Microsoft-supported AI Developers Training- Power BI Associate

1) Dataset Description

The Super Store Normalized dataset is designed to mirror real-world business data for a retail company. It includes transactional, customer, product, and regional data across six related tables:

Table Name	Description
Orders	Detailed transactions including order dates, product and customer IDs, quantity, sales, discount, and profit.
Customers	Customer information such as name, segment, and IDs.
Locations	Geographical information linked to customers, including state, city, and postal code.
States	State-level data including assigned regions (e.g., East, West, Central).
Products	Product metadata such as name, category, and sub-category.
Product Pricing Tiers	Segment-based pricing per product across customer types (e.g., Consumer, Corporate, Home Office).

2) Business Focus Areas with Insightful Questions

Each section below represents a report category you can develop. You should create one report page per category, selecting 3 to 4 questions per page (or more if you like). These questions are meant to guide your visualizations and help tell a story with the data.

1. Sales & Performance Overview

This section helps you understand the company's financial health and performance trends.

Possible Questions to Answer:

1. What is the total sales revenue?
2. What is the total profit?
3. How are sales and profit trending monthly?
4. What is the average discount across all orders?
5. What is the average profit margin?
6. What is the total number of orders?
7. What is the average sales value per order?
8. Which customer segments generate the highest revenue?

2. Customer Insights

Explore customer behavior, segment trends, and customer value.

Possible Questions to Answer:

1. Who are the top 10 customers by total sales?
2. What is the distribution of customers by segment?
3. What is the average sales value per customer?
4. How many repeat vs. one-time customers are in the dataset?
5. Which customer segment generates the most profit?
6. What is the customer count by state or region?
7. What is the growth trend of new customers over time?
8. How many customers ordered from multiple product categories?

3. Regional & State Insights

Break down performance based on geography—state, city, or region.

Possible Questions to Answer:

1. Which states generate the most revenue?
2. Which states are the most profitable?
3. What are the sales and profit by region?
4. Which cities have the highest number of orders?
5. What is the profit margin per state?
6. Which state has the highest average discount?

customers are located in each state?
8. How many orders are placed per state and per region?

4. Product & Category Performance

Dive deep into product sales, category trends, and product-level profitability.

Possible Questions to Answer:

1. Which product categories generate the most revenue?
2. What are the top 10 best-selling products?
3. Which sub-categories have the highest profit margin?
4. Which products frequently result in losses?
5. What is the average price per product category?
6. How many units were sold per product?
7. How does product performance vary by customer segment?
8. Which product categories receive the most discount?

5. Profitability Analysis

Focus on identifying what drives profit and where money is being lost.

Possible Questions to Answer:

1. What is the total profit and average profit margin?
2. Which orders are most and least profitable?
3. Which products are consistently sold at a loss?
4. How does the discount rate affect profit?
5. Which product categories have the lowest profitability?
6. What are the profit trends over time?
7. Which customer segments are the most profitable?
8. Which regions generate the highest profit per order?

Zoom in on how different customer segments behave across sales, discounts, and products.

Possible Questions to Answer:

1. What is the total sales per segment?
2. How does profit differ by customer segment?
3. Which segment makes the most frequent purchases?
4. How does discount usage vary by segment?
5. What product categories are most purchased by each segment?
6. Which segment has the highest average order value?
7. What is the profit margin per segment?
8. How do different segments respond to pricing tiers?

3)Create Key Measures

These are DAX formulas for required measures

Total Sales = SUM(Orders[Sales])

Total Profit = SUM(Orders[Profit])

Order Count = DISTINCTCOUNT(Orders[Order ID])

Average Discount = AVERAGE(Orders[Discount])

Customer Count = DISTINCTCOUNT(Customers[Customer ID])

Profit Margin = DIVIDE([Total Profit], [Total Sales])

4) Design Your Report Pages

You must build at least four report pages, each focused on one category from the list above.

For each page:

- Choose 3 to 4 questions to answer using visuals.
- Use a mix of charts (bar, column, line), cards, maps, tables, matrices, and slicers.
- Title each page clearly (e.g., "Customer Insights").

5) Add Interactivity

- Add slicers for filters like:
    - o Date range o
    - Region o
    - Segment o
    - Category o
    - State
- Use tooltips and drill-throughs for deeper exploration.

6) Clean and Format

- Ensure all visuals are labeled.
- Group visuals with borders or sections if needed.
- Use consistent fonts, colors, and spacing.

7) Requirement Checklist

Minimum of 4 report pages built

At least 3–4 questions answered per page

Use of different visual types (e.g., bar, map, matrix, card)

Data model and relationships properly set

DAX measures used for key metrics

Slicers included for filtering

All visuals are well-labeled and styled Report tells a story