

PivotTables provide a very easy and convenient way of analysing data in lists and external databases. Once you have mastered the basics of how they work and how they are created, you are ready to begin a journey into some of the more intricate and advanced aspects of PivotTable design, operation, and even formatting.

In this session you will:

- ✓ learn how to use more than just the two standard field variables in a **PivotTable**
- ✓ learn how to count the values in a **PivotTable** and perform other summary operations
- ✓ learn how to format the values in a **PivotTable** report
- ✓ learn how to hide and show grand totals in a **PivotTable** report
- ✓ learn how to switch **PivotTable** report subtotals on and off
- ✓ learn how to show values in a **PivotTable** as a percentage of total
- ✓ learn how to find the difference between specific values in a **PivotTable**
- ✓ learn how to group fields in a **PivotTable**
- ✓ learn how to create a running total in a **PivotTable**
- ✓ learn how to create calculated fields in a **PivotTable** report
- ✓ learn how to create custom names for **PivotTable** fields
- ✓ learn how to create calculated items in a **PivotTable**
- ✓ learn how to make changes to **PivotTable** options
- ✓ learn how to sort values in a **PivotTable**.

USING COMPOUND FIELDS


Simple PivotTables use only one field for **Column Labels** or **Row Labels**. In an Excel PivotTable you can use more than one field for either the **Column Labels** or **Row Labels** to

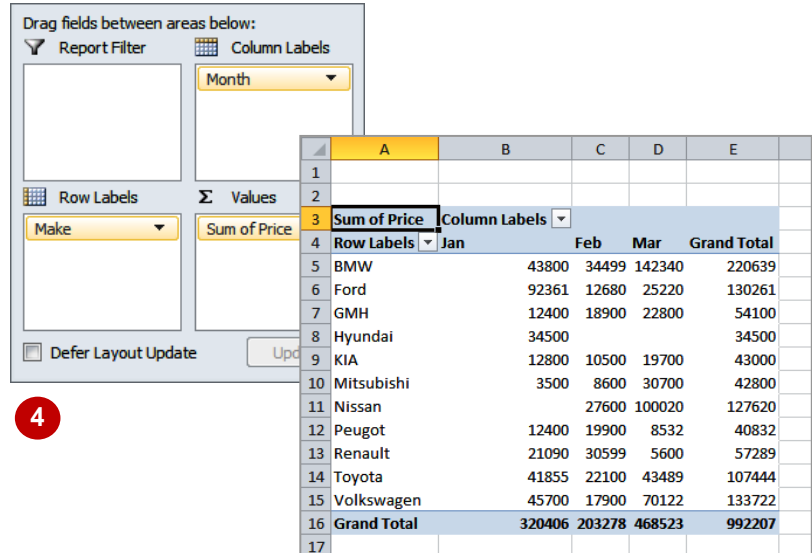
create more complex analysis of the data. Once you have chosen a second field for analysis that field in effect becomes a **sub-group** of the field above it in the area.

Try This Yourself:

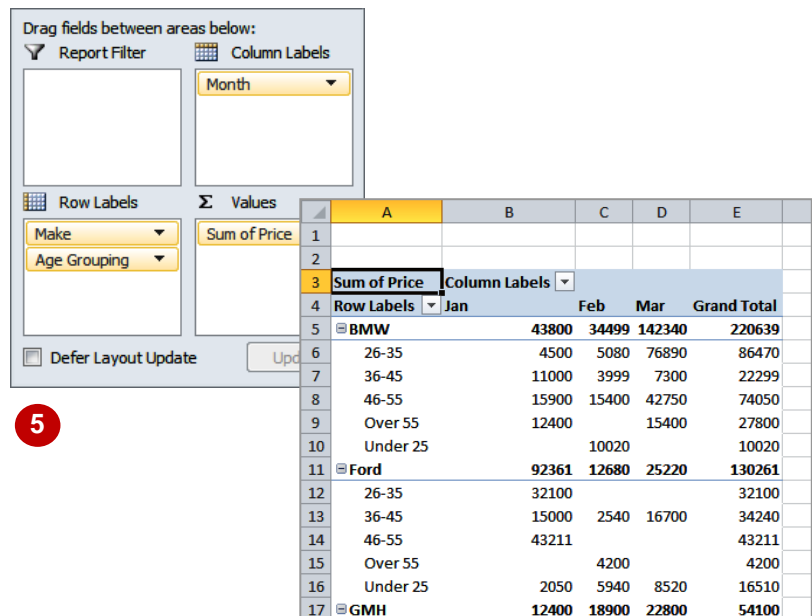
Open File

Before starting this exercise you **MUST** open the file *E840 PivotTable Features_1.xlsx...*

- 1 Click anywhere in the list of car sales
- 2 Click on the **Insert** tab of the **Ribbon** and click on **PivotTable**  to display the **Create PivotTable** dialog box
- 3 Ensure that **Select a table or range** and **New Worksheet** are both selected, then click on **[OK]** to create a new shell
- 4 Drag the **PivotTable Fields** into the pane areas as shown
- 5 Drag the **Age Grouping** field down below **Make** in the **Row Labels** area
This will create an Age Grouping sub-total for each vehicle Make in the table...
- 6 Drag the **Type** field down below **Month** in **Column Labels** to see the totals for payment types by month



Row Labels	Jan	Feb	Mar	Grand Total
Sum of Price				
BMW	43800	34499	142340	220639
Ford	92361	12680	25220	130261
GMH	12400	18900	22800	54100
Hyundai	34500			34500
KIA	12800	10500	19700	43000
Mitsubishi	3500	8600	30700	42800
Nissan		27600	100020	127620
Peugot	12400	19900	8532	40832
Renault	21090	30599	5600	57289
Toyota	41855	22100	43489	107444
Volkswagen	45700	17900	70122	133722
Grand Total	320406	203278	468523	992207



Row Labels	Jan	Feb	Mar	Grand Total
Sum of Price				
BMW	43800	34499	142340	220639
26-35	4500	5080	76890	86470
36-45	11000	3999	7300	22299
46-55	15900	15400	42750	74050
Over 55	12400		15400	27800
Under 25		10020		10020
Ford	92361	12680	25220	130261
26-35	32100			32100
36-45	15000	2540	16700	34240
46-55	43211			43211
Over 55		4200		4200
Under 25	2050	5940	8520	16510
GMH	12400	18900	22800	54100

For Your Reference...

To use **compound fields**:

1. Construct a PivotTable report and insert fields in the normal way
2. Drag fields to either the **Column Labels** and/or **Row Labels** area(s)

Handy to Know...

- You can reverse the grouping by dragging the fields around. For example, if you wanted to see the makes sold within age grouping in the example above, you would drag the **Age Grouping** field above the **Make** field in the **Row Labels** area.

COUNTING IN A PIVOTTABLE REPORT

As a default Excel assumes that you will be using your PivotTable report to **summarise** (total) data from your list. However, you can actually choose from a number of different analytical operations


to perform on the data in a PivotTable. Apart from summing data, another often-used operation is to **count** the data.

Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file *E840 PivotTable Features_2.xlsx...*

1 In the PivotTable report, click on cell **A3** (the **Sum of Price** heading)

2 On the **PivotTable Tools: Options** tab of the **Ribbon**, click on **Field Settings**  in the **Active Field** group

This will display the **Value Field Settings** dialog box...

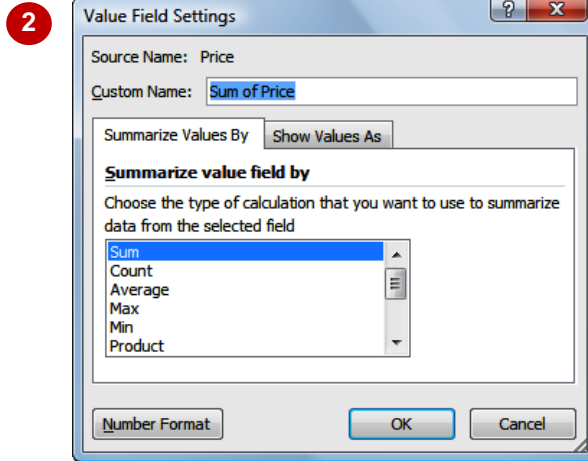
3 Click on **Count**, then click on **[OK]** to see a count of the values rather than a summation

4 Right click on **A3**, then select **Summarise Values By > Average** to see average sales

5 Hover the mouse over **C6** to see a description of the cell calculation

6 Repeat step 4 and try some other options

7 Right click on **A3** and select **Summarise Values By > Sum** to see total sales again



3


	A	B	C	D	E	F	G	H	I	J
1										
2										
3	Count of Price	Column Labels								
4		Jan				Jan Total	Feb			Feb
5	Row Labels	Coupe	Sedan	SUV	Wagon		Coupe	Sedan	SUV	Wagon
6	BMW		2	2		4	2	3	2	
7	26-35			1		1	1	1		
8	36-45		1			1	1			
9	46-55			1		1			1	
10	Over 55		1			1				
11	Under 25							2	1	
12	Ford		2	1	1	4	1	2		1
13	26-35		1			1				
14	36-45		1			1	1			
15	46-55			1		1				

4

	A	B	C	D	E	F	G
1							
2							
3	Average of Price	Column Labels					
4		Jan				Jan Total	Feb
5	Row Labels	Coupe	Sedan	SUV	Wagon		Coupe
6	BMW		11700	10200		10950	3269.5
7	26-35			4500		4500	2540
8	36-45		11000			11000	3999
9	46-55			15900		15900	
10	Over 55		12400			12400	
11	Under 25						
12	Ford		23550	2050	43211	23090.25	2540
13	26-35		32100			32100	
14	36-45		15000			15000	2540
15	46-55				43211	43211	

For Your Reference...

To **change** the **summation operation**:

1. Select the summation values cell
2. Click on the **Field Settings** command 
3. Click on the desired **Summarise Value** and click on **[OK]**

Handy to Know...

- Take care with some of the summarise values because some of them are very specialised and will usually reveal a nonsense value in the worksheet.

FORMATTING PIVOTTABLE REPORT VALUES


Unless you specify otherwise the calculated values in a PivotTable will appear **unformatted**. This may be satisfactory while performing analysis. However, should you wish to print the

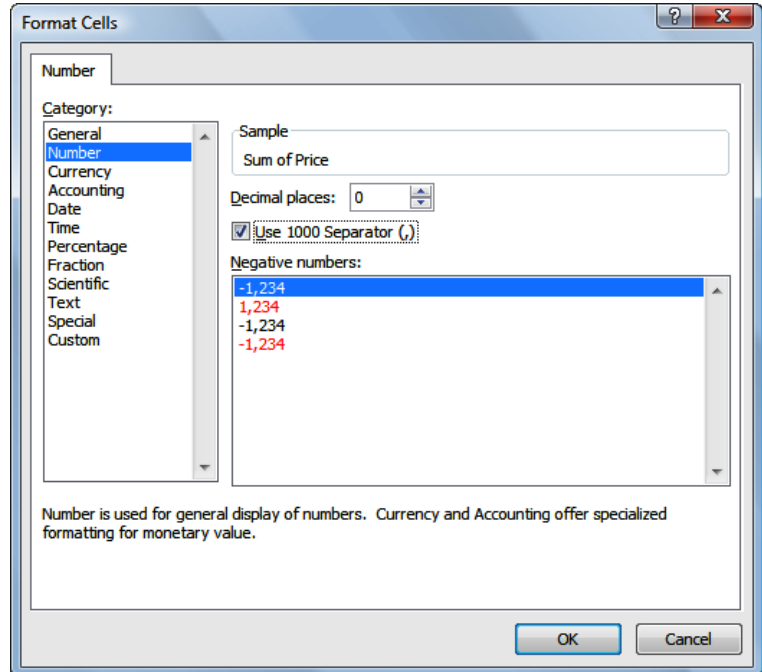
data for others to see it would be far better if the values could be **formatted** to a more readable, presentable and understandable level.

Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file *E840 PivotTable Features_3.xlsx...*

- 1 In the PivotTable report, click on cell **A3** (the **Sum of Price** heading)
- 2 On the **PivotTable Tools: Options** tab of the **Ribbon**, click on **Field Settings** , in the **Active Field** group, to display the **Value Field Settings** dialog box
- 3 Click on **[Number Format]** to display the **Format Cells** dialog box
- 4 Click on **Number** and adjust the settings as shown
- 5 Click on **[OK]** twice to return to the formatted data




4

5

	A	B	C	D	E	F	G	H	I	J	K	L	M
1													
2													
3	Sum of Price	Column Labels											
4		Jan			Jan Total	Feb			Feb Total	Mar			
5	Row Labels	Coupe	Sedan	SUV	Wagon	Coupe	Sedan	SUV	Wagon	Coupe	Sedan		
6	BMW	23,400	20,400			43,800	6,539	9,160	18,800	34,499	5,900	66,140	
7	26-35		4,500			4,500	2,540	2,540		5,080		6,590	
8	36-45		11,000			11,000	3,999			3,999		7,300	
9	46-55		15,900			15,900		15,400		15,400	5,900	36,850	
10	Over 55		12,400			12,400						15,400	
11	Under 25							6,620	3,400	10,020			
12	Ford	47,100	2,050	43,211		92,361	2,540	5,940	4,200	12,680	9,900	12,120	
13	26-35		32,100			32,100							
14	36-45		15,000			15,000	2,540			2,540	5,600	7,900	
15	46-55				43,211	43,211							
16	Over 55								4,200	4,200			
17	Under 25		2,050			2,050		5,940		5,940	4,300	4,220	

For Your Reference...

To **format values** in a PivotTable report:

1. Click on the values cells, then click on **Field Settings** 
2. Click on **[Number Format]**
3. Choose the desired format and click on **[OK]**

Handy to Know...

- So why not apply standard formatting options to the values in the range? Because, each time the PivotTable is recalculated, the number formats are set to those shown in the **Field Settings** command.

WORKING WITH PIVOTTABLE GRAND TOTALS


As a default, Excel's PivotTable reports will appear with **grand totals** at the end of the rows and at the end of the columns. These can be switched off and on as required. There may be

times, for example, when you are interested only in the data values themselves and not in the grand totals.

Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file *E840 PivotTable Features_4.xlsx...*

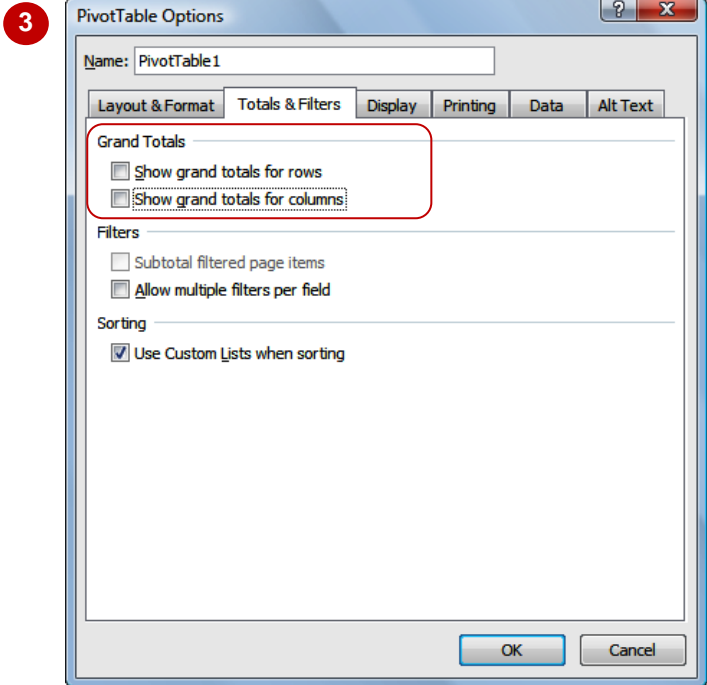
1 Click anywhere in the PivotTable report then, on the **PivotTable Tools: Options** tab of the **Ribbon**, click on **Options** 

The *PivotTable Options* dialog box is displayed...

2 Click on the **Totals & Filters** tab

3 Click on **Show grand totals for rows** and **Show grand totals for columns** until both options appear without a tick


4 Click on [OK] to remove all grand totals from the PivotTable report



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1																
2																
3	Sum of Price	Column Labels														
4		Jan				Jan Total	Feb			Feb Total	Mar			Mar Total		
5	Row Labels	Coupe	Sedan	SUV	Wagon		Coupe	Sedan	SUV	Wagon		Coupe	Sedan	SUV	Wagon	
6	BMW	23,400	20,400			43,800	6,539	9,160	18,800		34,499	5,900	66,140	70,300		142,340
7	26-35		4,500			4,500	2,540	2,540			5,080		6,590	70,300		76,890
8	36-45	11,000				11,000	3,999				3,999		7,300			7,300
9	46-55		15,900			15,900		15,400			15,400	5,900	36,850			42,750
10	Over 55	12,400				12,400							15,400			15,400
11	Under 25							6,620	3,400		10,020					
12	Ford	47,100	2,050	43,211		92,361	2,540	5,940	4,200		12,680	9,900	12,120	3,200		25,220
13	26-35		32,100			32,100										
14	36-45	15,000				15,000	2,540				2,540	5,600	7,900	3,200		16,700
15	46-55				43,211	43,211										
54	Under 25							2,500			2,500			24,000		24,000
55	Under 25		2,300			2,300						5,499				5,499
56	Volkswagen	2,500	43,200			45,700	14,500	3,400			17,900	12,500	34,222	23,400		70,122
57	46-55		43,200			43,200	14,500				14,500	6,700				6,700
58	Over 55												34,222	23,400		57,622
59	Under 25		2,500			2,500		3,400			3,400	5,800				5,800

For Your Reference...

To **remove** the **grand totals** from a PivotTable:

1. Click on **Options**  and click on the **Totals & Filters** tab
2. Remove the ticks from **Show grand total for rows** and **Show grand total for columns** and click on [OK]

Handy to Know...

- Grand totals can be reinstated by ticking the **Show grand total for rows** and **Show grand total for columns** text boxes.
- There is also a **Grand Totals** command in the **Layout** group on the **Design** tab of the **Ribbon** that can be used to hide and show grand totals in PivotTable reports.

WORKING WITH PIVOTTABLE SUBTOTALS


When you add fields to the **Column Labels** or **Row Labels** area of the PivotTable pane, Excel assumes that you also wish to **subtotal** the values for these fields. As a result **subtotals** will

appear at the end of each field value, both column and row, in the PivotTable report. These can be switched off if not required.

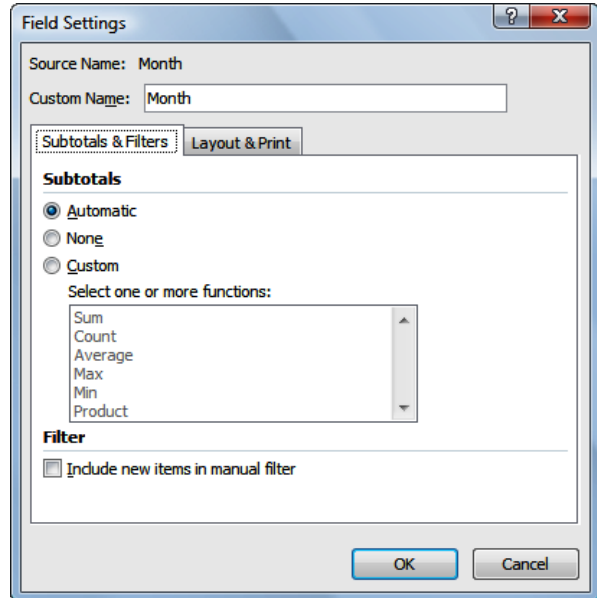
Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file *E840 PivotTable Features_5.xlsx...*

- 1 In the PivotTable report, click on cell **B4 (Jan)**
- 2 On the **PivotTable Tools: Options** tab of the **Ribbon**, click on **Field Settings**  in the **Active Field** group, to see the **Field Settings** dialog box, then click on the **Subtotals & Filters** tab
- 3 Click on **None** in **Subtotals**, then click on **[OK]** to remove the monthly subtotals
- 4 Click on cell **A6 (BMW)**
- 5 Repeat steps 2 and 3 to remove the subtotals for **Make**

2




	A	B	C	D	E	F	G	H	I	J	K	L	M
1													
2													
3	Sum of Price	Column Labels											
4		Jan							Feb				Mar
5	Row Labels	Coupe	Sedan	SUV	Wagon	Coupe	Sedan	SUV	Wagon	Coupe	Sedan	SUV	Wagon
6	BMW												
7	26-35		4,500			2,540	2,540			6,590	70,300		
8	36-45	11,000				3,999				7,300			
9	46-55		15,900				15,400			5,900	36,850		
10	Over 55	12,400								15,400			
11	Under 25						6,620	3,400					
12	Ford												
13	26-35	32,100											
14	36-45	15,000				2,540				5,600	7,900	3,200	
15	46-55			43,211									
16	Over 55								4,200				
17	Under 25		2,050			5,940				4,300	4,220		
18	GMH												
19	26-35		8,500									14,500	

5

For Your Reference...

To **show** or **hide subtotals** in a PivotTable:

1. Click in the first row or column value cell
2. Click on **Field Settings**  and click on the **Subtotals & Filters** tab
3. Click on **None** in **Subtotals**, then click on **[OK]**

Handy to Know...

- The big secret to switching subtotals on and off is to ensure that the cell pointer is in the correct cell. If you want to switch row subtotals on or off make sure the cell pointer is in the first row value, and if you want to switch column subtotals on or off make sure it is in the first column value.

FINDING THE PERCENTAGE OF TOTAL





PivotTable reports provide their analysis results as tables. During the process, grand and sub totals are calculated and presented. To assist in further analysis of the data it is possible to have

the PivotTable report calculate the **percentage** of each value against the row total, the column total, and even the grand total. This is handy for comparative purposes.

Try This Yourself:

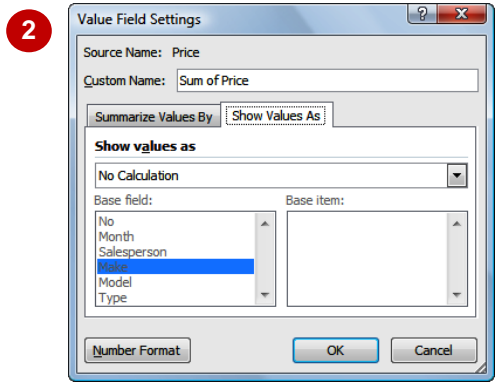
Open File

Before starting this exercise you **MUST** open the file *E840 PivotTable Features_6.xlsx...*

- 1 Click on cell **B5** to activate the PivotTable, then click on the **PivotTable Tools: Options** tab of the **Ribbon**
- 2 Click on **Field Settings**  in the **Active Field** group to see the **Field Settings** dialog box, then click on the **Show values as** tab
- 3 Click on the drop arrow  for **Show values as** and click on **% of Row Total**
- 4 Click on **[OK]** to see each month represented as a percentage of the total
- 5 Click on **Field Settings**  again, and click on the **Show values as** tab
- 6 Click on the drop arrow  for **Show values as**, then click on **% of column** and click on **[OK]**

1

	A	B	C	D	E
1					
2					
3	Sum of Price	Column Labels			
4	Row Labels	Jan	Feb	Mar	Grand Total
5	BMW	43,800	34,499	142,340	220,639
6	Ford	92,361	12,680	25,220	130,261
7	GMH	12,400	18,900	22,800	54,100
8	Hyundai	34,500			34,500
9	KIA	12,800	10,500	19,700	43,000
10	Mitsubishi	3,500	8,600	30,700	42,800
11	Nissan		27,600	100,020	127,620
12	Peugot	12,400	19,900	8,532	40,832
13	Renault	21,090	30,599	5,600	57,289
14	Toyota	41,855	22,100	43,489	107,444
15	Volkswagen	45,700	17,900	70,122	133,722
16	Grand Total	320,406	203,278	468,523	992,207
17					




4

	A	B	C	D	E	F	G	H	I
1									
2									
3	Sum of Price	Column Labels							
4	Row Labels	Jan	Feb	Mar	Grand Total				
5	BMW	19.85%	15.64%	64.51%	100.00%				
6	Ford	70.90%	9.73%	19.36%	100.00%				
7	GMH	22.92%	34.94%	42.14%	100.00%				
8	Hyundai	100.00%	0.00%	0.00%	100.00%				
9	KIA	29.77%	24.42%	45.81%	100.00%				
10	Mitsubishi	8.18%	20.09%	71.73%	100.00%				
11	Nissan	0.00%	21.63%	78.37%	100.00%				
12	Peugot	30.37%	48.74%	20.90%	100.00%				
13	Renault	36.81%	53.41%	9.78%	100.00%				
14	Toyota	38.96%	20.57%	40.48%	100.00%				
15	Volkswagen	34.18%	13.39%	52.44%	100.00%				
16	Grand Total	32.29%	20.49%	47.22%	100.00%				
17									

For Your Reference...

To **find** the **percentage of total**:

1. Click in a data value cell
2. Click on the **Field Settings** command  then click on the **Show values as** tab
3. Click on **% of row** or **% of column**, then click on **[OK]**

Handy to Know...

- There is also a **% of total** option which shows all values in the PivotTable report, as a percentage of the grand total.

FINDING THE DIFFERENCE FROM

If you have a need to compare field values from columns in a table you can use the **Difference From** option. This is a bit tricky to comprehend. In our case study we have three months of data.

Using *Jan* as the base month, we can use the **Difference From** option to compare the values for the months of *Feb* and *Mar* against the values of *Jan*.

Try This Yourself:

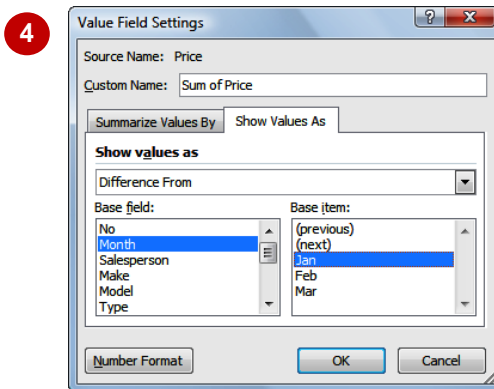
Open File

Before starting this exercise you **MUST** open the file *E840 PivotTable Features_7.xlsx...*

- 1 Click on cell **B5** to activate the PivotTable report, then click on the **PivotTable Tools: Options** tab of the **Ribbon**
- 2 Click on **Field Settings** in the **Active Field** group, to see the **Field Settings** dialog box, then click on the **Show values as** tab
- 3 Click on the drop arrow for **Show values as**, then click on **Difference From**
- 4 Click on **Month** in **Base field**, then click on **Jan** in **Base item**
The Base field is the one used to compare all other values to, while Jan is the "item" in the base field against which comparisons are made...
- 5 Click on **[OK]** to see each month represented as a percentage of the total

1

	A	B	C	D	E
1					
2					
3	Sum of Price	Column Labels			
4	Row Labels	Jan	Feb	Mar	Grand Total
5	BMW	43,800	34,499	142,340	220,639
6	Ford	92,361	12,680	25,220	130,261
7	GMH	12,400	18,900	22,800	54,100
8	Hyundai	34,500			34,500
9	KIA	12,800	10,500	19,700	43,000
10	Mitsubishi	3,500	8,600	30,700	42,800
11	Nissan		27,600	100,020	127,620
12	Peugot	12,400	19,900	8,532	40,832
13	Renault	21,090	30,599	5,600	57,289
14	Toyota	41,855	22,100	43,489	107,444
15	Volkswagen	45,700	17,900	70,122	133,722
16	Grand Total	320,406	203,278	468,523	992,207
17					



5

	A	B	C	D	E	F	G
1							
2							
3	Sum of Price	Column Labels					
4	Row Labels	Jan	Feb	Mar	Grand Total		
5	BMW		-9,301	98,540			
6	Ford		-79,681	-67,141			
7	GMH		6,500	10,400			
8	Hyundai		-34,500	-34,500			
9	KIA		-2,300	6,900			
10	Mitsubishi		5,100	27,200			
11	Nissan		27,600	100,020			
12	Peugot		7,500	-3,868			
13	Renault		9,509	-15,490			
14	Toyota		-19,755	1,634			
15	Volkswagen		-27,800	24,422			
16	Grand Total		-117,128	148,117			
17							

For Your Reference...

To **find** the **difference from**:

1. Click in a data value cell
2. Click on **Field Settings**, then click on the **Show values as** tab
3. Click on **Difference From**, specify the **Base field** and **Base item**, then click on **[OK]**

Handy to Know...

- There is also a useful **% Difference From** option which, as the name suggests, shows the *difference from* a base item but expressed as a percentage rather than a value.

GROUPING IN PIVOTTABLE REPORTS

Sometimes the results of a PivotTable still aren't enough to provide a comprehensive analysis of the data. Further analysis of the data can be done by **grouping within a PivotTable**. A typical


use for grouping occurs when dates have been used as one of the PivotTable variables. These dates can be further grouped into months to provide a better analysis of the data.

Try This Yourself:

Open File

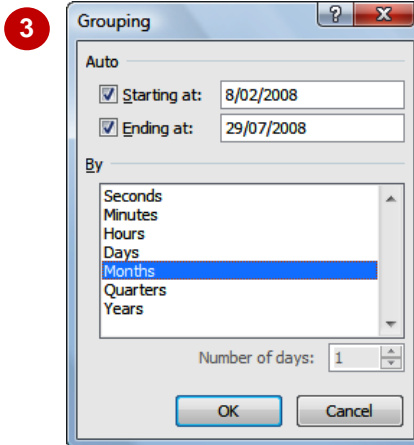
Before starting this exercise you **MUST** open the file *E840 PivotTable Features_8.xlsx*...

This PivotTable report is derived from a list of petty cash transactions found in the *Petty Cash Receipts* worksheet. The table sums the transactions by Date (rows) and Description (columns)...

- 1 Click on cell **A5** – this is the first cell with a date in it
- 2 On the **PivotTable Tools: Options** tab of the **Ribbon**, click on **Group Selection**  in **Group**, to display the **Grouping** dialog box
- 3 Ensure that **Months** in **By** is selected
- 4 Click on **[OK]** to group the table according to months, based on the dates in the first column

1

	A	B	C	D	E	F
1						
2						
3	Sum of Amount	Column Labels				
4	Row Labels	Entertainment	Kitchen Supplies	Postage	Stationery	Grand Total
5	8/02/2008		34.50			34.50
6	11/02/2008			4.50		4.50
7	14/02/2008	55.99				55.99
8	17/02/2008				22.50	22.50
9	20/02/2008				17.50	17.50
10	23/02/2008	76.00				76.00
11	26/02/2008		32.98			32.98
12	29/02/2008			5.70		5.70
13	3/03/2008			12.43		12.43




4

	A	B	C	D	E	F
1						
2						
3	Sum of Amount	Column Labels				
4	Row Labels	Entertainment	Kitchen Supplies	Postage	Stationery	Grand Total
5	Feb	131.99	67.48	10.20	40.00	249.67
6	Mar	171.25	37.20	28.43	39.30	276.18
7	Apr	59.80	74.25	32.05	12.90	179.00
8	May	101.30	49.40	23.70	38.40	212.80
9	Jun	114.90	118.80	21.50	25.31	280.51
10	Jul	67.50	23.40	38.50	66.10	195.50
11	Grand Total	646.74	370.53	154.38	222.01	1,393.66
12						
13						

For Your Reference...

To **group a field** in a PivotTable report:

1. Click on the field to group
2. Click on **Group Selection** 
3. Choose the appropriate grouping option in **By** and click on **[OK]**

Handy to Know...

- Not all fields in a PivotTable report can be grouped. The **Group Selection** command will be greyed out when a selected field can't be used for grouping.

CREATING RUNNING TOTALS

A really neat analysis tool within PivotTable reports is the ability to create **running totals** from the PivotTable data. As the name suggests, running totals are cumulatively summed together

and provide a path as to how the grand total is ultimately derived.

Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file E840 PivotTable Features_9.xlsx...

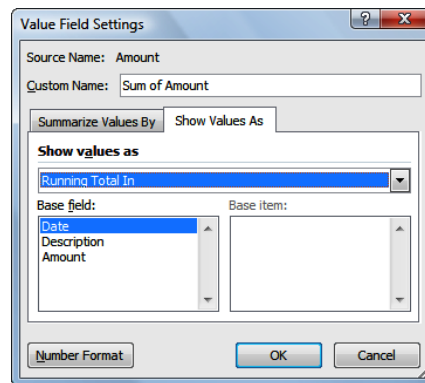
- 1 Click on cell **B5** – the first value cell for the **Entertainment** field
- 2 On the **PivotTable Tools: Options** tab of the **Ribbon**, click on **Field Settings** in the **Active Field** group, to display the **Value Field Settings** dialog box
- 3 Click on the **Show values as** tab, then click on the drop arrow for **Show values as**, and click on **Running Total In**
- 4 Ensure that **Date** is selected in **Base field** and click on [OK]

Notice how each value is now cumulatively summed until the value for Jul is equal to what the previous grand total showed

1

	A	B	C	D	E	F
1						
2						
3	Sum of Amount	Column Labels				
4	Row Labels	Entertainment	Kitchen Supplies	Postage	Stationery	Grand Total
5	Feb	131.99	67.48	10.20	40.00	249.67
6	Mar	171.25	37.20	28.43	39.30	276.18
7	Apr	59.80	74.25	32.05	12.90	179.00
8	May	101.30	49.40	23.70	38.40	212.80
9	Jun	114.90	118.80	21.50	25.31	280.51
10	Jul	67.50	23.40	38.50	66.10	195.50
11	Grand Total	646.74	370.53	154.38	222.01	1,393.66
12						
13						

3



4

	A	B	C	D	E	F
1						
2						
3	Sum of Amount	Column Labels				
4	Row Labels	Entertainment	Kitchen Supplies	Postage	Stationery	Grand Total
5	Feb	131.99	67.48	10.20	40.00	249.67
6	Mar	303.24	104.68	38.63	79.30	525.85
7	Apr	363.04	178.93	70.68	92.20	704.85
8	May	464.34	228.33	94.38	130.60	917.65
9	Jun	579.24	347.13	115.88	155.91	1,198.16
10	Jul	646.74	370.53	154.38	222.01	1,393.66
11	Grand Total					
12						
13						

For Your Reference...

To **create running totals** in a PivotTable:

1. Click on the first value field to select it
2. Click on **Field Settings** then click on the **Show values as** tab
3. Click on **Running Total in**, specify the **Base field**, then click on [OK]

Handy to Know...

- Even though the grand total no longer appears at the bottom of the table, it might be a good idea to hide the grand total row from the PivotTable report just to avoid confusing your readers.

CREATING CALCULATED FIELDS

The fields that appear in a PivotTable report are normally those that appear as column headings in the originating list. However, you can have PivotTables create **calculated fields** which are


derived from the column headings in the list. For example, if you have a field called *Sales*, and you know that tax is always 10% of *Sales*, you can create a new field called *Sales Tax*.

Try This Yourself:

Open File

Before starting this exercise you **MUST** open the file *E840 PivotTable Features_10.xlsx...*

1 Click on cell **A5 (Feb)** and click on the **PivotTable Tools: Options** tab of the **Ribbon**

2 Click on **Fields, Items & Sets**  in the **Calculations** group and select **Calculated Field** to display the **Insert Calculated Field** dialog box

3 Type **Tax** in **Name**

4 Press **[Tab]** to select the value in **Formula** and type **=Amount*0.1**

This tells Excel to create a new calculated field that takes the value currently in the Amount field and multiply it by 0.1 (10%)...

5 Click on **[OK]**

1

	A	B	C	D	E	F
1						
2						
3	Sum of Amount	Column Labels				
4	Row Labels	Entertainment	Kitchen Supplies	Postage	Stationery	Grand Total
5	Feb	131.99	67.48	10.20	40.00	249.67
6	Mar	171.25	37.20	28.43	39.30	276.18
7	Apr	59.80	74.25	32.05	12.90	179.00
8	May	101.30	49.40	23.70	38.40	212.80
9	Jun	114.90	118.80	21.50	25.31	280.51
10	Jul	67.50	23.40	38.50	66.10	195.50
11	Grand Total	646.74	370.53	154.38	222.01	1,393.66
12						
13						


4

5

	A	B	C	D	E	F	G
1							
2							
3		Column Labels					
4		Entertainment	Kitchen Supplies	Postage	Sta		
5	Row Labels	Sum of Amount	Sum of Tax	Sum of Amount	Sum of Tax	Sum of Amount	Sum of Tax
6	Feb	131.99	1.32	67.48	0.67	10.20	0.10
7	Mar	171.25	1.71	37.20	0.37	28.43	0.28
8	Apr	59.80	0.60	74.25	0.74	32.05	0.32
9	May	101.30	1.01	49.40	0.49	23.70	0.24
10	Jun	114.90	1.15	118.80	1.19	21.50	0.22
11	Jul	67.50	0.68	23.40	0.23	38.50	0.39
12	Grand Total	646.74	6.47	370.53	3.71	154.38	1.54
13							

For Your Reference...

To **create** a **calculated field**:

1. Click on **Fields, Items & Sets**  in the **Calculations** group and select **Calculated Field**
2. Type a **Name** for the field, the **Formula**, then click on **[OK]**

Handy to Know...

- To edit or delete a calculated field after it has been created simply use **Fields, Items & Sets > Calculated Field** to display the dialog box again. Choose the calculated field that you want to change from the drop arrow and either make the changes or click on **[Delete]** to delete the field.

PROVIDING CUSTOM NAMES

When PivotTables are created they use default names for their calculated fields and values. As a result you end with descriptive, but not very elegant, names such as *Sum of Amount*.

Fortunately you can **customise these names** so that they are more in tune with your requirements and possibly make more sense to the readers of your workbook.

Try This Yourself:

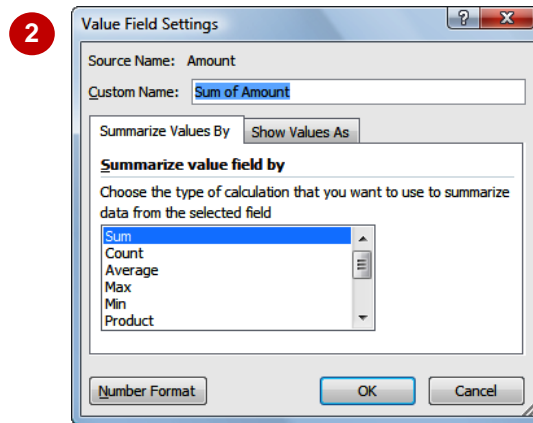
Same File

Continue using the previous file with this exercise, or open the file *E840 PivotTable Features_11.xlsx...*

- 1 Click on cell **B5 (Sum of Amount)** and click on the **PivotTable Tools: Options** tab of the **Ribbon**
- 2 Click on **Field Settings** in the **Active Field** group to display the **Value Field Settings** dialog box
- 3 Type **Total** in **Custom Name** and click on [OK] to rename all **Sum of Amount** columns to **Total**
- 4 Click on cell **C5 (Sum of Tax)**
- 5 Click on **Field Settings** in the **Active Field** group
- 6 Type **Sales Tax** in **Custom Name** and click on [OK]

1

	A	B	C	D	E	F
1						
2						
3		Column Labels				
4		Entertainment	Kitchen Supplies	Postage		
5	Row Labels	Sum of Amount	Sum of Tax	Sum of Amount	Sum of Tax	Sum of Amount
6	Feb	131.99	1.32	67.48	0.67	10.20
7	Mar	171.25	1.71	37.20	0.37	28.43
8	Apr	59.80	0.60	74.25	0.74	32.05
9	May	101.30	1.01	49.40	0.49	23.70
10	Jun	114.90	1.15	118.80	1.19	21.50
11	Jul	67.50	0.68	23.40	0.23	38.50
12	Grand Total	646.74	6.47	370.53	3.71	154.38
13						



6

	A	B	C	D	E	F	G
1							
2							
3		Column Labels					
4		Entertainment	Kitchen Supplies	Postage			Sta
5	Row Labels	Total	Sales Tax	Total	Sales Tax	Total	Sales Tax
6	Feb	131.99	1.32	67.48	0.67	10.20	0.10
7	Mar	171.25	1.71	37.20	0.37	28.43	0.28
8	Apr	59.80	0.60	74.25	0.74	32.05	0.32
9	May	101.30	1.01	49.40	0.49	23.70	0.24
10	Jun	114.90	1.15	118.80	1.19	21.50	0.22
11	Jul	67.50	0.68	23.40	0.23	38.50	0.39
12	Grand Total	646.74	6.47	370.53	3.71	154.38	1.54
13							

For Your Reference...

To **create a custom field name**:

1. Click in the field to change
2. Click on the **Field Settings** command
3. Type a new name in **Custom Name** and click on [OK]

Handy to Know...

- You cannot use a custom name that is the same as the name of an existing field – duplicate names are not permitted by PivotTable reports.

CREATING CALCULATED ITEMS

When a field is used as a variable in a PivotTable the resultant groupings are known as **items**. For example, if you have a field called *Months*, the values stored in that field (*Jan*, *Feb*, etc) are

items of that field. In PivotTables you can actually create **calculated items** based on existing items in a field. For example, you could add two months together, or subtract them from one another, etc.

Try This Yourself:

Open File

Before starting this exercise you **MUST** open the file *E840 PivotTable Features_12.xlsx...*

- 1 Click on cell **B4** (*Jan*) and click on the **PivotTable Tools: Options** tab of the **Ribbon**
- 2 Click on **Fields, Items & Sets** in the **Calculations** group, and select **Calculated Item** to display the **Insert Calculated Item** dialog box
- 3 Type **Variation** in **Name**
- 4 Press **Tab** to move to **Formula** and type **=Feb-Jan**
- 5 Click on **[OK]** to create the calculated item
- 6 Move the mouse pointer above the heading **Variation** in **E4**, until the mouse pointer changes to a black arrow, then click to select the item
- 7 Move the mouse pointer over the border of the selection area, until the pointer changes to a four-headed arrow, then drag the **Variation** column left to position it between **Feb** and **Mar**

1

	A	B	C	D	E
1					
2					
3	Sum of Price	Column Labels			
4	Row Labels	Jan	Feb	Mar	Grand Total
5	BMW	43,800	34,499	142,340	220,639
6	Ford	92,361	12,680	25,220	130,261
7	GMH	12,400	18,900	22,800	54,100
8	Hyundai	34,500			34,500
9	KIA	12,800	10,500	19,700	43,000
10	Mitsubishi	3,500	8,600	30,700	42,800
11	Nissan		27,600	100,020	127,620
12	Peugot	12,400	19,900	8,532	40,832
13	Renault	21,090	30,599	5,600	57,289
14	Toyota	41,855	22,100	43,489	107,444
15	Volkswagen	45,700	17,900	70,122	133,722
16	Grand Total	320,406	203,278	468,523	992,207
17					
18					

4

7

	A	B	C	D	E
2					
3	Sum of Price	Column Labels			
4	Row Labels	Jan	Feb	Variation	Mar
5	BMW	43,800	34,499	-9,301	142,340
6	Ford	92,361	12,680	-79,681	25,220
7	GMH	12,400	18,900	6,500	22,800
8	Hyundai	34,500		-34,500	
9	KIA	12,800	10,500	-2,300	19,700
10	Mitsubishi	3,500	8,600	5,100	30,700
11	Nissan		27,600	27,600	100,020
12	Peugot	12,400	19,900	7,500	8,532
13	Renault	21,090	30,599	9,509	5,600
14	Toyota	41,855	22,100	-19,755	43,489
15	Volkswagen	45,700	17,900	-27,800	70,122
16	Grand Total	320,406	203,278	-117,128	468,523
17					

For Your Reference...

To **create** a **calculated item**:

1. Click in the table, click on **Fields, Items & Sets** and select **Calculated Item**
2. Type a **Name** and a **Formula** for the calculation
3. Click on **[OK]**

Handy to Know...

- **Calculated items** are much harder to get your head around than **calculated fields**. Just remember that a calculated item is one created using items *within* a specific field, while calculated fields are created *across* one or more fields.


PIVOTTABLE OPTIONS

While there are many techniques and tools available for working with and creating data and values in a PivotTable, there are also a number of **options** available which allow you to tweak the

PivotTable report and enhance its operation and appearance. Most of these are grouped together in the **PivotTable Options** dialog box.

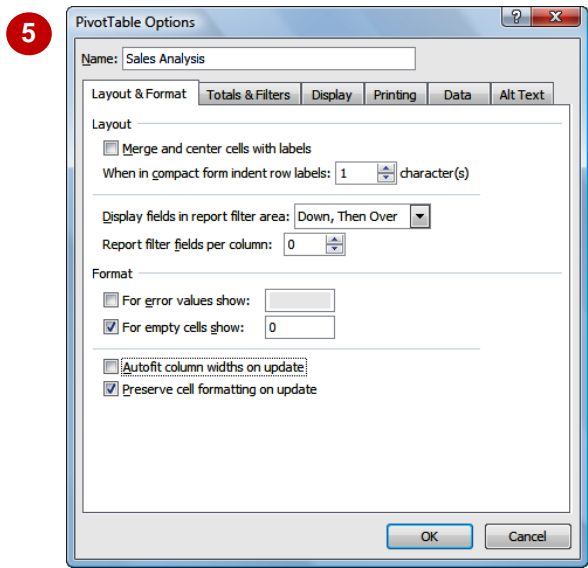
Try This Yourself:

Open File Before starting this exercise you **MUST** open the file *E840 PivotTable Features_13.xlsx...*

- 1 Click on **B4** and click on the **PivotTable Tools: Options** tab of the **Ribbon**
- 2 Click on **Options**  in the **PivotTable** group to display the **PivotTable Options** dialog box
- 3 Type **Sales Analysis** in **Name** to rename the table
- 4 On the **Layout & Format** tab, click in **For empty cells show** and type **0**
- 5 Click on **Autofit column widths on update** until it appears **without** a tick (this will stop column widths from changing each time the table is updated)
- 6 Click on **[OK]** to make the changes – notice how zeros have appeared
- 7 In the **PivotTable** pane, drag the **Make** field from the **Row Labels** area, then drag it back again to force an update – notice that the column widths no longer change

1


Sum of Price	Column Labels			Grand Total
Row Labels	Jan	Feb	Mar	Grand Total
BMW	43,800	34,499	142,340	220,639
Ford	92,361	12,680	25,220	130,261
GMH	12,400	18,900	22,800	54,100
Hyundai	34,500			34,500
KIA	12,800	10,500	19,700	43,000
Mitsubishi	3,500	8,600	30,700	42,800
Nissan		27,600	100,020	127,620
Peugot	12,400	19,900	8,532	40,832
Renault	21,090	30,599	5,600	57,289
Toyota	41,855	22,100	43,489	107,444
Volkswagen	45,700	17,900	70,122	133,722
Grand Total	320,406	203,278	468,523	992,207



7

Sum of Price	Column Labels			Grand Total
Row Labels	Jan	Feb	Mar	Grand Total
BMW	43,800	34,499	142,340	220,639
Ford	92,361	12,680	25,220	130,261
GMH	12,400	18,900	22,800	54,100
Hyundai	34,500	0	0	34,500
KIA	12,800	10,500	19,700	43,000
Mitsubishi	3,500	8,600	30,700	42,800
Nissan	0	27,600	100,020	127,620

For Your Reference...

- To **change options** in a PivotTable:
1. Click in the PivotTable to select it
 2. Click on **Options**  in the **PivotTable** group to display the **PivotTable Options** dialog box
 3. Make changes as appropriate and click **[OK]**

Handy to Know...

- It is worthwhile exploring the features in the **PivotTable Options** dialog box – there are far too many options available to cover in this exercise.
- You can also access the **Options** by right-clicking on the table and selecting **PivotTable Options**.

SORTING IN A PIVOTTABLE



When a PivotTable report is created, the **Row Labels** and **Columns Labels** are alphanumerically **sorted** for you. You can change this sort order if you wish, or even sort according

to the **data values** rather than the row or column labels.

Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file *E840 PivotTable Features_14.xlsx...*

- 1 Click on cell **E5** (the first **Grand Total** value), then click on the **PivotTable Tools: Options** tab of the **Ribbon**
- 2 Click on **Sort Smallest to Largest**  in the **Sort** group, to sort the table according to the values in the **Grand Total**
- 3 Click on **Sort Largest to Smallest**  in the **Sort** group, to reverse the order

1

2					
3	Sum of Price	Column Labels			
4	Row Labels	Jan	Feb	Mar	Grand Total
5	BMW	43,800	34,499	142,340	220,639
6	Ford	92,361	12,680	25,220	130,261
7	GMH	12,400	18,900	22,800	54,100
8	Hyundai	34,500	0	0	34,500
9	KIA	12,800	10,500	19,700	43,000
10	Mitsubishi	3,500	8,600	30,700	42,800
11	Nissan	0	27,600	100,020	127,620
12	Peugot	12,400	19,900	8,532	40,832
13	Renault	21,090	30,599	5,600	57,289
14	Toyota	41,855	22,100	43,489	107,444
15	Volkswagen	45,700	17,900	70,122	133,722
16	Grand Total	320,406	203,278	468,523	992,207
17					

2



2					
3	Sum of Price	Column Labels			
4	Row Labels	Jan	Feb	Mar	Grand Total
5	Hyundai	34,500	0	0	34,500
6	Peugot	12,400	19,900	8,532	40,832
7	Mitsubishi	3,500	8,600	30,700	42,800
8	KIA	12,800	10,500	19,700	43,000
9	GMH	12,400	18,900	22,800	54,100
10	Renault	21,090	30,599	5,600	57,289
11	Toyota	41,855	22,100	43,489	107,444
12	Nissan	0	27,600	100,020	127,620
13	Ford	92,361	12,680	25,220	130,261
14	Volkswagen	45,700	17,900	70,122	133,722
15	BMW	43,800	34,499	142,340	220,639
16	Grand Total	320,406	203,278	468,523	992,207
17					

3

2					
3	Sum of Price	Column Labels			
4	Row Labels	Jan	Feb	Mar	Grand Total
5	BMW	43,800	34,499	142,340	220,639
6	Volkswagen	45,700	17,900	70,122	133,722
7	Ford	92,361	12,680	25,220	130,261
8	Nissan	0	27,600	100,020	127,620
9	Toyota	41,855	22,100	43,489	107,444
10	Renault	21,090	30,599	5,600	57,289
11	GMH	12,400	18,900	22,800	54,100
12	KIA	12,800	10,500	19,700	43,000
13	Mitsubishi	3,500	8,600	30,700	42,800
14	Peugot	12,400	19,900	8,532	40,832
15	Hyundai	34,500	0	0	34,500
16	Grand Total	320,406	203,278	468,523	992,207
17					

For Your Reference...

To **sort** the **values** in a **PivotTable**:

1. Click on the column to sort
2. Click on **Sort Smallest to Largest**  or on **Sort Largest to Smallest** 

Handy to Know...

- More complex and multiple sorts can be done using the **Sort** dialog box which can be accessed using the **Sort** command on the **Data** tab of the **Ribbon**.

