel course:**



**What is the MOST likely problem causing the valuation bars and text labels to be mismatched, and how could you fix it?**

- a. The data is reversed – you need to swap the top row in the source data with the bottom row and continue swapping each row with its counterpart in the bottom area as you move down.
- b. The data is in reverse order, which you could fix by using the TRANSPOSE function to flip the order of all the rows.
- c. There are too many extra rows in the data, and you could fix it by deleting the two blank rows here and then rearranging the text labels on the left-hand side.
- d. The starting and ending “points” for each bar appear to be calculated incorrectly, as none of the bars touch the left or right sides of the graph, so you need to make sure at least one bar starts at position \$0 and another bar ends at \$140.

**4. The calculations for the DCF data series in the graph of the previous question are shown below. Why do you need to calculate the “25<sup>th</sup> Point,” “Median Point,” and the others on the right-hand side?**

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
31																		
32									Min	25th	Median	75th	Max	Min Point	25th Point	Median Point	75th Point	Max Point
33																		
34			4.00% - 6.00% WACC, (0.13%) - 0.50% Terminal FCF Growth Rate:						\$ 88.68	\$ 99.82	\$ 113.85	\$ 132.10	\$ 156.82	\$ 88.68	=+J34-I34	\$ 14.04	\$ 18.25	\$ 24.72

- This step is necessary because the text labels and data are not adjacent to each other, so you must give Excel explicit instructions for each bar segment's length.
- You need to make these calculations only because of the dynamic share-price line shown in red; without that, Excel would calculate these points automatically in the graph.
- These are necessary if you want to show multiple segments for the different percentiles in each bar.
- If you used just the implied share prices to the left, each bar segment would be far too long because Stacked Bar Charts require distances, not points, as inputs.
- All of the above.
- Answer choices 1, 2, and 3.
- Answer choices 2, 3, and 4.
- Answer choices 3 and 4.

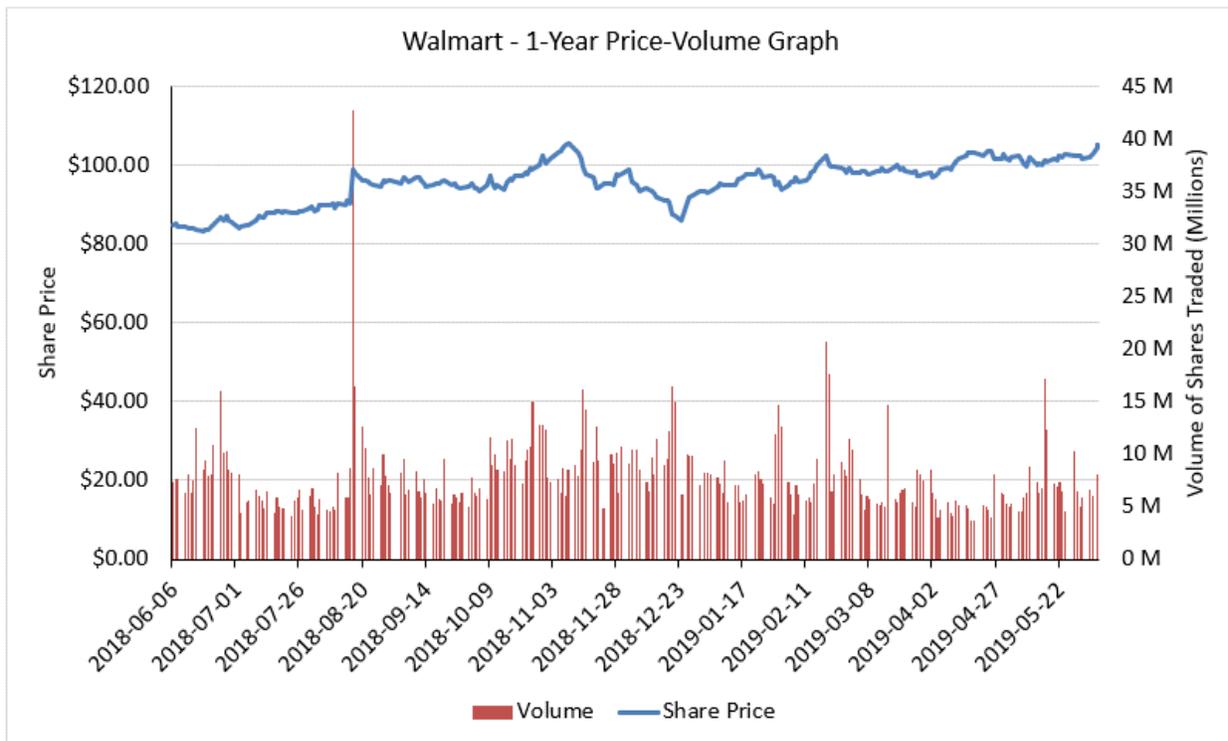
5. To build the dynamic share-price line, shown in red in the graph above, you started with the normal Football Field Chart and then created a "dummy series" for the company's current share price, followed by 1,000 and then 0's, as shown below:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
51																		
52		Current Share Price							105.11	105.11	105.11	105.11	105.11	1000	0	0	0	0

Then you added this series to the chart, changed the Series Formula to include both X and Y values, and changed the Chart Type to a scatterplot. Finally, you adjusted the horizontal axis labels, changed the secondary vertical axis range, and removed the secondary vertical axis label.

**Which of these steps in the process was NOT necessary?**

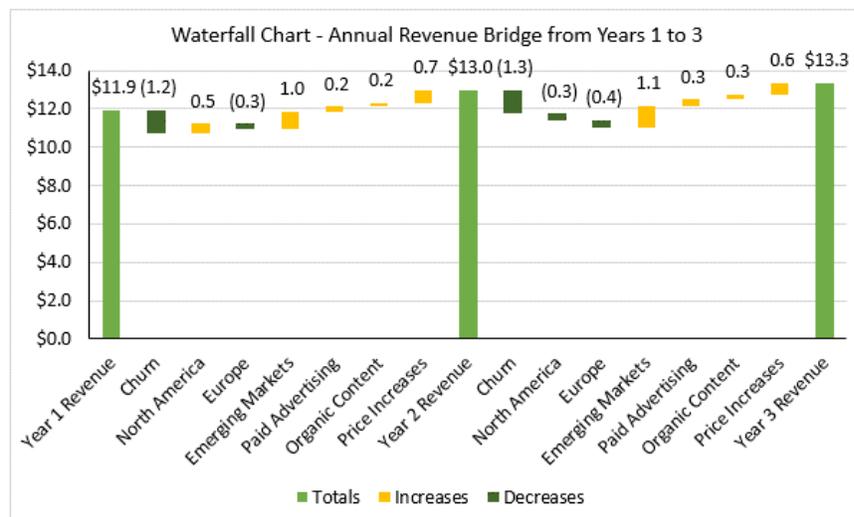
- a. You didn't need to link to the company's current share price repeatedly on the left-hand side – just one entry would have been sufficient.
  - b. You didn't need to enter the 1,000 and the 0's in columns N through R; just one "dummy value" there would have been enough to make a vertical line display on the graph.
  - c. You could have created a combo chart in the beginning and added these data series separately rather than creating the Football Field Chart first and then adding a series for the Current Share Price and changing its Chart Type.
  - d. It wasn't necessary to adjust the secondary vertical axis range because it always reflects the range of dummy values in columns N through R.
  - e. None of the above, i.e., all of these steps were necessary.
- 6. You have created a Price-Volume graph for Walmart that shows the company's stock price and volume of shares traded over time, as shown below. How can you fix the problem with "spaces" appearing in between the red volume bars?**



- a. Right-click the horizontal axis with the dates, go to Format Axis, and change the Interval Between Tick Marks to something much smaller than the default.
- b. Right-click the red bars, go to Format Data Series, and change the Gap Width to 0%.
- c. Right-click the horizontal axis with the dates, go to Format Axis, and change the Axis Type to Text.
- d. Right-click the red bars, go to Format Data Series, and change the Series Overlap to negative 100%.
- e. All of the above are required to fix this problem.
- f. Answer choices 1, 2, and 3.
- g. Answer choices 2 and 3.
- h. Answer choices 2, 3, and 4.

7. Consider the following Waterfall Chart, which you created manually in Excel – \*not\* using the built-in Waterfall Chart – along with the source data for it:

	Values	Ends	Blank	Up	Down	Helper
<b>Year 1 Revenue</b>	\$ 11.9	\$ 11.9				\$ 11.9
Churn	(1.2)		10.7	-	1.2	11.9
North America	0.5		10.7	0.5	-	11.2
Europe	(0.3)		10.9	-	0.3	11.2
Emerging Markets	1.0		10.9	1.0	-	11.9
Paid Advertising	0.2		11.9	0.2	-	12.1
Organic Content	0.2		12.1	0.2	-	12.3
Price Increases	0.7		12.3	0.7	-	13.0
<b>Year 2 Revenue</b>	\$ 13.0	\$ 13.0				\$ 13.0
Churn	(1.3)		11.7	-	1.3	13.0
North America	(0.3)		11.4	-	0.3	11.7
Europe	(0.4)		11.1	-	0.4	11.4
Emerging Markets	1.1		11.1	1.1	-	12.2
Paid Advertising	0.3		12.2	0.3	-	12.5
Organic Content	0.3		12.5	0.3	-	12.8
Price Increases	0.6		12.8	0.6	-	13.3
<b>Year 3 Revenue</b>	\$ 13.3	\$ 13.3				\$ 13.3

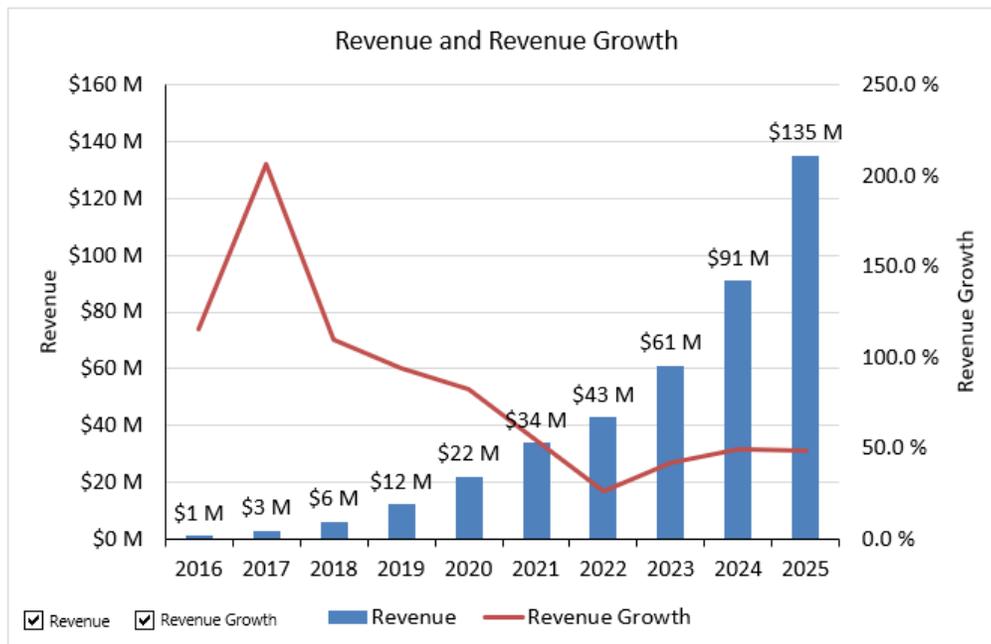


What is the purpose of the “Blank” column in the middle of the source data?

- It tells Excel the total length of each bar in the chart, regardless of whether it is a positive or negative value.
- It creates the invisible “supporting bars” under the visible yellow and green bars.
- It acts as a “helper” to display data labels in the correct positions above the yellow and green bars.

- d. It ensures that any negative value starts at a LOWER vertical position than the previous item in the series.
- e. All of the above.
- f. Answer choices 1, 2, and 3.
- g. Answer choices 1, 2, and 4.
- h. Answer choices 2 and 4.

8. Consider the following dynamic chart, with two checkbox options that allow the user to toggle the display of revenue and revenue growth on the chart:



Cells P31 and Q31 in this spreadsheet are linked to the checkboxes, and the graph data and formulas are shown below:

	N	O	P	Q
30				
31			<b>Status:</b>	<b>TRUE</b>
32			<b>Year</b>	<b>Revenue Growth</b>
33		2016	=IF(\$P\$31,P20,"")	
34		2017	2,965,850	206.1 %
35		2018	6,211,826	109.4 %
36		2019	12,074,872	94.4 %
37		2020	22,000,859	82.2 %
38		2021	33,973,085	54.4 %
39		2022	42,930,202	26.4 %
40		2023	61,048,714	42.2 %
41		2024	90,993,446	49.1 %
42		2025	135,147,098	48.5 %

The formulas in column P use "" when P31 is FALSE, meaning the Revenue checkbox is unchecked, but those in column Q for the Revenue Growth checkbox use the NA() function instead. Why?

- It doesn't make a difference – this difference is just a stylistic preference.
- It's because Revenue is a Column Chart, while Revenue Growth is a Line Chart – there would be a "0 line" going across the bottom if you used "" instead of NA() when Revenue Growth is unchecked.
- It's because there are data labels for Revenue, but not for Revenue Growth – with data labels in place, the "" would work.
- Answer choices 2 and 3.