DAX MEASURES

CREATION OF A DEDICATED TABLE TO STORE MEASURES

OPTION 1: Table View > Table Tools > New Table > **Measure Table (DAX) = {“”}**

OPTION 2: Report View > Home > Enter Data > Name Table: **Measure table** > Load

1) Create new measures named "Quantity Sold" and "Quantity Returned" to calculate the sum of quantity from each data table. Total Quantity Sold = 833,489 and Total Quantity Returned = 8,289

```
Total Quantity Sold = SUM(Transaction_Data[quantity])
```

```
Total Quantity Returned = SUM(Return_Data[quantity])
```

2) Create new measures named "Total Transactions" and "Total Returns" to calculate the count of rows from each data table. 269,720 transactions and 7,087 returns

```
Total Number Of Transactions = COUNTROWS(Transaction_Data)
```

```
Total Number Of Returns = COUNT(Return_Data[return_date])
```

3) Create a new measure named "Return Rate" to calculate the ratio of quantity returned to quantity sold (format as %). Overall return rate of 0.99%

```
Return Rate = [Total Quantity Returned] / [Total Quantity Sold]
```

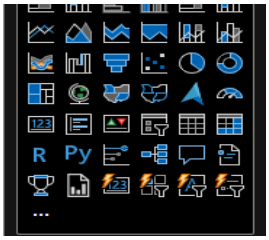
4) Create a new measure named "Weekend Transactions" to calculate transactions on weekends. 76,608 total weekend transactions

```
Weekend Transactions = CALCULATE([Total Number Of Transactions], 'Calendar'[Weekend] = "Y")
```

5) Create a new measure named "% Weekend Transactions" to calculate weekend transactions as a percentage of total transactions (format as %). I should see 28.4% weekend transactions

```
% Weekend Transactions = [Weekend Transactions] / [Total Number Of Transactions]
```

Total Quantity Sold	Total Quantity Returned	Total Number Of Transactions	Total Number Of Returns	Return Rate	Weekend Transactions	% Weekend Transactions
833489	8289	269720	7087	0.99%	76608	28.40%



6) Create new measures named "All Transactions" and "All Returns" to calculate grand total transactions and returns (regardless of filter context). I should see 269,720 transactions and 7,087 returns across all rows (test with product_brand on rows)

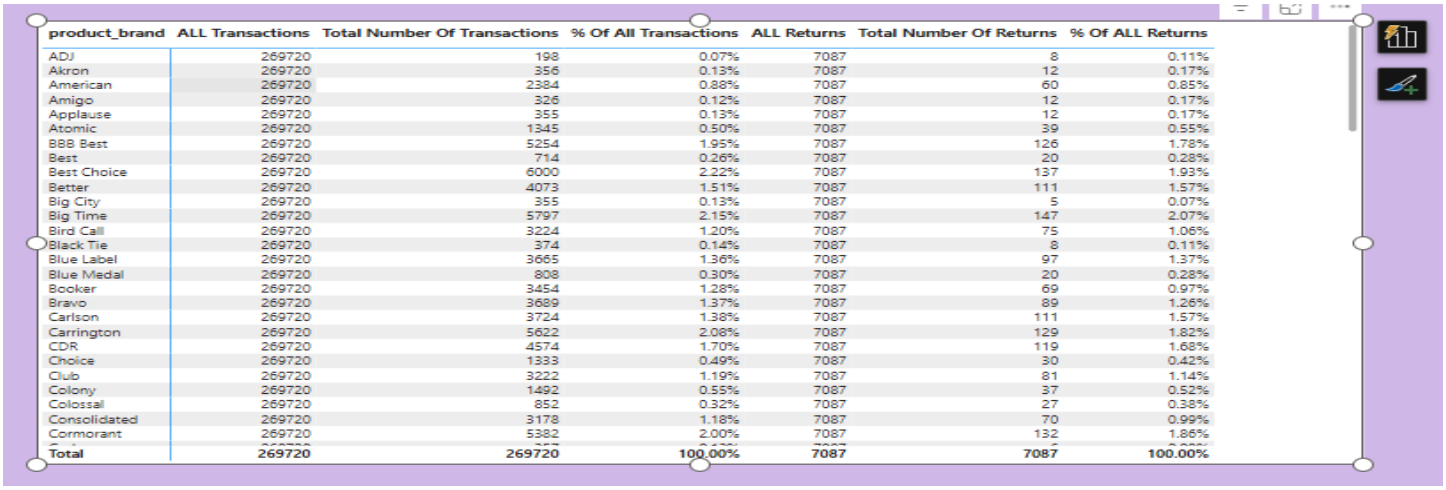
```
ALL Transactions = CALCULATE([Total Number Of Transactions], ALL(Transaction_Data))
```

```
ALL Returns = CALCULATE([Total Number Of Returns], ALL(Return_Data))
```

7) Create a new measure to calculate % Total Count of Returns and % Of Total Count of Transactions

```
% of Number of Transactions = [Total Number Of Transactions] / [ALL Transactions]
```

```
% of Number of Returns = [Total Number Of Returns] / [ALL Returns]
```



product_brand	ALL Transactions	Total Number Of Transactions	% Of All Transactions	ALL Returns	Total Number Of Returns	% Of ALL Returns
ADJ	269720	198	0.07%	7087	8	0.11%
Akron	269720	356	0.13%	7087	12	0.17%
American	269720	2384	0.88%	7087	60	0.85%
Amigo	269720	326	0.12%	7087	12	0.17%
Applause	269720	355	0.13%	7087	12	0.17%
Atomic	269720	1345	0.50%	7087	39	0.55%
BBB Best	269720	5254	1.95%	7087	126	1.78%
Best	269720	714	0.26%	7087	20	0.28%
Best Choice	269720	6000	2.22%	7087	137	1.93%
Better	269720	4073	1.51%	7087	111	1.57%
Big City	269720	355	0.13%	7087	5	0.07%
Big Time	269720	5797	2.15%	7087	147	2.07%
Bird Call	269720	3224	1.20%	7087	75	1.06%
Black Tie	269720	374	0.14%	7087	8	0.11%
Blue Label	269720	3665	1.36%	7087	97	1.37%
Blue Medal	269720	808	0.30%	7087	20	0.28%
Booker	269720	3454	1.28%	7087	69	0.97%
Bravo	269720	3689	1.37%	7087	89	1.26%
Carlson	269720	3724	1.38%	7087	111	1.57%
Carrington	269720	5622	2.08%	7087	129	1.82%
CDR	269720	4574	1.70%	7087	119	1.68%
Choice	269720	1333	0.49%	7087	30	0.42%
Club	269720	3222	1.19%	7087	81	1.14%
Colony	269720	1492	0.55%	7087	37	0.52%
Colossal	269720	852	0.32%	7087	27	0.38%
Consolidated	269720	3178	1.18%	7087	70	0.99%
Cormorant	269720	5382	2.00%	7087	132	1.86%
Total	269720	269720	100.00%	7087	7087	100.00%

8) Create a new measure to calculate the AVG Retail Price

```
AVG Retail Price = AVERAGE(Products[product_retail_price])
```

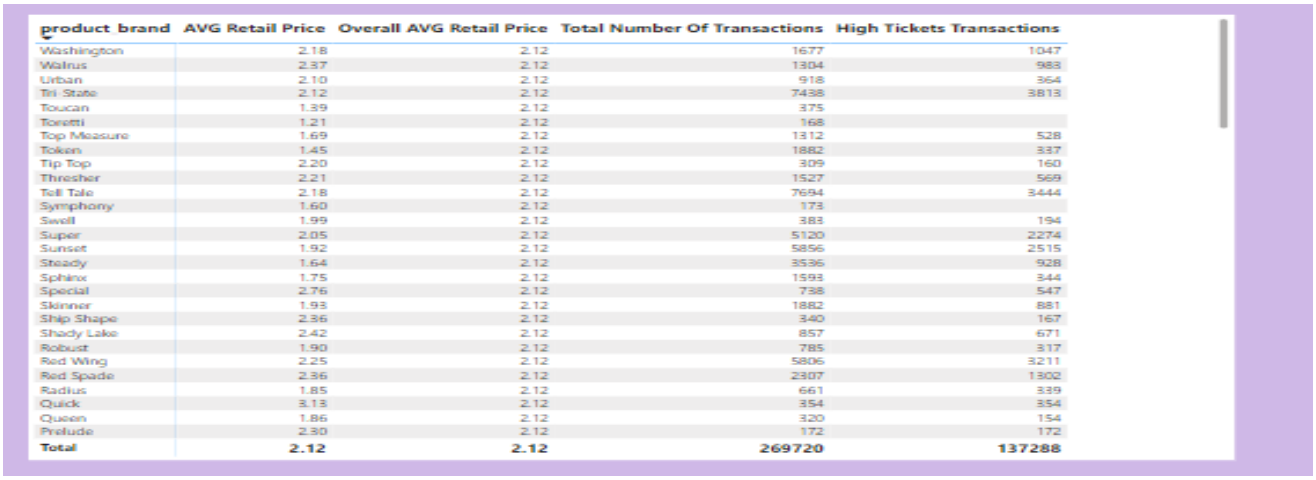
9) Create a new measure to calculate the Overall AVG Retail Price

```
Overall AVG Retail Price = CALCULATE([AVG Retail Price], ALL(Products))
```

10) Create a measure called High tickets Transactions that will calculate the Total Count of Transactions, **but only for products > than the average price**. So, I want to see the # of transactions for product prices higher than Overall AVG priced items.

In order to make the measure more flexible in case the data set is updated and we refresh in due course, better then to use the FILTER expression

```
High Tickets Transactions = CALCULATE([Total Number Of Transactions], FILTER(Products,
Products[product_retail_price] > [Overall AVG Retail Price]))
```



product brand	AVG Retail Price	Overall AVG Retail Price	Total Number Of Transactions	High Tickets Transactions
Washington	2.18	2.12	1677	1047
Walrus	2.37	2.12	1304	983
Urban	2.10	2.12	918	364
Tri State	2.12	2.12	7438	3813
Toucan	1.39	2.12	375	
Toretti	1.21	2.12	168	
Top Measure	1.69	2.12	1312	528
Token	1.45	2.12	1882	337
Tip Top	2.20	2.12	309	160
Thresher	2.21	2.12	1527	569
Tell Tale	2.18	2.12	7694	3444
Symphony	1.60	2.12	173	
Swell	1.99	2.12	383	194
Super	2.05	2.12	5120	2274
Sunset	1.92	2.12	5856	2515
Steady	1.64	2.12	3536	928
Sphinx	1.75	2.12	1593	344
Special	2.76	2.12	738	547
Skinner	1.93	2.12	1882	881
Ship Shape	2.36	2.12	340	167
Shady Lake	2.42	2.12	857	671
Robust	1.90	2.12	785	317
Red Wing	2.25	2.12	5806	3211
Red Spade	2.36	2.12	2307	1302
Radius	1.85	2.12	661	339
Quick	3.13	2.12	354	354
Queen	1.86	2.12	320	154
Prelude	2.30	2.12	172	172
Total	2.12	2.12	269720	137288

11) Create a new measure to calculate "Total Revenue" based on transaction quantity and product retail price, and format as $. I should see a total revenue of $1,764,546

```
Total Revenue = SUMX(Transaction_Data, Transaction_Data[quantity] * RELATED(Products[product_retail_price]))
```

12) Create a new measure to calculate "Total Cost" based on transaction quantity and product cost, and format. Spot check: I should see a total cost of $711,728

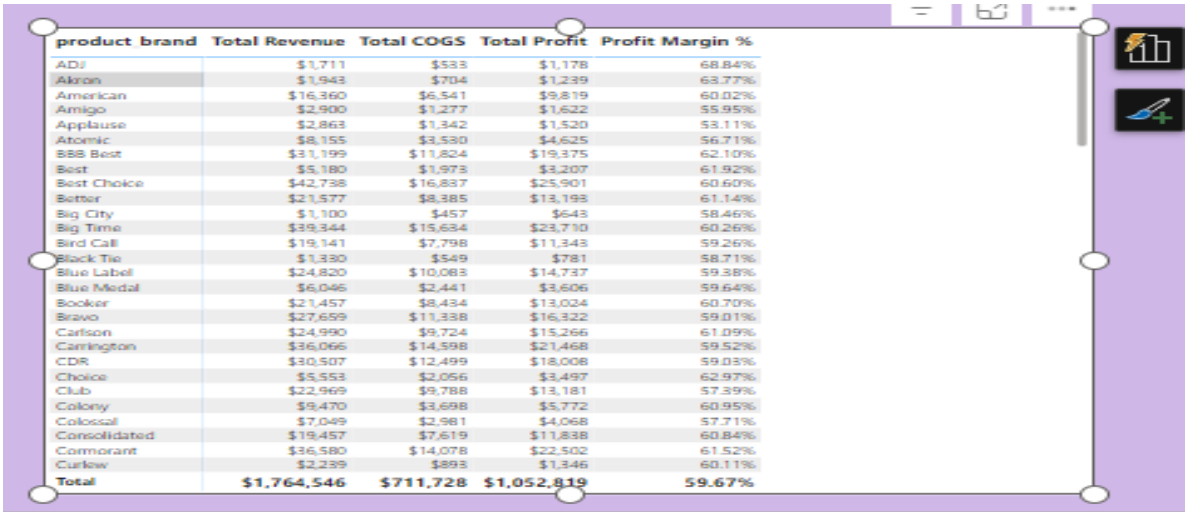
```
Total COGS = SUMX(Transaction_Data, Transaction_Data[quantity] * RELATED(Products[product_cost]))
```

13) Create a new measure named "Total Profit" to calculate total revenue minus total cost, and format as $. Spot check: I should see a total profit of $1,052,819

```
Total Profit = [Total Revenue] - [Total COGS]
```

14) Create a new measure to calculate "Profit Margin" by dividing total profit by total revenue calculate total revenue (format as %). Spot check: You should see an overall profit margin of 59.67%

```
Profit Margin % = [Total Profit] / [Total Revenue]
```



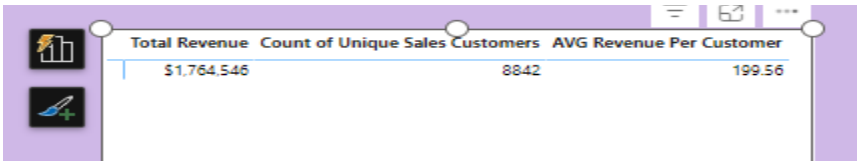
product brand	Total Revenue	Total COGS	Total Profit	Profit Margin %
ADJ	$1,711	$533	$1,178	68.84%
Akron	$1,943	$704	$1,239	63.77%
American	$16,360	$6,541	$9,819	60.02%
Amigo	$2,900	$1,277	$1,622	55.95%
Applause	$2,863	$1,342	$1,520	53.11%
Atomic	$8,155	$3,530	$4,625	56.71%
BBB Best	$31,199	$11,824	$19,375	62.10%
Best	$5,180	$1,973	$3,207	61.92%
Best Choice	$42,738	$16,837	$25,901	60.60%
Better	$21,577	$8,385	$13,193	61.14%
Big City	$1,100	$457	$643	58.46%
Big Time	$39,344	$15,634	$23,710	60.26%
Bird Call	$19,141	$7,798	$11,343	59.26%
Black Tie	$1,330	$549	$781	58.71%
Blue Label	$24,820	$10,083	$14,737	59.38%
Blue Medal	$6,046	$2,441	$3,606	59.64%
Booker	$21,457	$8,434	$13,024	60.70%
Bravo	$27,659	$11,338	$16,322	59.01%
Carlson	$24,990	$9,724	$15,266	61.09%
Carrington	$36,066	$14,598	$21,468	59.52%
CDR	$30,507	$12,499	$18,008	59.03%
Choice	$5,553	$2,056	$3,497	62.97%
Club	$22,969	$9,788	$13,181	57.39%
Colony	$9,470	$3,698	$5,772	60.95%
Colossal	$7,049	$2,981	$4,068	57.71%
Consolidated	$19,457	$7,619	$11,838	60.84%
Cormorant	$36,580	$14,078	$22,502	61.52%
Curlew	$2,239	$893	$1,346	60.11%
Total	**$1,764,546**	**$711,728**	**$1,052,819**	**59.67%**

15) Create a new measure named 'Count Of Unique Sales Customer'

```
Count Of Unique Sales Customers = DISTINCTCOUNT(Transaction_Data[customer_id])
```

16) Create a new measure to calculate the 'AVG Revenue per Customer'

```
AVG Revenue Per Customer = DIVIDE([Total Revenue], [Count of Unique Sales Customers])
```



Total Revenue	Count of Unique Sales Customers	AVG Revenue Per Customer
$1,764,546	8842	199.56

17) Create a new measure named "Unique Products" to calculate the number of unique product names in the Products table. Spot check: I should see 1,560 unique products

```
Unique Products = DISTINCTCOUNT(Products[product_name])
```

18) Create a new measure named "YTD Revenue" to calculate year-to-date total revenue, from the beginning of the year(fiscal or calendar) up to now. Format as $. Spot check: Create a matrix with "Start of Month" on rows; i should see $872,924 in YTD Revenue in September 1998

```
YTD Revenue = CALCULATE([Total Revenue], DATESYTD('Calendar'[date]))
```

OR

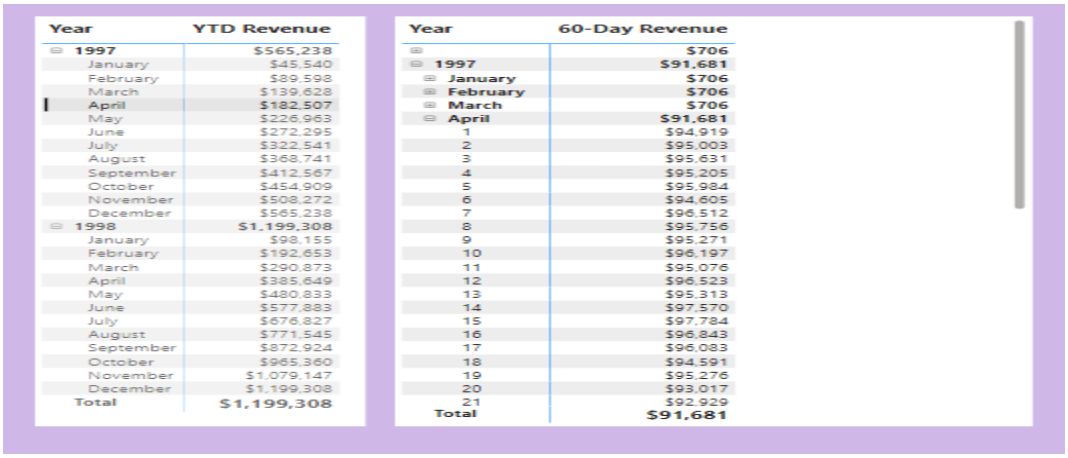
```
YTD Revenue = TOTALYTD([Total Revenue], 'Calendar'[Date])
```

19) Create a new measure named "60-Day Revenue" to calculate a running revenue total over a 60-day period (for the last 60 days since the last date of the data set), and format as $. Spot check: Create a matrix with "date" on rows; i should see $97,570 in 60-Day Revenue on 4/14/1997

```
60-Day Revenue = CALCULATE([Total Revenue], DATESINPERIOD('Calendar'[date], MAX('Calendar'[date]), -60,DAY))
```

OR

```
60-Day Revenue = CALCULATE([Total Revenue], DATESINPERIOD('Calendar'[Date], LASTDATE('Calendar'[Date]), -60,DAY))
```



Year	YTD Revenue
1997	$565,238
January	$45,540
February	$89,598
March	$139,628
April	$182,507
May	$226,963
June	$272,295
July	$322,541
August	$368,741
September	$412,567
October	$454,909
November	$508,272
December	$565,238
1998	$1,199,308
January	$98,155
February	$192,653
March	$290,873
April	$385,649
May	$480,833
June	$577,883
July	$676,827
August	$771,545
September	$872,924
October	$965,360
November	$1,079,147
December	$1,199,308
Total	$1,199,308

Year	60-Day Revenue
	$706
1997	$91,681
January	$706
February	$706
March	$706
April	$91,681
1	$94,919
2	$95,003
3	$95,631
4	$95,205
5	$95,984
6	$94,605
7	$96,512
8	$95,756
9	$95,271
10	$96,197
11	$95,076
12	$96,523
13	$95,313
14	$97,570
15	$97,784
16	$96,843
17	$96,083
18	$94,591
19	$95,276
20	$93,017
21	$92,929
Total	$91,681

20) Create new measures named "Previous Month Transactions", "Previous Month Revenue", "Previous Month Profit", and "Previous Month Returns". Spot check: Create a matrix with "Start of Month" on rows to confirm accuracy

```
Previous Month Transactions = CALCULATE([Total Number Of Transactions], DATEADD('Calendar'[date],-1,MONTH))
Previous Month Revenue = CALCULATE([Total Revenue], DATEADD('Calendar'[date],-1, MONTH))
Previous Month Profit = CALCULATE([Total Profit], DATEADD('Calendar'[date],-1,MONTH))
Previous Month Returns = CALCULATE([Total Number Of Returns], DATEADD('Calendar'[date],-1,MONTH))
```

OR

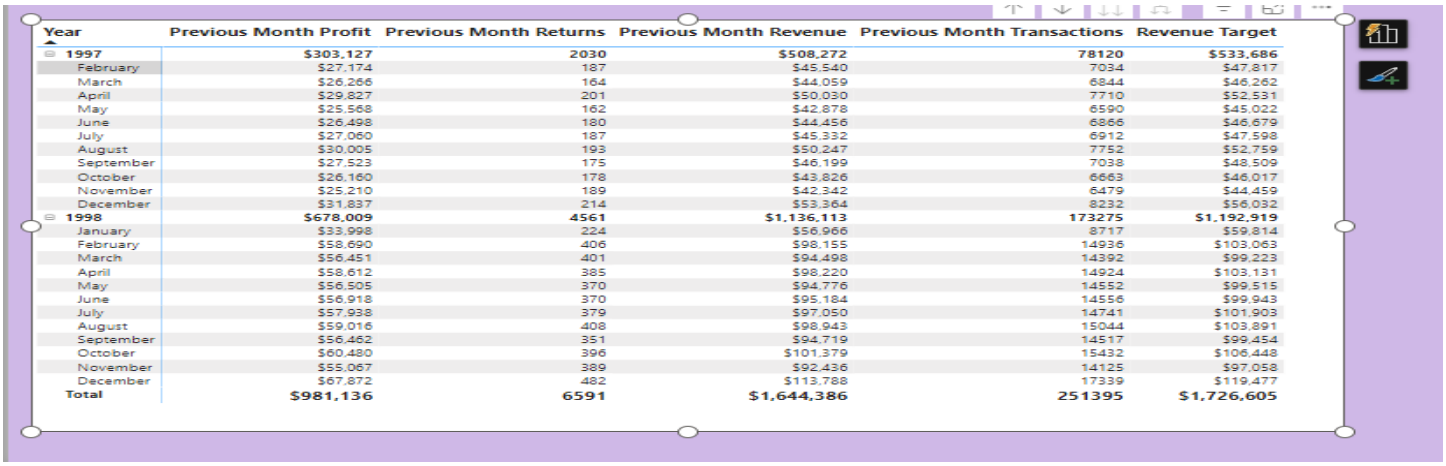
```
Previous Month Revenue = [Total Revenue] - CALCULATE([Total Revenue], PREVIOUSMONTH('Calendar'[Date]))
```

21) Create a new measure named "Revenue Target" based on a 5% lift over the previous month revenue (assuming that the Company wants me to maintain 5 % Revenue growth every single month moving forward. In other words, the Revenue Target is the Previous Month's Revenue plus 5%). Format as $. Spot check: I should see a Revenue Target of $99,223 in March 1998

```
Revenue Target = [Previous Month Revenue] * 1.05
```

22) Create a new measure named "Revenue Target Gap"

```
Revenue Target Gap = [Total Revenue] - [Revenue Target]
```



Year	Previous Month Profit	Previous Month Returns	Previous Month Revenue	Previous Month Transactions	Revenue Target
1997	$303,127	2030	$508,272	78120	$533,686
February	$27,174	187	$45,540	7034	$47,817
March	$26,266	164	$44,059	6844	$46,262
April	$29,827	201	$50,030	7710	$52,531
May	$25,568	162	$42,878	6590	$45,022
June	$26,498	180	$44,456	6866	$46,679
July	$27,060	187	$45,332	6912	$47,598
August	$30,005	193	$50,247	7752	$52,759
September	$27,523	175	$46,199	7038	$48,509
October	$26,160	178	$43,826	6663	$46,017
November	$25,210	189	$42,342	6479	$44,459
December	$31,837	214	$53,364	8232	$56,032
1998	$678,009	4561	$1,136,113	173275	$1,192,919
January	$33,998	224	$56,966	8717	$59,814
February	$58,690	406	$98,155	14936	$103,063
March	$56,451	401	$94,498	14392	$99,223
April	$58,612	385	$98,220	14924	$103,131
May	$56,505	370	$94,776	14552	$99,515
June	$56,918	370	$95,184	14556	$99,943
July	$57,938	379	$97,050	14741	$101,903
August	$59,016	408	$98,943	15044	$103,891
September	$56,462	351	$94,719	14517	$99,454
October	$60,480	396	$101,379	15432	$106,448
November	$55,067	389	$92,436	14125	$97,058
December	$67,872	482	$113,788	17339	$119,477
Total	$981,136	6591	$1,644,386	251395	$1,726,605

23) Create a new measure named "Profit Target"

Profit Target = [Previous Month Profit] * 1.05

24) Create a new measure named “Profit Target Gap”

```
Profit Target Gap = [Total Profit] - [Profit Target]
```

25) Create a new measure named “Transaction Target”

Transaction Target = [Previous Month Transactions] * 1.05

26) Create a new measure named “Transaction Target Gap”

Transaction Target Gap = [Total Number Of Transactions] - [Transaction Target]