

# VLOOKUP

## Dataset:

## **Sheet 1: Employee Hours**

	A	B	
1	Employee #	Hours Worked	
2	FT12578	20	
3	FT12579	20	
4	FT12580	20	
5	FT12581	20	
6			

## **Sheet 2: Employee Rates**

	A	B
1	<b>Employee #</b>	<b>Rate of Pay</b>
2	FT12578	\$25.00
3	FT12579	\$13.00
4	FT12580	\$42.00
5	FT12581	\$25.00
6		
7		

**Task 1:** to search for the rate of pay from the employee rates spreadsheet and add it to the employee hours spreadsheet

C2 ▾ `=VLOOKUP(A2, 'Employee Rates'!$A$2:$B$5, 2, FALSE)`

	A	B	C	D	E
1	<b>Employee #</b>	<b>Rate of Pay</b>			
2	FT12578	\$25.00	\$25.00		
3	FT12579	\$13.00	\$13.00		
4	FT12580	\$42.00	\$42.00		
5	FT12581	\$25.00	\$25.00		
6					
7					

## Data cleaning and vlookup

**Dataset:** Employees' working hours in a company

Sheet 1

E10 ▾ | fx

Sheet 2

E9	A	B	C	D
1	ID	DOH	Status	Pay Rate
2	G001	12/20/2010	On Leave	100.5
3	G002	1/5/2010	Contractor	75
4	G003	11/11/2011	Full-Time	150
5	G004	5/12/2018	Contractor	65
6	G005	1/2/2020	Full-Time	3000
7				

## **Task 1: To clean and label the data.**

- Eliminate extra spaces: =TRIM(B2)
  - Copy values in other cell =VALUE(C2)

**Task 2:** To combine data from two spreadsheets using the VLOOKUP function.

- C15 type =value(C2)
  - Drag the cell down to populate the hours for the other employees



- Import **pay rate** data from Sheet 2 to Sheet 1

A1	fx	ID			
	A	B	C	D	
	ID	DOH	Status	Pay Rate	
2	G001	12/20/2010	On Leave	100.5	
3	G002	1/5/2010	Contractor	75	
4	G003	11/11/2011	Full-Time	150	
5	G004	5/12/2018	Contractor	65	
6	G005	1/2/2020	Full-Time	3000	
7					

- Use =VLOOKUP(A2,Sheet2!\$A\$2:\$D\$6,4, FALSE)
- Populate the **pay rate** for the remaining employees by dragging down the corner of the cell to copy the formula

J15:J19	fx	=VLOOKUP(A2, Sheet2!\$A\$2:\$D\$7, 4, false)									
	A			F	G	H	I	J	K		
1	ID	Name	1/1/2020	1/2/2020	1/3/2020	1/4/2020	1/5/2020	1/6/2020	Total Pay		
2	G001	Chan, Daniel	8	8	8.5	7	5	2.5			
3	G002	Ali, Dana	8.5	7	8	8	9	5.5			
4	G003	Sanchez, Alexis	7.5	6.5	10	8	7	5			
5	G004	Fischer, Wolfgang	8	8	8	7	7	4			
6	G005	Patel, Anika	6	5	5	5.5	6	2			
7											
8											
9											
10											
11		Chan, Daniel									
12		#N/A									
13											
14		Names	1/1/2020	1/2/2020	1/3/2020	1/4/2020	1/5/2020	1/6/2020	Hours		
15		Chan, Daniel	8	8	8.5	7	5	2.5			
16		Ali, Dana	8.5	7	8	8	9	5.5			
17		Sanchez, Alexis	7.5	6.5	10	8	7	5			
18		Fischer, Wolfgang	8	8	8	7	7	4			
19		Patel, Anika	6	5	5	5.5	6	2			
20											

Pay Rate  
100.5  
75  
150  
65  
3000 Total Pay

**Task 4:** Calculate total pay =product(I15, J15)

K15:K19 | fx =product(I15, J15)

	A	D	E	F	G	H	I	J	K
1	ID	Name	1/1/2020	1/2/2020	1/3/2020	1/4/2020	1/5/2020	1/6/2020	Total Pay
2	G001	Chan, Daniel	8	8	8.5	7	5	2.5	
3	G002	Ali, Dana	8.5	7	8	8	9	5.5	
4	G003	Sanchez, Alexis	7.5	6.5	10	8	7	5	
5	G004	Fischer, Wolfgang	8	8	8	7	7	4	
6	G005	Patel, Anika	6	5	5	5.5	6	2	
7									
8									
9									
10									
11		Chan, Daniel	#N/A						
12									
13									
14		Names	1/1/2020	1/2/2020	1/3/2020	1/4/2020	1/5/2020	1/6/2020	Hours Pay
15		Chan, Daniel	8	8	8.5	7	5	2.5	39
16		Ali, Dana	8.5	7	8	8	9	5.5	46
17		Sanchez, Alexis	7.5	6.5	10	8	7	5	44
18		Fischer, Wolfgang	8	8	8	7	7	4	42
19		Patel, Anika	6	5	5	5.5	6	2	29.5
20									

Total Pay  
3919.5  
3450  
6600  
2730  
88500

### Task 5: Create a summary table (pivot table)

B19 | fx

	A	B	C
1	Names	SUM of Pay Rates	SUM of Total Pay
2	Ali, Dana	75	3450
3	Chan, Daniel	100.5	3919.5
4	Fischer, Wolfgang	65	2730
5	Patel, Anika	3000	88500
6	Sanchez, Alexis	150	6600
7	Grand Total	3390.5	105199.5
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			

Rows: Add  
Names  
Order: Ascen... Sort by: Names  
Show totals:

Columns: Add  
Values as: Columns dd  
Pay Rates  
Summarize by: SUM Show as: Default  
Total Pay  
Summarize by: SUM Show as: Default

Search: Q Search  
Names  
1/1/2020  
1/2/2020  
1/3/2020  
1/4/2020  
1/5/2020  
1/6/2020  
Hours  
Pay Rates  
Total Pay

### Task 6: convert the cells in the Sum of Total Pay column to currency.

- Click on the \$ symbol on the toolbar

Names	SUM of Pay Rates	SUM of Total Pay
Ali, Dana	75	\$3,450.00
Chan, Daniel	100.5	\$3,919.50
Fischer, Wolfgang	65	\$2,730.00
Patel, Anika	3000	\$88,500.00
Sanchez, Alexis	150	\$6,600.00
<b>Grand Total</b>	<b>3390.5</b>	<b>\$105,199.50</b>

### COUNTIF / SUMIF

**Dataset:** Data from an online kitchen supplies retailer.

I18	A	B	C	D
1				
2	Transaction ID	Quantity	Revenue	
3	123	1	\$100	
4	124	1	\$120	
5	125	1	\$110	
6	126	1	\$80	
7	127	3	\$400	
8	128	1	\$90	
9	129	2	\$250	
10	130	1	\$70	
11	131	4	\$540	
12	132	1	\$100	
13	133	1	\$100	
14	134	3	\$220	
15	135	6	\$460	
16	136	1	\$20	
17	137	1	\$50	
18	138	2	\$175	
19	139	1	\$30	
20	140	2	\$260	
21	141	2	\$190	
22	142	1	\$20	
23	143	1	\$50	
24	144	3	\$150	
25	145	1	\$80	
26	146	2	\$95	

#### Tasks:

How many transactions include only 1 item?

=COUNTIF(B3:B50,"=1") → 25

How many transactions include more than 1 item?

=COUNTIF(B3:B50,>1) → 23

How much revenue comes from transactions with only 1 item? =SUMIF(B3:B50,"=1", C3:C50) → \$1,555.00
How much revenue comes from transactions with more than 1 item? =SUMIF(B3:B50,">1", C3:C50) → \$4,735.00
What is the average revenue for transactions with only 1 item? =H11/G11 → \$62.20 <i>*The average revenue for transactions with one item is \$62.20</i>
What is the average revenue for transactions with more than 1 item? =H12/G12 → \$205.87

#### Summary table

Quantity	Count	Revenue total	Average revenue per transaction
1	25	\$1,555.00	\$62.20
>1	23	\$4,735.00	\$205.87

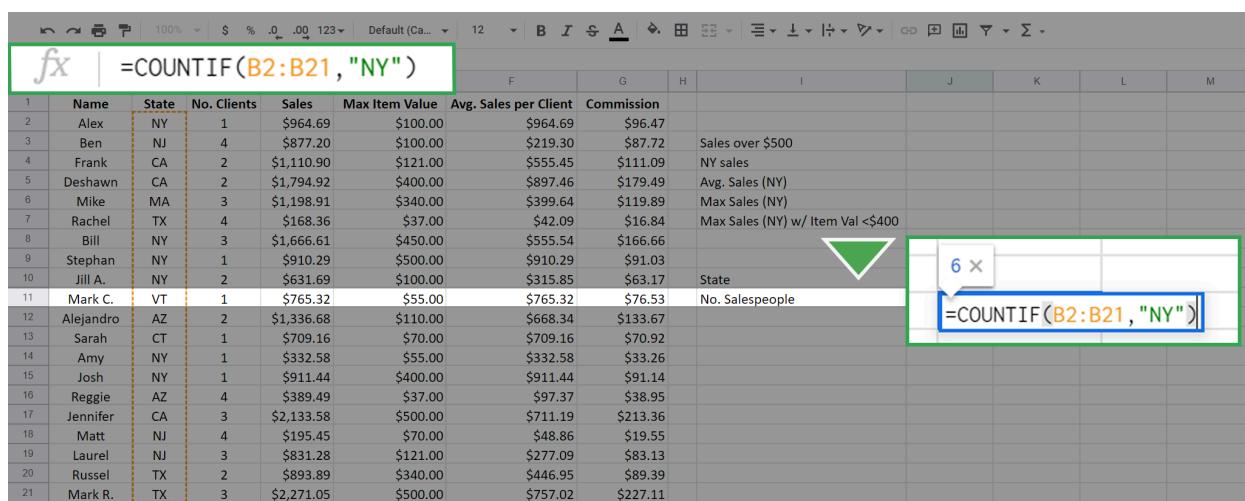
## Working with conditions

**Dataset:** This data set has seven columns and 20 rows (not including the headers). The contents are several metrics pertaining to a team of salespeople.

	A	B	C	D	E	F	G	H
1	Name	State	No. Clients	Sales	Max Item Value	Avg. Sales per Client	Commission	
2	Alex	NY	1	\$964.69	\$100.00	\$964.69	\$96.47	
3	Ben	NJ	4	\$877.20	\$100.00	\$219.30	\$87.72	
4	Frank	CA	2	\$1,110.90	\$121.00	\$555.45	\$111.09	
5	Deshawn	CA	2	\$1,794.92	\$400.00	\$897.46	\$179.49	
6	Mike	MA	3	\$1,198.91	\$340.00	\$399.64	\$119.89	
7	Rachel	TX	4	\$168.36	\$37.00	\$42.09	\$16.84	
8	Bill	NY	3	\$1,666.61	\$450.00	\$555.54	\$166.66	
9	Stephan	NY	1	\$910.29	\$500.00	\$910.29	\$91.03	
10	Jill A.	NY	2	\$631.69	\$100.00	\$315.85	\$63.17	
11	Mark C.	VT	1	\$765.32	\$55.00	\$765.32	\$76.53	
12	Alejandro	AZ	2	\$1,336.68	\$110.00	\$668.34	\$133.67	
13	Sarah	CT	1	\$709.16	\$70.00	\$709.16	\$70.92	
14	Amy	NY	1	\$332.58	\$55.00	\$332.58	\$33.26	
15	Josh	NY	1	\$911.44	\$400.00	\$911.44	\$91.14	
16	Reggie	AZ	4	\$389.49	\$37.00	\$97.37	\$38.95	
17	Jennifer	CA	3	\$2,133.58	\$500.00	\$711.19	\$213.36	
18	Matt	NJ	4	\$195.45	\$70.00	\$48.86	\$19.55	
19	Laurel	NJ	3	\$831.28	\$121.00	\$277.09	\$83.13	
20	Russel	TX	2	\$893.89	\$340.00	\$446.95	\$89.39	
21	Mark R.	TX	3	\$2,271.05	\$500.00	\$757.02	\$227.11	
22								

## COUNTIF

**TASK 1:** to calculate the number of salespeople that the company has in New York state.



The screenshot shows a Microsoft Excel spreadsheet with data from row 1 to 21. Column A contains names and column B contains states. The COUNTIF function is being used in cell F2 to count the number of salespeople in New York (NY). The formula =COUNTIF(B2:B21, "NY") is typed into the formula bar. A green callout box points to cell G2, which displays the result '6'.

	Name	State	No. Clients	Sales	Max Item Value	Avg. Sales per Client	Commission	
2	Alex	NY	1	\$964.69	\$100.00	\$964.69	\$96.47	
3	Ben	NJ	4	\$877.20	\$100.00	\$219.30	\$87.72	
4	Frank	CA	2	\$1,110.90	\$121.00	\$555.45	\$111.09	
5	Deshawn	CA	2	\$1,794.92	\$400.00	\$897.46	\$179.49	
6	Mike	MA	3	\$1,198.91	\$340.00	\$399.64	\$119.89	
7	Rachel	TX	4	\$168.36	\$37.00	\$42.09	\$16.84	
8	Bill	NY	3	\$1,666.61	\$450.00	\$555.54	\$166.66	
9	Stephan	NY	1	\$910.29	\$500.00	\$910.29	\$91.03	
10	Jill A.	NY	2	\$631.69	\$100.00	\$315.85	\$63.17	
11	Mark C.	VT	1	\$765.32	\$55.00	\$765.32	\$76.53	
12	Alejandro	AZ	2	\$1,336.68	\$110.00	\$668.34	\$133.67	
13	Sarah	CT	1	\$709.16	\$70.00	\$709.16	\$70.92	
14	Amy	NY	1	\$332.58	\$55.00	\$332.58	\$33.26	
15	Josh	NY	1	\$911.44	\$400.00	\$911.44	\$91.14	
16	Reggie	AZ	4	\$389.49	\$37.00	\$97.37	\$38.95	
17	Jennifer	CA	3	\$2,133.58	\$500.00	\$711.19	\$213.36	
18	Matt	NJ	4	\$195.45	\$70.00	\$48.86	\$19.55	
19	Laurel	NJ	3	\$831.28	\$121.00	\$277.09	\$83.13	
20	Russel	TX	2	\$893.89	\$340.00	\$446.95	\$89.39	
21	Mark R.	TX	3	\$2,271.05	\$500.00	\$757.02	\$227.11	

\*Result: 6

## SUMIF

**Task 2:** to create a sum of all sales more than \$500.00.

	Name	State	No. Clients	Sales	Max Item Value	Avg. Sales per Client	Commission				
1	Alex	NY	1	\$964.69	\$100.00	\$964.69	\$96.47				
2	Ben	NJ	4	\$877.20	\$100.00	\$219.30	\$87.72	Sales over \$500			
3	Frank	CA	2	\$1,110.90	\$121.00	\$555.45	\$111.09	NY sales			
4	Deshawn	CA	2	\$1,794.92	\$400.00	\$897.46	\$179.49	Avg. Sales (NY)			
5	Mike	MA	3	\$1,198.91	\$340.00	\$399.64	\$119.89	Max Sales (NY)			
6	Rachel	TX	4	\$168.36	\$37.00	\$42.09	\$16.84	Max Sales (NY) w/ Item Val <\$400			
7	Bill	NY	3	\$1,666.61	\$450.00	\$555.54	\$166.66				
8	Stephan	NY	1	\$910.29	\$500.00	\$910.29	\$91.03				
9	Jill A.	NY	2	\$631.69	\$100.00	\$315.85	\$63.17				
10	Mark C.	VT	1	\$765.32	\$55.00	\$765.32	\$76.53				
11	Alejandro	AZ	2	\$1,336.68	\$110.00	\$668.34	\$133.67				
12	Sarah	CT	1	\$709.16	\$70.00	\$709.16	\$70.92				
13	Amy	NY	1	\$332.58	\$55.00	\$332.58	\$33.26				
14	Josh	NY	1	\$911.44	\$400.00	\$911.44	\$91.14				
15	Reggie	AZ	4	\$389.49	\$37.00	\$97.37	\$38.95				
16	Jennifer	CA	3	\$2,133.58	\$500.00	\$711.19	\$213.36				
17	Matt	NJ	4	\$195.45	\$70.00	\$48.86	\$19.55				
18	Laurel	NJ	3	\$831.28	\$121.00	\$277.09	\$83.13				
19	Russel	TX	2	\$893.89	\$340.00	\$446.95	\$89.39				
20	Mark R.	TX	3	\$2,271.05	\$500.00	\$757.02	\$227.11				
21											

\*Result: 19007.61

**Task 3:** To sum only the sales from New York, but not restrict to those greater than \$500

	Name	State	No. Clients	Sales	Max Item Value	Avg. Sales per Client	Commission				
1	Alex	NY	1	\$964.69	\$100.00	\$964.69	\$96.47				
2	Ben	NJ	4	\$877.20	\$100.00	\$219.30	\$87.72	Sales over \$500			
3	Frank	CA	2	\$1,110.90	\$121.00	\$555.45	\$111.09	NY sales			
4	Deshawn	CA	2	\$1,794.92	\$400.00	\$897.46	\$179.49	Avg. Sales (NY)			
5	Mike	MA	3	\$1,198.91	\$340.00	\$399.64	\$119.89	Max Sales (NY)			
6	Rachel	TX	4	\$168.36	\$37.00	\$42.09	\$16.84	Max Sales (NY) w/ Item Val <\$400			
7	Bill	NY	3	\$1,666.61	\$450.00	\$555.54	\$166.66				
8	Stephan	NY	1	\$910.29	\$500.00	\$910.29	\$91.03				
9	Jill A.	NY	2	\$631.69	\$100.00	\$315.85	\$63.17				
10	Mark C.	VT	1	\$765.32	\$55.00	\$765.32	\$76.53				
11	Alejandro	AZ	2	\$1,336.68	\$110.00	\$668.34	\$133.67				
12	Sarah	CT	1	\$709.16	\$70.00	\$709.16	\$70.92				
13	Amy	NY	1	\$332.58	\$55.00	\$332.58	\$33.26				
14	Josh	NY	1	\$911.44	\$400.00	\$911.44	\$91.14				
15	Reggie	AZ	4	\$389.49	\$37.00	\$97.37	\$38.95				
16	Jennifer	CA	3	\$2,133.58	\$500.00	\$711.19	\$213.36				
17	Matt	NJ	4	\$195.45	\$70.00	\$48.86	\$19.55				
18	Laurel	NJ	3	\$831.28	\$121.00	\$277.09	\$83.13				
19	Russel	TX	2	\$893.89	\$340.00	\$446.95	\$89.39				
20	Mark R.	TX	3	\$2,271.05	\$500.00	\$757.02	\$227.11				
21											

\*Result: 5417.3

## AVERAGEIF

**Task 4: To find the average sales per salesperson in New York.**

	Name	State	No. Clients	Sales	Max Item Value	Avg. Sales per Client	Commission							
2	Alex	NY	1	\$964.69	\$100.00	\$964.69	\$96.47							
3	Ben	NJ	4	\$877.20	\$100.00	\$219.30	\$87.72	Sales over \$100						
4	Frank	CA	2	\$1,110.90	\$121.00	\$555.45	\$111.09	NY sales						
5	Deshawn	CA	2	\$1,794.92	\$400.00	\$897.46	\$179.49	Avg. Sales (NY)						
6	Mike	MA	3	\$1,198.91	\$340.00	\$399.64	\$119.89	Max Sales (NY)						
7	Rachel	TX	4	\$168.36	\$37.00	\$42.09	\$16.84	Max Sales (NY) w/ Item Val <\$400						
8	Bill	NY	3	\$1,666.61	\$450.00	\$555.54	\$166.66							
9	Stephan	NY	1	\$910.29	\$500.00	\$910.29	\$91.03							
10	Jill A.	NY	2	\$631.69	\$100.00	\$315.85	\$63.17	State	NY					
11	Mark C.	VT	1	\$765.32	\$55.00	\$765.32	\$76.53	No. Salespeople	6					
12	Alejandro	AZ	2	\$1,336.68	\$110.00	\$668.34	\$133.67							
13	Sarah	CT	1	\$709.16	\$70.00	\$709.16	\$70.92							
14	Amy	NY	1	\$332.58	\$55.00	\$332.58	\$33.26							
15	Josh	NY	1	\$911.44	\$400.00	\$911.44	\$91.14							
16	Reggie	AZ	4	\$389.49	\$37.00	\$97.37	\$38.95							
17	Jennifer	CA	3	\$2,133.58	\$500.00	\$711.19	\$213.36							
18	Matt	NJ	4	\$195.45	\$70.00	\$48.86	\$19.55							
19	Laurel	NJ	3	\$831.28	\$121.00	\$277.09	\$83.13							
20	Russel	TX	2	\$893.89	\$340.00	\$446.95	\$89.39							
21	Mark R.	TX	3	\$2,271.05	\$500.00	\$757.02	\$227.11							

\*Result: 902.83333

## MAXIFS

**TASK 5:** To find the maximum sales from any salesperson in New York.

	Name	State	No. Clients	Sales	Max Item Value	Avg. Sales per Client	Commission				
1	Alex	NY	1	\$964.69	\$100.00	\$964.69	\$96.47				
2	Ben	NJ	4	\$877.20	\$100.00	\$219.30	\$87.72	Sales over \$500	19007.61		
3	Frank	CA	2	\$1,110.90	\$121.00	\$555.45	\$111.09	NY sales	5417.3		
4	Deshawn	CA	2	\$1,794.92	\$400.00	\$897.46	\$179.49	Avg. Sales (NY)			
5	Mike	MA	3	\$1,198.91	\$340.00	\$399.64	\$119.89	Max Sales (NY)			
6	Rachel	TX	4	\$168.36	\$37.00	\$42.09	\$16.84	Max Sales (NY) w/ Item Va			
7	Bill	NY	3	\$1,666.61	\$450.00	\$555.54	\$166.66				
8	Stephan	NY	1	\$910.29	\$500.00	\$910.29	\$91.03				
9	Jill A.	NY	2	\$631.69	\$100.00	\$315.85	\$63.17				
10	Mark C.	VT	1	\$765.32	\$55.00	\$765.32	\$76.53				
11	Alejandro	AZ	2	\$1,336.68	\$110.00	\$668.34	\$133.67				
12	Sarah	CT	1	\$709.16	\$70.00	\$709.16	\$70.92				
13	Amy	NY	1	\$332.58	\$55.00	\$332.58	\$33.26				
14	Josh	NY	1	\$911.44	\$400.00	\$911.44	\$91.14				
15	Reggie	AZ	4	\$389.49	\$37.00	\$97.37	\$38.95				
16	Jennifer	CA	3	\$2,133.58	\$500.00	\$711.19	\$213.36				
17	Matt	NJ	4	\$195.45	\$70.00	\$48.86	\$19.55				
18	Laurel	NJ	3	\$831.28	\$121.00	\$277.09	\$83.13				
19	Russel	TX	2	\$893.89	\$340.00	\$446.95	\$89.39				
20	Mark R.	TX	3	\$2,271.05	\$500.00	\$757.02	\$227.11				

\*Result: 1666.61.

**TASK 6:** to find the maximum sales in New York where the Max Item Cost is below \$400

	Name	State	No. Clients	Sales	Max Item Value	Avg. Sales per Client	Commission				
1	Alex	NY	1	\$964.69	\$100.00	\$964.69	\$96.47				
2	Ben	NJ	4	\$877.20	\$100.00	\$219.30	\$87.72	Sales over \$500	19007.61		
3	Frank	CA	2	\$1,110.90	\$121.00	\$555.45	\$111.09	NY sales	5417.3		
4	Deshawn	CA	2	\$1,794.92	\$400.00	\$897.46	\$179.49	Avg. Sales (NY)			
5	Mike	MA	3	\$1,198.91	\$340.00	\$399.64	\$119.89	Max Sales (NY)			
6	Rachel	TX	4	\$168.36	\$37.00	\$42.09	\$16.84	Max Sales (NY) w/ I	964.69		
7	Bill	NY	3	\$1,666.61	\$450.00	\$555.54	\$166.66	o	6.61		
8	Stephan	NY	1	\$910.29	\$500.00	\$910.29	\$91.03				
9	Jill A.	NY	2	\$631.69	\$100.00	\$315.85	\$63.17				
10	Mark C.	VT	1	\$765.32	\$55.00	\$765.32	\$76.53				
11	Alejandro	AZ	2	\$1,336.68	\$110.00	\$668.34	\$133.67				
12	Sarah	CT	1	\$709.16	\$70.00	\$709.16	\$70.92				
13	Amy	NY	1	\$332.58	\$55.00	\$332.58	\$33.26				
14	Josh	NY	1	\$911.44	\$400.00	\$911.44	\$91.14				
15	Reggie	AZ	4	\$389.49	\$37.00	\$97.37	\$38.95				
16	Jennifer	CA	3	\$2,133.58	\$500.00	\$711.19	\$213.36				
17	Matt	NJ	4	\$195.45	\$70.00	\$48.86	\$19.55				
18	Laurel	NJ	3	\$831.28	\$121.00	\$277.09	\$83.13				
19	Russel	TX	2	\$893.89	\$340.00	\$446.95	\$89.39				
20	Mark R.	TX	3	\$2,271.05	\$500.00	\$757.02	\$227.11				

\*Result: 954.69

## Composite functions

## Dataset: KP Kitchen Supplies, Profit

	A	B	C	D
1				
2	Product ID	Quantity	Unit Price	Margin
3	789	50	\$1.25	20%
4	790	25	\$5.00	25%
5	791	30	\$4.25	20%
6	792	80	\$3.00	30%
7	793	200	\$0.50	15%

## Task 1: To find the total revenue including the margin

A10 ▾ | fx =SUMPRODUCT(B3:B7,C3:C7,D3:D7)

	A	B	C	D
1				
2	Product ID	Quantity	Unit Price	Margin
3	789	50	\$1.25	20%
4	790	25	\$5.00	25%
5	791	30	\$4.25	20%
6	792	80	\$3.00	30%
7	793	200	\$0.50	15%
8				
9	Total revenue			
10		156.25		

\*Result: \$156.25

## Pivot tables

### Dataset: Movies

A1 ▾ | fx Movie Title

	A	D	E	F	G	H	I	J	K	L	M	N
1	Movie Title	Genre (1)	Genre (2)	Director (1)	Director (2)	Cast (1)	Cast (2)	Cast (3)	Cast (4)	Cast (5)	Budget (\$)	Box Office Revenue
2	10 Cloverfield Lane	Thriller	Horror	Dan Trachtenberg		Mary Elizabeth Wili John Goodman	John Gallagher				15,000,000.00	108,300,000.00
3	13 Hours: The Secret Soldiers of Benghazi	Action	Thriller	Michael Bay		James Badge Dale John Krasinski	Toby Stephens	Pablo Schreiber	Max Martini	45,000,000.00	69,400,000.00	
4	2 Guns	Action	Crime	Baltasar Kormákur		Mark Wahlberg	Denzel Washington	Paula Patton	Bill Paxton	Edward James Olmos	61,000,000.00	131,900,000.00
5	21 Jump Street	Comedy	Action	Phil Lord	Chris Miller	Jonah Hill	Channing Tatum	Ice Cube	Brie Larson	Rob Riggle	55,000,000.00	201,500,000.00
6	22 Jump Street	Action	Comedy	Phil Lord	Chris Miller	Channing Tatum	Jonah Hill	Ice Cube			84,500,000.00	331,300,000.00
7	300: Rise of an Empire	Action	Fantasy	Noam Murro		Rodrigo Santoro	Eva Green	Sullivan Stapleton	Hans Matheson	Lena Headey	110,000,000.00	337,600,000.00
8	42	Biography	Drama	Brian Helgeland		Harrison Ford	Chadwick Boseman	Christopher Meloni	Ryan Merriman	Andre Holland	40,000,000.00	97,500,000.00
9	71	Action	Drama	Yann Demange		Jack O'Connell	Richard Dreyfuss	Sean Harris	Sam Reid		8,100,000.00	2,900,000.00
10	90 Minutes in Heaven	Drama		Michael Polish		Hayden Christensen	Kate Bosworth	Dwight Yoakam	Michael W. Smith		5,000,000.00	4,800,000.00
11	A Good Day to Die Hard	Action	Thriller	John Moore		Bruce Willis	Jai Courtney	Sebastian Koch	Yuliya Snigir	Radivoje Bukvić	92,000,000.00	304,700,000.00
12	A Haunted House	Comedy	Horror	Michael Tiddes		Marlon Wayans	Nick Swardson	David Koehler	Essence Atkins	Cedric the Entertainer	2,500,000.00	60,100,000.00
13	A Haunted House 2	Comedy		Michael Tiddes		Marlon Wayans	Jaime Pressly	Essence Atkins	Cedric the Entertainer	Gabriel Iglesias	4,000,000.00	24,000,000.00
14	A Long Way Down	Comedy		Pascal Chaumeil		Toni Collette	Pierce Brosnan	Aaron Paul	Imogen Poots		22,700,000.00	7,100,000.00
15	A Most Violent Year	Action	Crime	J. C. Chandor		Oscar Isaac	Jessica Chastain	Alessandro Nivola	David Oyelowo	Albert Brooks	20,000,000.00	12,000,000.00
16	A Most Wanted Man	Thriller		Anton Corbijn		Philip Seymour Ho	Rachel McAdams	Robin Wright	Willem Dafoe	Grigory Dobrynin	15,000,000.00	36,200,000.00
17	A Thousand Words	Comedy		Brian Robbins		Eddie Murphy	Kerry Washington	Cliff Curtis	Clark Duke	Allison Janney	40,000,000.00	22,000,000.00
18	A Walk Among the Tombstones	Crime	Drama	Scott Frank		Liam Neeson	Dan Stevens	Ruth Wilson	Boyd Holbrook		28,000,000.00	58,800,000.00
19	A Walk in the Woods	Adventure	Comedy	Ken Kwapis		Robert Redford	Nick Nolte	Emma Thompson			8,000,000.00	36,000,000.00
20	Abraham Lincoln: Vampire Hunter	Horror	Action	Timur Bekmambetov		Benjamin Walker	Domhnall Gleeson	Anthony Mackie	Mary Elizabeth Wili Rufus Sewell		99,500,000.00	116,400,000.00
21	After Earth	Sci-Fi		M. Night Shyamalan		Jaden Smith	Will Smith	Isabelle Fuhrman	Zoe Kravitz		130,000,000.00	243,800,000.00
22	Ain't Them Bodies Saints	Drama		David Lowery		Casey Affleck	Rooney Mara	Ben Foster	Rami Malek	Keith Carradine	4,000,000.00	1,000,000.00

**Objective:** to find some trends to help the team think through new movie ideas using revenue calculations.

**TASK1:** to find out how much revenue was generated each year.

- Created pivot table
- Row → Release Date -Year→ Grouped by year
- Value → SUM Box Office Revenue (\$)

The screenshot shows a PivotTable configuration window on the left and the resulting PivotTable report on the right. The configuration window includes settings for 'Release Date - Year' (selected as the Row label), 'Box Office Revenue (\$)' (selected as the Value), and 'SUM' as the summarization method. The resulting PivotTable report displays the total box office revenue for each year from 2012 to 2016, along with a Grand Total.

	A	B
1	Release Date - Year	SUM of Box Office Revenue (\$)
2	2012	18,078,040,000.00
3	2013	13,672,800,000.00
4	2014	20,013,420,000.00
5	2015	13,521,310,000.00
6	2016	11,921,900,000.00
7	<b>Grand Total</b>	<b>77,207,470,000.00</b>
8		

\*This data shows that 2014 had the highest revenue, while 2016 had the lowest.

**TASK 2:** To find the average revenue per movie each year

The screenshot shows a PivotTable configuration window on the right side of the screen, with three separate sections for 'Summarize by' and 'Show as' for 'Box Office Revenue (\$)' (SUM, AVERAGE, COUNT). The main area shows the resulting PivotTable report, which includes columns for 'Release Date - Year', 'SUM of Box Office Revenue (\$)', 'AVERAGE of Box Office Revenue (\$)', and 'COUNT of Box Office Revenue (\$)'. The data shows the average revenue per movie for each year from 2012 to 2016, along with a Grand Total.

Release Date - Year	SUM of Box Office Revenue (\$)	AVERAGE of Box Office Revenue (\$)	COUNT of Box Office Revenue (\$)
2012	18,078,040,000.00	170,547,547.17	106
2013	13,672,800,000.00	160,856,470.59	85
2014	20,013,420,000.00	168,180,000.00	119
2015	13,521,310,000.00	109,042,822.58	124
2016	11,921,900,000.00	161,106,756.76	74
<b>Grand Total</b>	<b>77,207,470,000.00</b>	<b>151,983,208.66</b>	<b>508</b>

\* **Result:** The average function gave the average revenue per year for the movies in the dataset. The average revenue in 2015 was much lower than the other years even though more movies were released that year.