**PART 3: Adding DAX Measures**

*Using your report from Part 2, complete the following steps:*

**1)** In the **DATA** view, add the following **calculated columns**:

* In the **Calendar** table, add a column named "***Weekend***"
  + Equals "***Y***" for Saturdays or Sundays (otherwise "***N***")
* In the **Calendar** table, add a column named "***End of Month***"
  + Returns the last date of the current month for each row
* In the **Customers** table, add a column named "***Current Age***"
  + Calculates current customer ages using the "*birthdate*" column and the TODAY() function
* In the **Customers** table, add a column named "***Priority***"
  + Equals "***High***" for customers who own homes and have Golden membership cards (otherwise "***Standard***")
* In the **Customers** table, add a column named "***Short\_Country***"
  + Returns the first three characters of the customer country, and converts to all uppercase
* In the **Customers** table, add a column named "***House Number***"
  + Extracts all characters/numbers before the first space in the "*customer\_address*" column (***hint:****use SEARCH*)
* In the **Products** table, add a column named "***Price\_Tier***"
  + Equals "***High***" if the retail price is >**$3**, "***Mid***" if the retail price is >**$1**, and "***Low***" otherwise
* In the **Stores** table, add a column named "***Years\_Since\_Remodel***"
  + Calculates the number of years between the current date (TODAY()) and the last remodel date

**2)** In the **REPORT** view, add the following **measures**(*Assign to tables as you see fit, and use a matrix to match the "****spot check****" values*)

* Create new measures named "**Quantity Sold**" and "**Quantity Returned**" to calculate the sum of quantity from each data table
  + ***Spot check:****You should see total Quantity Sold =****833,489****and total Quantity Returned =****8,289***
* Create new measures named "**Total Transactions**" and "**Total Returns**" to calculate the count of rows from each data table
  + ***Spot check:****You should see****269,720****transactions and****7,087****returns*
* Create a new measure named "**Return Rate**" to calculate the ratio of quantity returned to quantity sold (format as %)
  + ***Spot check:****You should see an overall return rate of****0.99%***
* Create a new measure named "**Weekend Transactions**" to calculate transactions on weekends
  + ***Spot check:****You should see****76,608****total weekend transactions*
* Create a new measure named "**% Weekend Transactions**" to calculate weekend transactions as a percentage of total transactions (format as %)
  + ***Spot check:****You should see****28.4%****weekend transactions*
* Create new measures named "**All Transactions**" and "**All Returns**" to calculate grand total transactions and returns (regardless of filter context)
  + ***Spot check:****You should see****269,720****transactions and****7,087****returns across all rows (test with product\_brand on rows)*
* Create a new measure to calculate "**Total Revenue**" based on transaction quantity and product retail price, and format as $ (***hint:****you'll need an iterator*)
  + ***Spot check:****You should see a total revenue of****$1,764,546***
* Create a new measure to calculate "**Total Cost**" based on transaction quantity and product cost, and format as $ (***hint:****you'll need an iterator*)
  + ***Spot check:****You should see a total cost of****$711,728***
* Create a new measure named "**Total Profit**" to calculate total revenue minus total cost, and format as $
  + ***Spot check:****You should see a total profit of****$1,052,819***
* 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%***
* Create a new measure named "**Unique Products**" to calculate the number of unique product names in the **Products** table
  + ***Spot check:****You should see****1,560****unique products*
* Create a new measure named "**YTD Revenue**" to calculate year-to-date total revenue, and format as $
  + ***Spot check:****Create a matrix with "****Start of Month****" on rows; you should see****$872,924****in YTD Revenue in September 1998*
* Create a new measure named "**60-Day Revenue**" to calculate a running revenue total over a 60-day period, and format as $
  + ***Spot check:****Create a matrix with "****date****" on rows; you should see****$97,570****in 60-Day Revenue on 4/14/1997*
* Create new measures named  "**Last Month Transactions**", "**Last Month Revenue**", "**Last Month Profit**", and "**Last Month Returns**"
  + ***Spot check:****Create a matrix with "****Start of Month****" on rows to confirm accuracy*
* Create a new measure named "**Revenue Target**" based on a 5% lift over the previous month revenue, and format as $
  + ***Spot check:****You should see a Revenue Target of****$99,223****in March 1998*

***(See COMPLETE report file to check your DAX formulas)***