



Essential Math for Data Analysis Using Excel Online

Module 4, Lab 4: Revenue Growth Rate

Learning Objectives

- Calculate the revenue growth rate.

Description

Learners will be given a small data set with quarters and revenues per quarter. They will calculate the revenue growth rate for each quarter (relative to the previous quarter).

Data set

Mod4Lab4.csv

Overview

Revenue growth is an important metric in any business. How much better is the business doing this year than the previous year? In this lab, we'll look at the data for a particular business's quarterly revenue and calculate the revenue growth rate for multiple quarters as a percentage.

What You'll Need

To complete the lab, you will need the online version of Microsoft Excel.

Exercise 1: Find the Revenue Growth Rate for Each Quarter

1. Open the data set in Excel. Here's what the data look like:

	A	B
1	period	revenue
2	Q1	\$141,876.99
3	Q2	\$150,950.06
4	Q3	\$183,465.57
5	Q4	\$206,461.30
6	Q1	\$211,177.93
7	Q2	\$210,674.41
8	Q3	\$254,621.14
9	Q4	\$239,360.78
10	Q1	\$250,535.70
11	Q2	\$268,435.99
12	Q3	\$277,930.92
13	Q4	\$251,932.87
14	Q1	\$281,198.29
15	Q2	\$315,805.79
16	Q3	\$347,895.94
17	Q4	\$368,235.70

- Find the revenue growth rate for the second quarter of the first year. Because the revenue growth rate is measuring *growth*, each quarter's rate will be relative to the previous quarter. So to find the revenue growth rate in Q2 of that first year, you need to compare it to Q1. Here's the formula for revenue growth rate:

$$\text{revenue growth rate} = \frac{\text{revenue this quarter} - \text{revenue last quarter}}{\text{revenue last quarter}}$$

Just take the revenue from whatever quarter you're looking at, subtract the revenue from the previous quarter, and divide the result by the revenue from the previous quarter. In terms of Q2, for instance, the formula would look like this:

$$\text{revenue growth rate for Q2} = \frac{\text{Q2} - \text{Q1}}{\text{Q1}}$$

- Create a new column for revenue growth rate. Leave the first cell empty because you can't find the growth rate in that first Q1 — there's no previous quarter to compare it with.

	A	B	C
1	period	revenue	rev growth rate
2	Q1	\$141,876.99	
3	Q2	\$150,950.06	
4	Q3	\$183,465.57	
5	Q4	\$206,461.30	
6	Q1	\$211,177.93	
7	Q2	\$210,674.41	
8	Q3	\$254,621.14	
9	Q4	\$239,360.78	
10	Q1	\$250,535.70	
11	Q2	\$268,435.99	
12	Q3	\$277,930.92	
13	Q4	\$251,932.87	
14	Q1	\$281,198.29	
15	Q2	\$315,805.79	
16	Q3	\$347,895.94	
17	Q4	\$368,235.70	
18			

- In cell C3, find the difference between Q2 and Q1, then divide by the revenue from Q1. Do this using the cell names, not the dollar amounts — we'll be using that formula for the other cells, too.

fx =(B3-B2)/B2			
	A	B	C
1	period	revenue	rev growth rate
2	Q1	\$141,876.99	
3	Q2	\$150,950.06	0.06
4	Q3	\$183,465.57	
5	Q4	\$206,461.30	

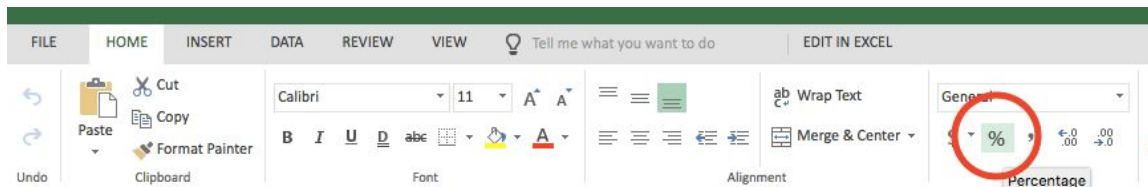
Now you can see that the revenue growth rate in Q2 was about 0.06. (We'll convert these values to percentages later.)

- Using your handy "fill series" trick, drag the bottom-right corner of cell C3 all the way down to C17 to get the growth rates for *every* quarter.

	A	B	C
1	period	revenue	rev growth rate
2	Q1	\$141,876.99	
3	Q2	\$150,950.06	0.06
4	Q3	\$183,465.57	0.22
5	Q4	\$206,461.30	0.13
6	Q1	\$211,177.93	0.02
7	Q2	\$210,674.41	0.00
8	Q3	\$254,621.14	0.21
9	Q4	\$239,360.78	-0.06
10	Q1	\$250,535.70	0.05
11	Q2	\$268,435.99	0.07
12	Q3	\$277,930.92	0.04
13	Q4	\$251,932.87	-0.09
14	Q1	\$281,198.29	0.12
15	Q2	\$315,805.79	0.12
16	Q3	\$347,895.94	0.10
17	Q4	\$368,235.70	0.06

Notice that a couple of those rates are negative. Those are the quarters where revenue fell from one quarter to the next, so there's a negative growth rate.

6. Last but definitely not least, convert those decimals to percentages by highlighting all the values from column C, then going into the Home tab of the ribbon and clicking the percent (%) icon.



	A	B	C
1	period	revenue	rev growth rate
2	Q1	\$141,876.99	
3	Q2	\$150,950.06	6.40%
4	Q3	\$183,465.57	21.54%
5	Q4	\$206,461.30	12.53%
6	Q1	\$211,177.93	2.28%
7	Q2	\$210,674.41	-0.24%
8	Q3	\$254,621.14	20.86%
9	Q4	\$239,360.78	-5.99%
10	Q1	\$250,535.70	4.67%
11	Q2	\$268,435.99	7.14%
12	Q3	\$277,930.92	3.54%
13	Q4	\$251,932.87	-9.35%
14	Q1	\$281,198.29	11.62%
15	Q2	\$315,805.79	12.31%
16	Q3	\$347,895.94	10.16%
17	Q4	\$368,235.70	5.85%
18			

Growth rates = acquired.