

CREATING MEASURES IN DAX

BY

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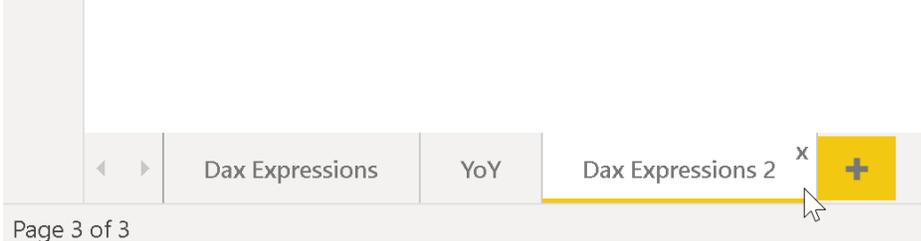
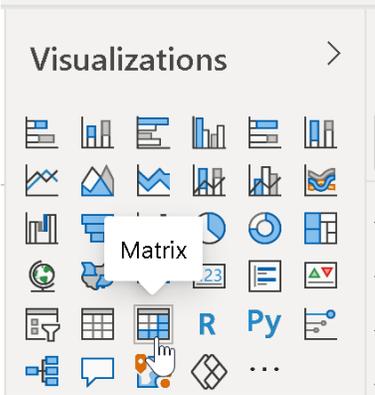
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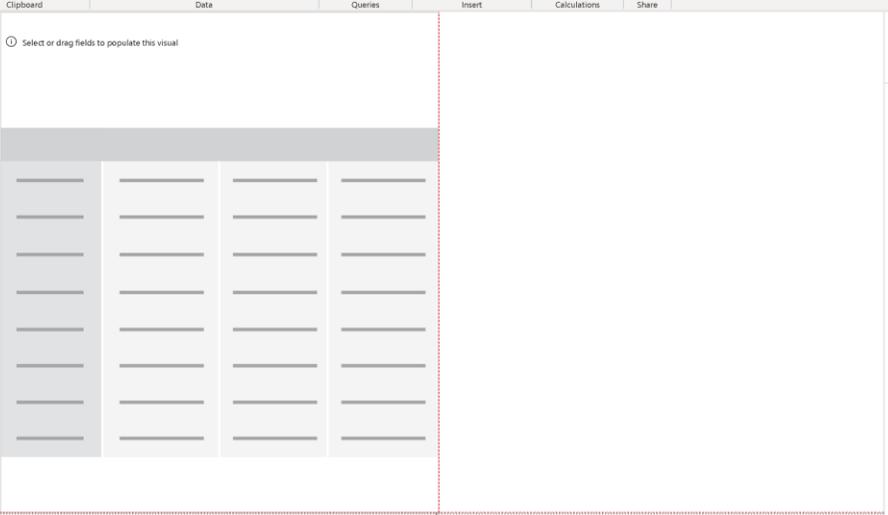
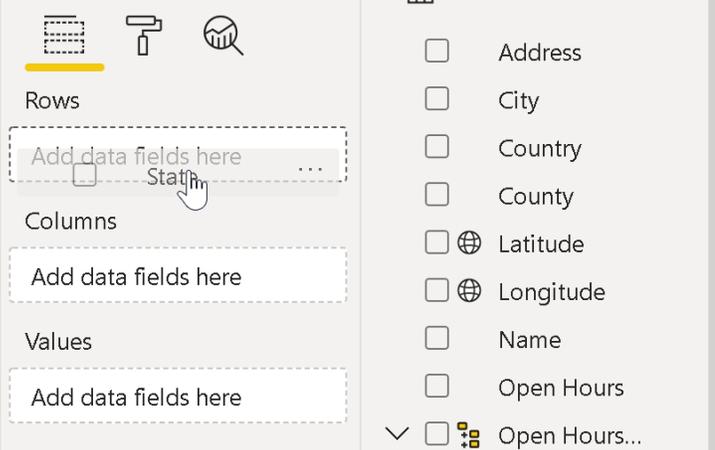
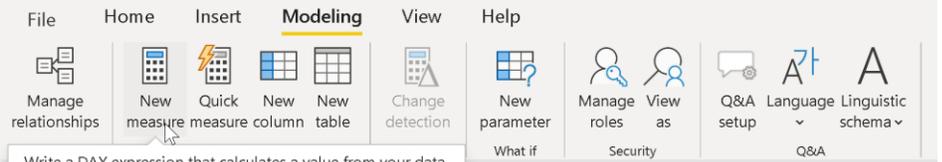
In this lab, you will learn how to create some common measures in DAX.

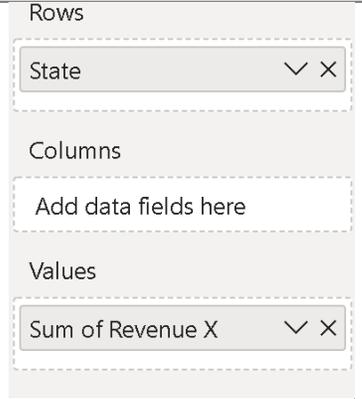
AT A GLANCE

- ▶ Create a Measures Folder
- ▶ Use Matrix Visual and Bar Charts to create a Dashboard
- ▶ Use Report View to preview the results

STEP-BY-STEP INSTRUCTIONS

Click Steps	Screen Shots
<ol style="list-style-type: none">1. Go into Module 2 and open Sales Dashboard.pbix.2. Once open, click on the Report view and create a new tab.3. Name this tab "DAX Expressions 2"	 <p>The screenshot shows the top navigation bar of a Power BI report. It features three tabs: 'Dax Expressions', 'YoY', and 'Dax Expressions 2'. The 'Dax Expressions 2' tab is highlighted with a yellow underline and has a yellow square button with a white plus sign to its right. A mouse cursor is pointing at this button. Below the tabs, the text 'Page 3 of 3' is visible.</p>
<ol style="list-style-type: none">4. Insert a new Matrix visual. It should take up about half of the screen.	 <p>The screenshot shows the 'Visualizations' pane in Power BI. The pane is titled 'Visualizations' and contains a grid of various visualization icons. The 'Matrix' icon, which is a grid with a blue header, is highlighted with a white tooltip that says 'Matrix'. Other icons include bar charts, line charts, pie charts, and maps.</p>

Click Steps	Screen Shots
<p>5. Resize until half of the visual takes up the canvas.</p>	
<p>6. In the new matrix, drop Stores > State into the Rows field.</p>	
<p>7. From on the modeling Ribbon, click New Measure.</p>	

Click Steps	Screen Shots
<p>8. Paste the following into the new measure.</p> <p>Sum of Revenue X = Sumx(transactions, transactions[qty] * RELATED(products[msrp]))</p> <p>9. Once created, add the new measure to the matrix.</p>	
<p>10. Follow steps 8 and 9 to add the following additional measures.</p> <p>Revenue for M = CALCULATE([Sum of Revenue X], filter('product category', 'product category'[gender_category] = "M"))</p> <p>Revenue for F = CALCULATE([Sum of Revenue X], filter('product category', 'product category'[gender_category] = "F"))</p> <p>% Male Sales = [Revenue for M]/[Sum of Revenue X]</p> <p>% Female Sales = [Revenue for F]/[Sum of Revenue X]</p> <p>11. Then add each successive new measure to the matrix following the screenshot to the right.</p>	

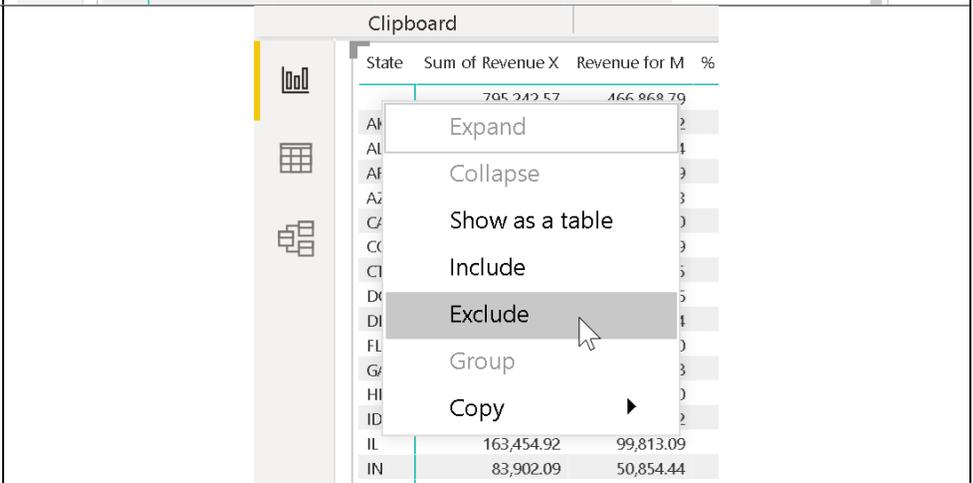
Click Steps

Screen Shots

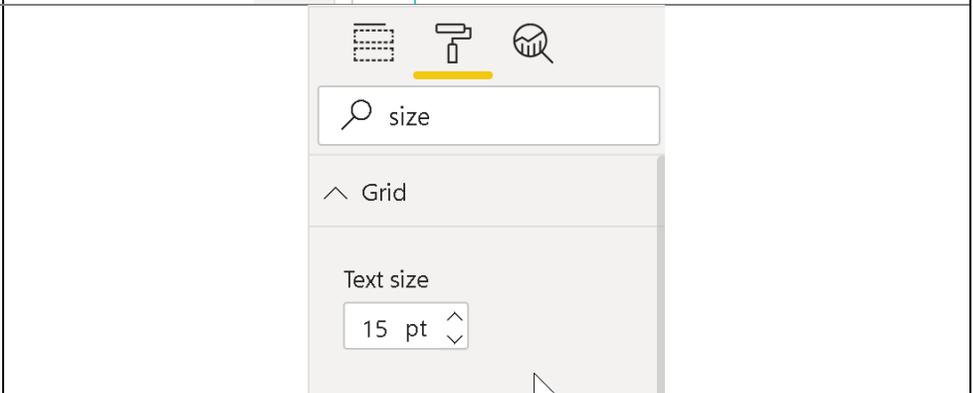
12. Once complete, your screen should look similar to the one presented in the screen shot.

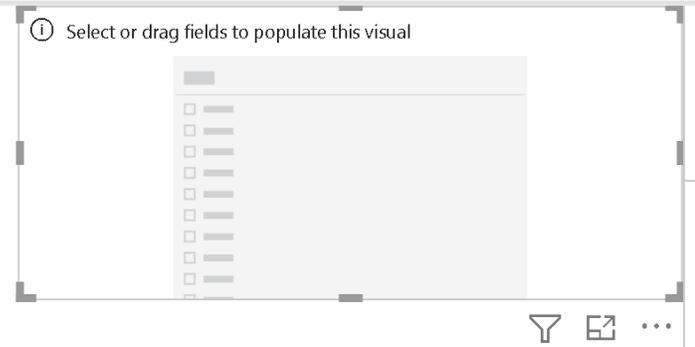
State	Sum of Revenue X	Revenue for M	% Male Sales	Revenue for F	% Female Sales
	795,242.57	466,868.79	59%	328,373.78	41%
AK	10,276.44	6,748.82	66%	3,527.62	34%
AL	52,581.38	33,082.34	63%	19,499.04	37%
AR	12,254.90	6,672.69	54%	5,582.21	46%
AZ	82,319.15	46,075.93	56%	36,243.22	44%
CA	674,636.35	402,608.80	60%	272,027.55	40%
CO	117,958.49	76,474.59	65%	41,483.90	35%
CT	87,731.78	50,762.85	58%	36,968.93	42%
DC	34,787.60	19,419.46	56%	15,368.14	44%
DE	18,583.56	11,113.24	60%	7,470.32	40%
FL	310,312.14	182,463.90	59%	127,848.24	41%
GA	147,808.29	94,055.98	64%	53,752.31	36%
HI	17,246.51	10,408.20	60%	6,838.31	40%
ID	18,174.31	11,158.92	61%	7,015.39	39%
IL	163,454.92	99,813.09	61%	63,641.83	39%
IN	83,902.09	50,854.44	61%	33,047.65	39%
KS	9,572.40	3,528.54	37%	6,043.86	63%

13. Let's fix this table up. First, right click into the blank State and select exclude.



14. Next, with the matrix still selected, click the Format paintbrush to open the formatting settings.
 15. Type size into the search bar.
 16. When you see Grid Size, set it to 15.

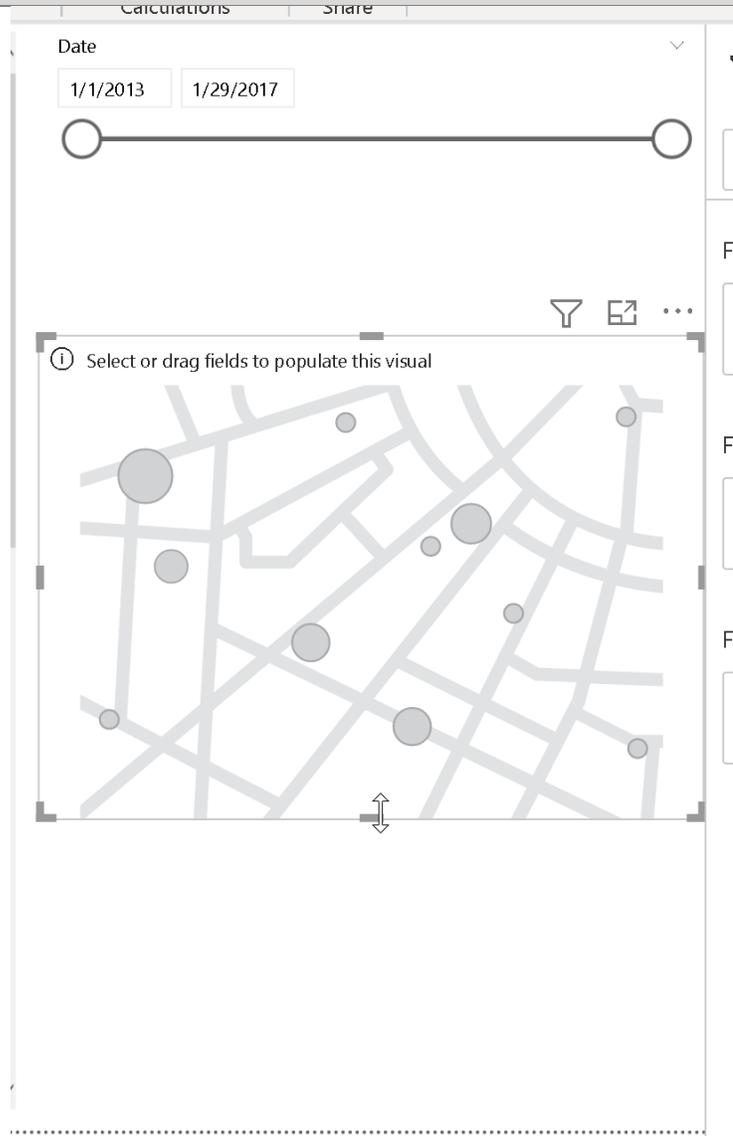


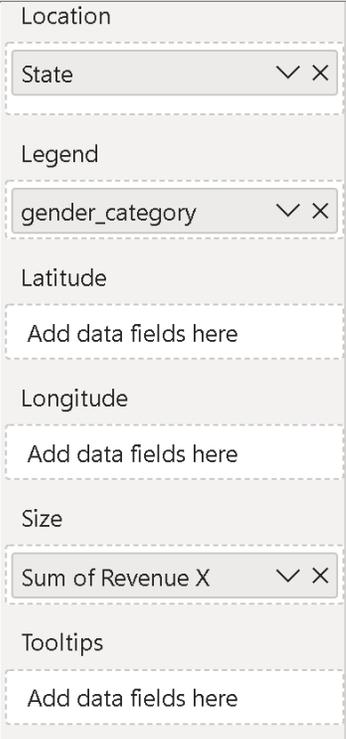
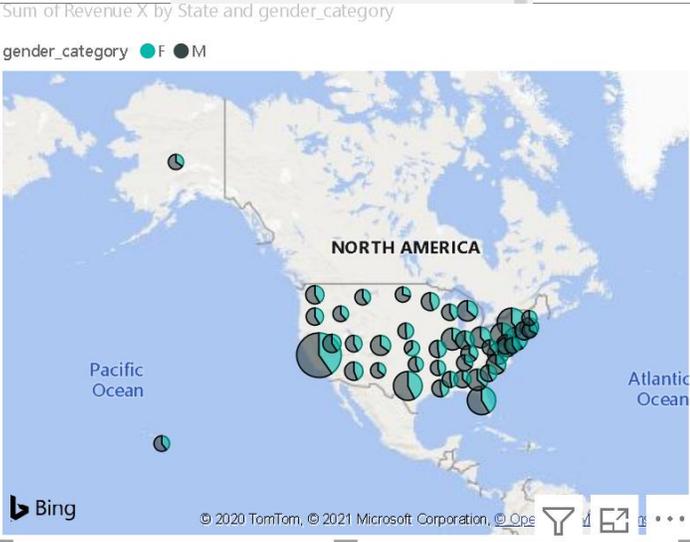
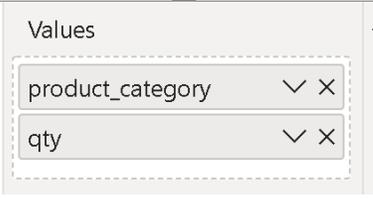
Click Steps	Screen Shots
<p>17. From the Visuals pane, drop a slicer at the top one third of the right side of the canvas (where there is still free space).</p>	 <p>The screenshot shows a Power BI canvas with a visual on the left and a slicer being added to the right. The slicer is a vertical list of checkboxes. Above the slicer, there is a text prompt: "Select or drag fields to populate this visual". The slicer is positioned at the top one-third of the right side of the canvas. At the bottom right of the slicer, there are icons for a filter, a refresh, and a menu.</p>
<p>18. Drop the Calendar > Date into the slicer.</p>	 <p>The screenshot shows a date slicer in Power BI. The slicer is titled "Date" and has two date input boxes: "1/1/2013" and "1/29/2017". Below the input boxes is a horizontal timeline with two circular markers at the ends, representing the date range.</p>

Click Steps

19. Drop a map visual directly under the slicer.
20. Resize so there is a little space below it.

Screen Shots

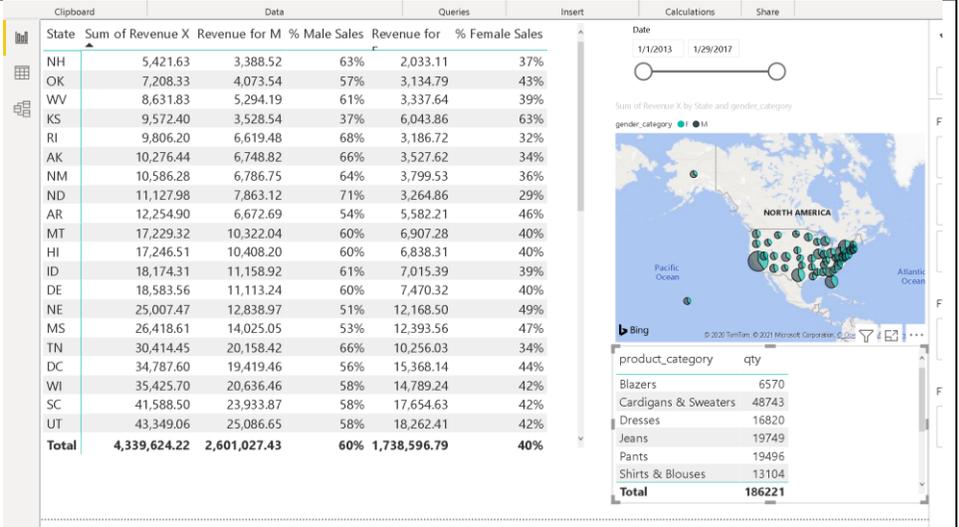


Click Steps	Screen Shots
<p>21. Drop Stores > State into the location field well.</p> <p>22. Next, drop product category > gender_category into the Legend.</p> <p>23. Next, drop transactions > Sum of Revenue X into the size.</p>	
<p>24. The map will now show little mini pie charts. (Not the best visual, but just wanted to give you an idea of what can be done)</p>	
<p>25. Now, drop a table visual underneath the map visual.</p> <p>26. In the values field well, drop product_category > product_category and transactions > qty</p>	

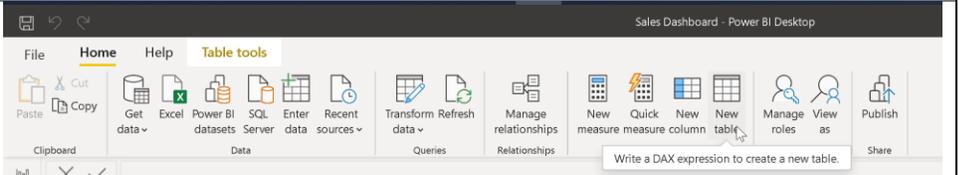
Click Steps

Screen Shots

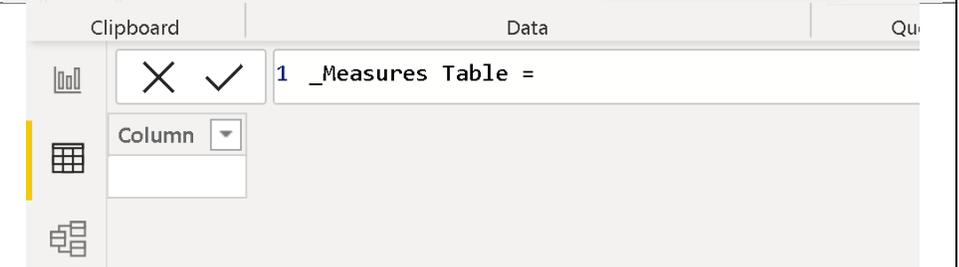
27. You should now have a dashboard that looks like the screen shot.

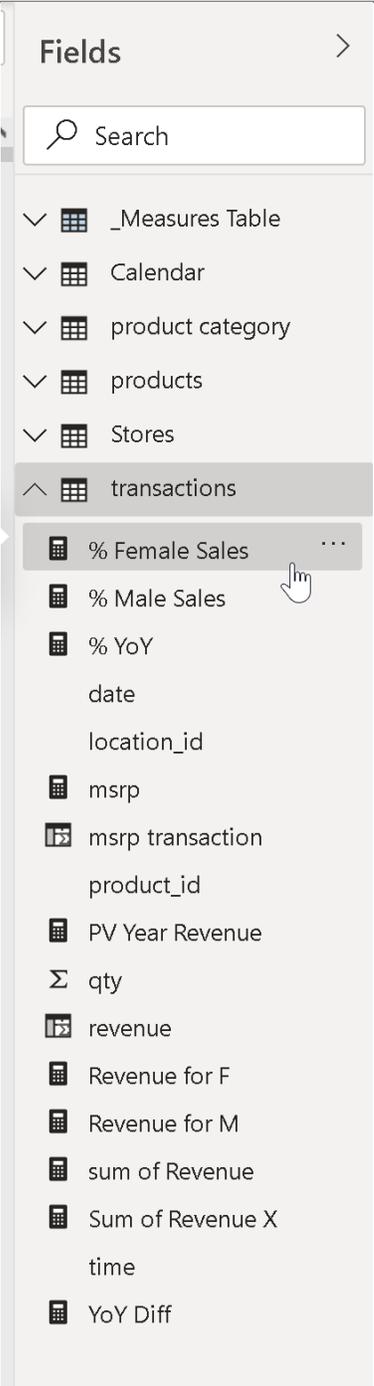


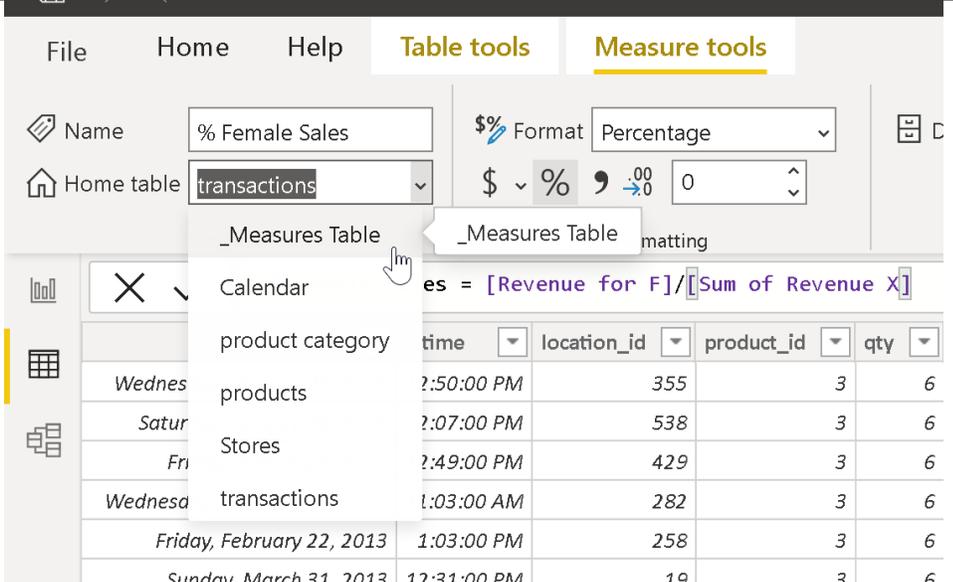
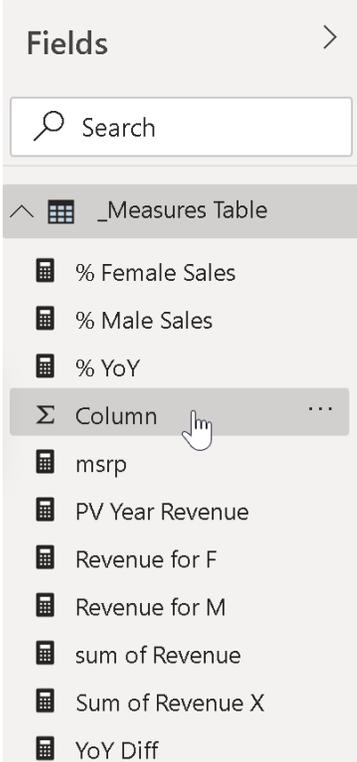
28. Let's organize your measures.
29. Click into the Data view and select New Table from on the Home menu ribbon tab.

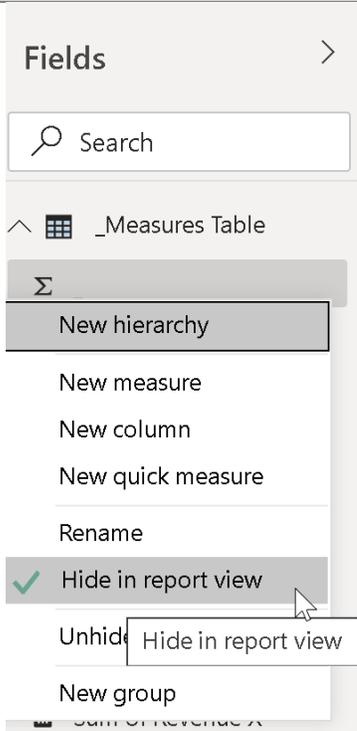
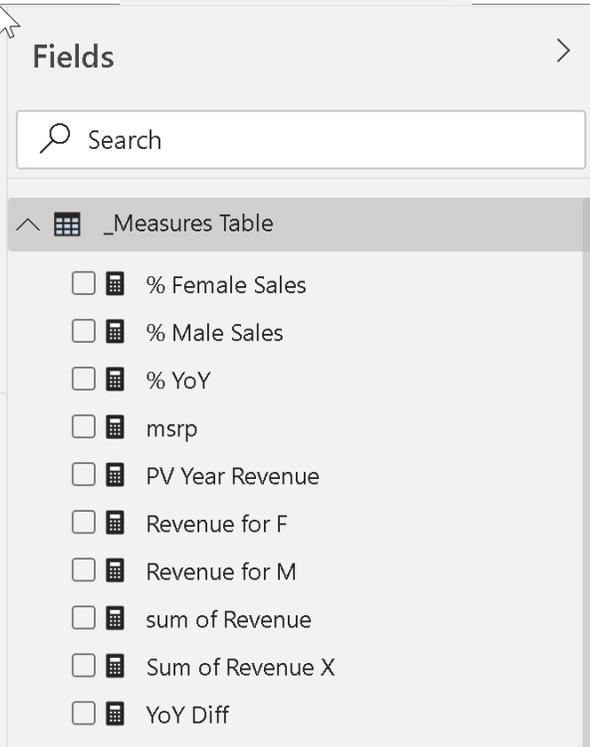


30. Replace the left side of the equals with `_Measures Table`.



Click Steps	Screen Shots
<p>31. Now look for each measure in your field list. Click on the desired measured. Note I am click on % Female Sales.</p> <p>You should know however that measures are easy to place into any table.</p> <p>Don't assume all your measures are in one table as I have in my example.</p>	 <p>The screenshot shows the 'Fields' pane with a search bar at the top. Below the search bar, several tables are listed with expand/collapse arrows: '_Measures Table', 'Calendar', 'product category', 'products', 'Stores', and 'transactions'. The 'transactions' table is expanded, showing a list of fields including '% Female Sales', '% Male Sales', '% YoY', 'date', 'location_id', 'msrp', 'msrp transaction', 'product_id', 'PV Year Revenue', 'Σ qty', 'revenue', 'Revenue for F', 'Revenue for M', 'sum of Revenue', 'Sum of Revenue X', 'time', and 'YoY Diff'. A mouse cursor is pointing at the '% Female Sales' field.</p>

Click Steps	Screen Shots																																			
<p>32. Once selected, go to the ribbon tab. In the Home table dropdown select _Measures Table.</p> <p>33. Do this for all outstanding measures.</p>	 <p>The screenshot shows the Power BI Desktop interface. The ribbon is set to 'Table tools' and 'Measure tools'. The 'Name' field is '% Female Sales', 'Format' is 'Percentage', and 'Home table' is 'transactions'. A dropdown menu is open over the 'Home table' field, showing '_Measures Table' selected. Below the ribbon, a table is visible with columns for time, location_id, product_id, and qty.</p> <table border="1" data-bbox="665 682 1534 947"> <thead> <tr> <th></th> <th>time</th> <th>location_id</th> <th>product_id</th> <th>qty</th> </tr> </thead> <tbody> <tr> <td>Wednes</td> <td>1:50:00 PM</td> <td>355</td> <td>3</td> <td>6</td> </tr> <tr> <td>Satur</td> <td>2:07:00 PM</td> <td>538</td> <td>3</td> <td>6</td> </tr> <tr> <td>Fri</td> <td>2:49:00 PM</td> <td>429</td> <td>3</td> <td>6</td> </tr> <tr> <td>Wednesa</td> <td>1:03:00 AM</td> <td>282</td> <td>3</td> <td>6</td> </tr> <tr> <td>Friday, February 22, 2013</td> <td>1:03:00 PM</td> <td>258</td> <td>3</td> <td>6</td> </tr> <tr> <td>Sunday, March 31, 2013</td> <td>12:31:00 PM</td> <td>19</td> <td>3</td> <td>6</td> </tr> </tbody> </table>		time	location_id	product_id	qty	Wednes	1:50:00 PM	355	3	6	Satur	2:07:00 PM	538	3	6	Fri	2:49:00 PM	429	3	6	Wednesa	1:03:00 AM	282	3	6	Friday, February 22, 2013	1:03:00 PM	258	3	6	Sunday, March 31, 2013	12:31:00 PM	19	3	6
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<p>34. Once complete, click on the column named Column.</p>	 <p>The screenshot shows the 'Fields' pane in Power BI Desktop. The '_Measures Table' is expanded, showing a list of measures. The 'Column' measure is highlighted with a mouse cursor.</p> <ul data-bbox="878 953 1235 1715" style="list-style-type: none"> % Female Sales % Male Sales % YoY Column msrp PV Year Revenue Revenue for F Revenue for M sum of Revenue Sum of Revenue X YoY Diff 																																			

Click Steps	Screen Shots
<p>35. Rename it to “_” 36. Then click on the three dots. Select “Hide in Report View”</p>	 <p>The screenshot shows the 'Fields' pane with a search bar at the top. Below it is the '_Measures Table' section, which is expanded to show a list of options. The option 'Hide in report view' is highlighted with a green checkmark and a mouse cursor. Other options include 'New hierarchy', 'New measure', 'New column', 'New quick measure', 'Rename', 'Unhide', and 'New group'.</p>
<p>37. When you go back to Report view, you'll see all of your measures are organized!</p>	 <p>The screenshot shows the 'Fields' pane with a search bar at the top. Below it is the '_Measures Table' section, which is expanded to show a list of measures. Each measure has a checkbox and a calculator icon. The measures listed are: '% Female Sales', '% Male Sales', '% YoY', 'msrp', 'PV Year Revenue', 'Revenue for F', 'Revenue for M', 'sum of Revenue', 'Sum of Revenue X', and 'YoY Diff'.</p>