

[Hide menu](#)**Working with formulas and functions**

Video: Module introduction - Working with functions
2 min

Video: A closer look at formulas and functions
6 min

Reading: Exercise: Getting started with formulas
10 min

Video: Using formulas and functions
5 min

Reading: Exercise: Using formulas and functions
10 min

Practice Assignment: Knowledge check: Working with formulas and functions
15 min

Sorting and filtering data**Apply range in Excel**

Exercise: Using formulas and functions

Note: You can pass this course and all graded assessments without access to the downloadable version of Excel.

How to complete this exercise

To complete this exercise, you will need access to Microsoft 365 Excel.

Note: Keep in mind that if you are using free Office for the web or another version of the Microsoft 365 Excel application some features covered in this exercise may not be available.

Free Office for the web

If you do not have access to Microsoft 365 Excel, you can use Free Office for the web. This version of Office allows you to view and edit files in apps like Word, Excel, and PowerPoint. This free service is available to anyone with a Microsoft account.

Access Microsoft Account

[Log in to your Microsoft account.](#) Type the email, phone number, or Skype sign-in that you use for other services (Outlook, Office, etc.), then select Next. If you don't have a Microsoft account, you can select No account? Create one!

Let's get started!

In this activity, you will start working on a rough draft of a sales report.

1. Click on the link below to open the Microsoft Excel exercise document you can use to complete this exercise.

[Exercise: Using formulas and functions](#)

2. First, we need to set up formulas to calculate the operating profit. Click cell **F2**:

A	B	C	D	E	F	G	H	I	J	K	L	M
City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit	Scorecard	Average Revenue	Highest Revenue	Lowest Expenses	
Warren, NH		Corporate	125319	101465	65792	5068	59527					
East Natchitoches, RI		Franchise	433924	101465	67388	5700	5068					
Lyon, MA		Partner	135816	67388	5700	5068	5068					
Willow Run, NH		Corporate	233255	83606	5089	5089	5089					
Conversville, RI		Franchise	128691	67175	4956	4956	4956					
Mount Baker, NY		Corporate	244913	89974	5062	5062	5062					
Farmington Lake, RI		Franchise	392518	82675	6100	6100	6100					

3. Type an equal sign (=), then, click cell **D2**:

A	B	C	D	E	F	G	H	I	J	K	L	M
City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit	Scorecard	Average Revenue	Highest Revenue	Lowest Expenses	
Warren, NH		Corporate	125319	101465	65792	5068	59527					
East Natchitoches, RI		Franchise	433924	101465	67388	5700	5068					
Lyon, MA		Partner	135816	67388	5700	5068	5068					
Willow Run, NH		Corporate	233255	83606	5089	5089	5089					
Conversville, RI		Franchise	128691	67175	4956	4956	4956					
Mount Baker, NY		Corporate	244913	89974	5062	5062	5062					
Farmington Lake, RI		Franchise	392518	82675	6100	6100	6100					

4. Type a minus sign (-) and click cell **E2**:

A	B	C	D	E	F	G	H	I	J	K	L	M
City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit	Scorecard	Average Revenue	Highest Revenue	Lowest Expenses	
Warren, NH		Corporate	125319	101465	65792	5068	59527					
East Natchitoches, RI		Franchise	433924	101465	67388	5700	5068					
Lyon, MA		Partner	135816	67388	5700	5068	5068					
Willow Run, NH		Corporate	233255	83606	5089	5089	5089					
Conversville, RI		Franchise	128691	67175	4956	4956	4956					
Mount Baker, NY		Corporate	244913	89974	5062	5062	5062					
Farmington Lake, RI		Franchise	392518	82675	6100	6100	6100					

5. Press **Enter** to complete the formula:

A	B	C	D	E	F	G	H	I	J	K	L	M
City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit	Scorecard	Average Revenue	Highest Revenue	Lowest Expenses	
Warren, NH		Corporate	125319	101465	65792	5068	59527					
East Natchitoches, RI		Franchise	433924	101465	67388	5700	5068					
Lyon, MA		Partner	135816	67388	5700	5068	5068					
Willow Run, NH		Corporate	233255	83606	5089	5089	5089					
Conversville, RI		Franchise	128691	67175	4956	4956	4956					
Mount Baker, NY		Corporate	244913	89974	5062	5062	5062					
Farmington Lake, RI		Franchise	392518	82675	6100	6100	6100					

3	East Natchitoches, RI	Franchise	433924	101465	5068		Highest Revenue
4	Lyon, MA	Partner	135816	67388	5700		Lowest Expenses
5	Willow Run, NH	Corporate	233255	83606	5089		
6	Conyersville, RI	Franchise	128691	67175	4956		
7	Mount Baker, NY	Corporate	244913	89974	5062		
8	Farmington Lake, RI	Franchise	392518	82675	6100		

6. We will complete the rest of the column in the next activity. For now, click cell **H2** and repeat Steps 2 through 5 to create a formula that subtracts depreciation from the operating profit, to calculate the net profit:

A	B	C	D	E	F	G	H	I	J	K	L	M
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit	Scorecard			
2	Warren, NH		Corporate	125319	65792	59527	4667	54860	Average Revenue			
3	East Natchitoches, RI		Franchise	433924	101465	33249	5068	28181	Highest Revenue			
4	Lyon, MA		Partner	135816	67388	68428	5700	50898	Lowest Expenses			
5	Willow Run, NH		Corporate	233255	83606	5089						
6	Conyersville, RI		Franchise	128691	67175	4956						
7	Mount Baker, NY		Corporate	244913	89974	5062						
8	Farmington Lake, RI		Franchise	392518	82675	6100						

7. Now, let's work on our scorecard. Click cell **L2**, where we want to calculate the average revenue:

A	B	C	D	E	F	G	H	I	J	K	L	M
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit	Scorecard			
2	Warren, NH		Corporate	125319	65792	59527	4667	54860	Average Revenue			
3	East Natchitoches, RI		Franchise	433924	101465	33249	5068	28181	Highest Revenue			
4	Lyon, MA		Partner	135816	67388	68428	5700	50898	Lowest Expenses			
5	Willow Run, NH		Corporate	233255	83606	5089						
6	Conyersville, RI		Franchise	128691	67175	4956						
7	Mount Baker, NY		Corporate	244913	89974	5062						
8	Farmington Lake, RI		Franchise	392518	82675	6100						

8. Click the **AutoSum** arrow on the Home tab and click **Average**:

A	B	C	D	E	F	G	H	I	J	K	L	M
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit	Scorecard			
2	Warren, NH		Corporate	125319	65792	59527	4667	54860	Average Revenue			
3	East Natchitoches, RI		Franchise	433924	101465	33249	5068	28181	Highest Revenue			
4	Lyon, MA		Partner	135816	67388	68428	5700	50898	Lowest Expenses			
5	Willow Run, NH		Corporate	233255	83606	5089						
6	Conyersville, RI		Franchise	128691	67175	4956						
7	Mount Baker, NY		Corporate	244913	89974	5062						
8	Farmington Lake, RI		Franchise	392518	82675	6100						

9. By default, Excel will select the values in the first part of the row, but this is not what we want. Click and drag to select cells **D2 to D8** instead:

A	B	C	D	E	F	G	H	I	J	K	L	M
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit	Scorecard			
2	Warren, NH		Corporate	125319	65792	59527	4667	54860	Average Revenue			
3	East Natchitoches, RI		Franchise	433924	101465	33249	5068	28181	Highest Revenue			
4	Lyon, MA		Partner	135816	67388	68428	5700	50898	Lowest Expenses			
5	Willow Run, NH		Corporate	233255	83606	5089						
6	Conyersville, RI		Franchise	128691	67175	4956						
7	Mount Baker, NY		Corporate	244913	89974	5062						
8	Farmington Lake, RI		Franchise	392518	82675	6100						
9	Martins Corner, NH		Franchise	331773	85288	5795						
10	Pickeral Narrows, ME		Partner	244975	100834	5153						
11	Ward, ME		Used	137925	66452	51273						
12	Center, MA		Corporate	207163	79705	50399						
13	Spring City, MA		Partner	432326	79297	4872						
14	Mittens, NY		Used	177788	103757	5144						
15	East Waterford, ME		Franchise	201945	83178	4734						
16	Man, ME		Corporate	40114	86680	6060						
17	Scooterville, NJ		Used	404042	91912	4842						
18	Heckon, NH		Partner	407175	88298	4694						
19	Longview, MA		Franchise	376263	92698	5195						
20	Emerson, NJ		Corporate	149154	87513	5168						
21												
22												

10. Press **Enter** to complete the formula and calculate the results:

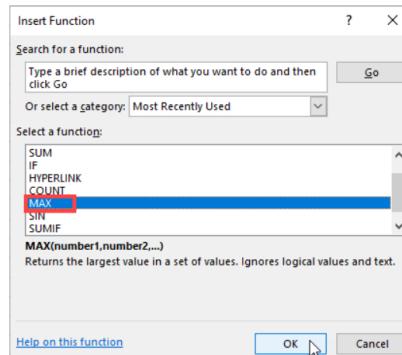
J	K	L	M
Scorecard			
Average Revenue	276986.5		
Highest Revenue			
Lowest Expenses			

11. Cell L3 should now be selected. This is where we want to display the highest revenue. Let's use a different method to create this formula. To begin, click **Formulas** → **Insert Function**:

A	B	C	D	E	F	G	H	I	J	K	L	M
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit	Scorecard			
2	Warren, NH		Corporate	125319	65792	59527	4667	54860	Average Revenue			
3	East Natchitoches, RI		Franchise	433924	101465	33249	5068	28181	Highest Revenue	276986.5		
4	Lyon, MA		Partner	135816	67388	68428	5700	50898	Lowest Expenses			
5	Willow Run, NH		Corporate	233255	83606	5089						

6 Conyersville, RI	Franchise	120691	67175	4056	
7 Mount Baker, NY	Corporate	244913	89974	5062	
8 Farmington Lake, RI	Franchise	392518	82675	6100	

12. Ensure that the **Most Recently Used** category is selected. Then, click the **MAX** function from the list. Click **OK** to insert it. If you do not see the **MAX** function in the **Most Recently Used** category, change to the **Maths** category and select it from there.



13. Now, click and drag to select cells **D2 to D20**:

14. Click **OK** to complete the formula and calculate the results:

15. Now, use either the **AutoSum** command or the **Insert Function** command to calculate the lowest value in the Expenses column with the **MIN** function:

16. Let's double-check the first two values we calculated. Select cells **D2 to D20**:

9	Martins Corner, NH	Franchise	331773	85288
10	Pickeral Narrows, ME	Partner	244975	100834
11	Omaha, NE	Partner	1320	5153
12	Central, MA	Corporate	207163	10238
13	Spring City, MA	Partner	432395	73765
14	Mittlenlane, NY	Partner	177789	4872
15	East Waterford, ME	Franchise	201945	83178
16	Cohman, RI	Corporate	462124	4734
17	Scootville, NJ	Partner	440462	66688
18	Hebron, NH	Partner	407339	81912
19	Longview, MA	Partner	376263	88266
20	Emerson, NJ	Franchise	149134	5195
21				5168
22				

17. Look at the average calculated in the status bar, and compare it to the average calculated using the function:

18. However, the MAX function is not shown here. Right-click anywhere on the Status bar, then click to select **Maximum** in the Customize Status Bar dialog box:

19. Click anywhere in the Excel window outside of the Customize Status Bar dialog box. The dialog box will close, and you will now see the Max value in the status bar, which should match the result of the Max function:

Actuals 2.2 -											Search	Beneath				
File		Home		Insert		Page Layout		Formulas		Data		Review		View		Help
New		Open		Save		Print		Format Painter		Cells		Styles		Format		Sort & Filter
Font	Font Size	Font Color	Font Style	Font Weight	Font Size	Font Color	Font Style	Font Weight	Font Size	Font Color	Font Style	Font Weight	Font Size	Font Color	Font Style	Font Weight
Font	Font Size	Font Color	Font Style	Font Weight	Font Size	Font Color	Font Style	Font Weight	Font Size	Font Color	Font Style	Font Weight	Font Size	Font Color	Font Style	Font Weight
City	State	Office Type	Revenue	Operating Expenses	Capital Expenditure	Depreciation	Profit Margin	Net Profit	Scorecard	Average Revenue	Highest Revenue	Lowest Revenue	Overall Expenses	Overall Profit	Overall Margin	
Waukesha, WI		Corporate	1234514	65792	59527	4467	54800	54800	278968.5	278968.5	278968.5	278968.5	123117	123117	123117	
Waukesha, WI		Partnership	5555555	3333333	3333333	3333333	3333333	3333333	3333333	3333333	3333333	3333333	3333333	3333333	3333333	
Lyon, MA		Corporate	3333338	67788	55000	5700	5808	5808	23868.5	23868.5	23868.5	23868.5	3333338	3333338	3333338	
Willow Run, MI		Corporate	232355	85806	55000	5700	5808	5808	13868.5	13868.5	13868.5	13868.5	232355	232355	232355	
Mount Kisco, NY		Corporate	2449533	89954	55000	5700	5808	5808	16100	16100	16100	16100	2449533	2449533	2449533	
Farmington Lake, RI		Franchise	392518	82675	55000	5700	5808	5808	12795	12795	12795	12795	392518	392518	392518	
Waukesha, WI		Corporate	1234514	65792	59527	4467	54800	54800	278968.5	278968.5	278968.5	278968.5	123117	123117	123117	
Pickering, Massachusetts, MA		Partner	2449575	100034	55000	5700	5808	5808	3553	3553	3553	3553	2449575	2449575	2449575	
Willits, CA		Partner	337425	184528	55000	5700	5808	5808	5473	5473	5473	5473	337425	337425	337425	
Waukesha, WI		Corporate	232355	79250	55000	5700	5808	5808	13868.5	13868.5	13868.5	13868.5	232355	232355	232355	
Spring City, MA		Partner	3333326	79257	55000	5700	5808	5808	4372	4372	4372	4372	3333326	3333326	3333326	
Mittensville, NY		Corporate	177785	161757	55000	5700	5808	5808	5144	5144	5144	5144	177785	177785	177785	
Waukesha, WI		Corporate	232355	85806	55000	5700	5808	5808	13868.5	13868.5	13868.5	13868.5	232355	232355	232355	
Cohoes, NY		Corporate	461234	86688	55000	5700	5808	5808	6066	6066	6066	6066	461234	461234	461234	
Scottsville, NJ		Partner	404042	85212	55000	5700	5808	5808	4842	4842	4842	4842	404042	404042	404042	
Waukesha, WI		Corporate	1234514	65792	59527	4467	54800	54800	5454	5454	5454	5454	123117	123117	123117	
Longmeadow, MA		Partner	376280	92698	55000	5700	5808	5808	5155	5155	5155	5155	376280	376280	376280	
Emerson, NJ		Franchise	149324	87513	55000	5700	5808	5808	5144	5144	5144	5144	149324	149324	149324	
Financial Data		Financial Scorecard														

20. Save your workbook as Activity 2-2 Complete. Close Microsoft 365 Excel to complete this activity.

21. Now, you can check out an example of a completed document in the link below:

Completed exercise: Using formulas and functions

Mark as completed