Microsoft PL-300 Exam Questions

Total Questions: 400+
Demo Questions: 35
Version: Updated for 2025

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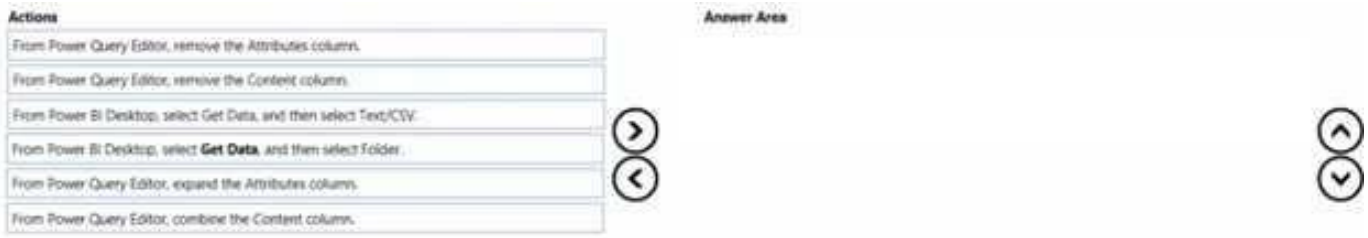
Question: 1

DRAG DROP You have a folder that contains 100 CSV files. You need to make the file metadata available as a single dataset by using Power Bi The solution must NOT store the data of the CSV files. Which three actions should you perform in sequence. To answer, mow the appropriate actions from the list of actions to the answer area and arrange them m the correct order. NOTE; More than one order of answer choices is correct. You will receive credit for any of the correct orders you select.



Answer:

From Power BI Desktop, select Get Data, and then select Folder.

From Power Query Editor, remove the Content columns.

From Power Query Editor, expand the Attributes columns.

Explanation:

The objective is to create a dataset of file metadata from a folder without loading the actual data contained within the files. The process involves three main steps:

• Connect to the source: The initial step is to connect to the folder containing the CSV files. In Power BI, this is achieved by using the Folder connector from the Get Data menu. This action brings a table listing all files and their properties into the Power Query Editor.

• Exclude file data: The table generated in the previous step includes a Content column, which contains the binary data of each file. To meet the requirement of not storing the file data, this column must be removed.

• Expose all metadata: The table also contains an Attributes column, which is a structured column holding a Record of additional metadata for each file (e.g., size, creation time). To make these properties available as individual columns in the final dataset, the Attributes column must be expanded.

This sequence ensures that only the metadata is processed and loaded into the Power BI model,

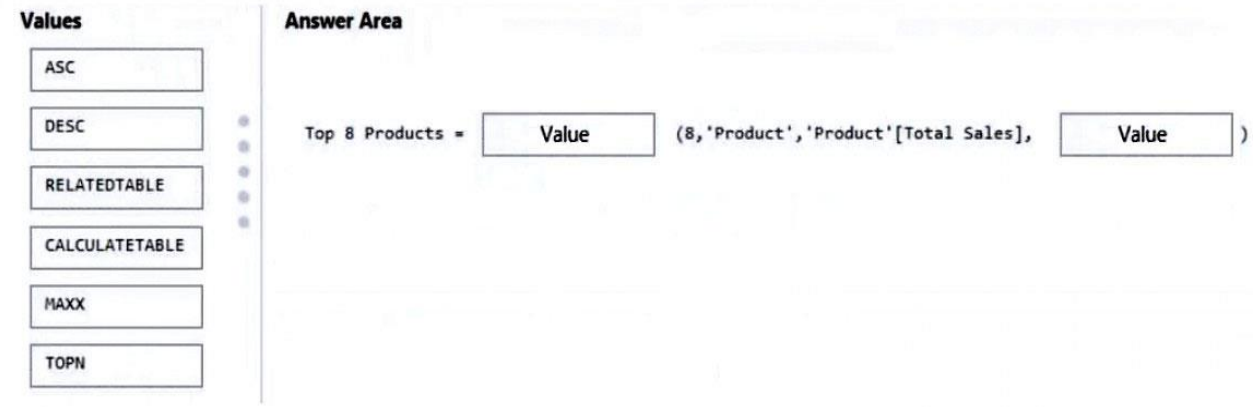
fulfilling all the requirements of the task.

References:

Microsoft Power Query Documentation, "Combine files (binaries) in Power Query": When connecting to a data source like a folder, Power Query provides an initial table of files from your folder and their metadata. This view shows the Content column (containing the binary) and the Attributes column (containing a Record), among others. The procedure to work only with metadata involves manipulating this initial table rather than combining the files.
Reference: https://learn.microsoft.com/en-us/power-query/combine-files (See section on the Folder connector's initial output).
Microsoft Power Query Documentation, "Add, remove, or rearrange columns (Power Query)": This document outlines the fundamental column operations in Power Query. The "Remove columns" section explicitly describes the action of selecting one or more columns and using the "Remove Columns" command to delete them from the table, which is the required action for the Content column in this scenario.
Reference:
https://learn.microsoft.com/en-us/power-query/working-with-columns#remove-columns
Microsoft Power Query Documentation, "Work with a List, Record, or Table structured column (Power Query)": This source details how to handle complex or structured columns. The section on expanding a Record column describes using the expand icon in the column header to select fields from the nested record and promote them to top-level columns in the table. This is the exact procedure needed for the Attributes column.
Reference: https://learn.microsoft.com/en-us/power-query/work-with-structured-column#expand-a-record-column

Question: 2

DRAG DROP You are creating a Power Bi model and report. You have a single table in a data mode) named Product Product contains the following fields: • ID • Name • Color • Category • Total Sales You need to create a calculated table that shows only the top eight products based on the highest value in Total Sales. How should you complete the DAX expression? To answer, drag the appropriate values to the coned targets. Each value may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.



Answer:

BOX 1: TOPN

BOX 2: DESC

Explanation:

The goal is to create a calculated table containing the top 8 products ranked by their total sales. The TOPN function is the correct DAX function for this task as it returns the top 'N' rows of a specified table based on an expression.

The syntax for TOPN is TOPN(nvalue, table, orderByexpression, order).

• BOX 1 requires the function name, which is TOPN.

• The nvalue is provided as 8.

• The table is 'Product'.

• The orderByexpression is Total Sales.

• BOX 2 requires the sort order. To find the products with the highest sales, the Total Sales

column must be sorted in descending order. Therefore, DESC is the correct value.

The final, complete DAX expression is: Top 8 Products = TOPN(8, 'Product', Total Sales, DESC

References:

Microsoft Learn, Data Analysis Expressions (DAX) Reference:
Document: TOPN function (DAX)
Section/Paragraph: The documentation explicitly defines the TOPN function as one that "Returns the top N rows of the specified table." It details the parameters, including the final parameter, stating that DESC (or 1) specifies a descending sort order, which is necessary for ranking from highest to lowest. The provided examples confirm this usage for finding top values.
Link: https://learn.microsoft.com/en-us/dax/topn-function-dax
Microsoft Press, "Analyzing Data with Power BI and Power Pivot for Excel" (ISBN: 978-1509302765) by Alberto Ferrari and Marco Russo:
Chapter: 12, "Using DAX as a query language"
Section: "TOPN"
Content: This chapter provides a detailed explanation of using DAX functions to create calculated tables. The section on TOPN clarifies its use for retrieving a subset of a table based on a ranking. It emphasizes that the DESC argument is used to sort the orderByexpression from the largest value to the smallest, which is the standard method for identifying "top" performers based on a metric like sales

Question: 3

You have a Power Bl report for the marketing department. The report reports on web traffic to a blog and contains data from the following tables.

Table name	Source	Description	Column name
Posts	Blog RSS feed	An XML representation of all the blog posts from your company's website	• Publish Date • URL • Title • Full Text • Summary
Traffic	Website logs	Activity data from your company's entire website	• DateTime • URL Visited • IP Address • Browser Agent • Referring URL

There is a one-to-many relationship from Posts to Traffic that uses the URL and URL Visited columns. The report contains the visuals shown in the following table.

Name	Used field	Filter
Top 10 blog posts of all time	`Posts[Title]` `Traffic[DateTime]`	*None*
Top 10 blog posts from the last seven days	`Posts[Title]` `Traffic[DateTime]`	`Traffic[DateTime]` is in the last 7 days
Blog visits over time	`Traffic[DateTime]` `Traffic[URL Visited]`	`Traffic[URL Visited]` contains "blog"
Blog visits over time	`Traffic[DateTime]` `Traffic[URL Visited]`	`Traffic[URL Visited]` contains "blog"
Top 10 external referrals to the blog of all time	`Traffic[Referring URL]`	`Traffic[URL Visited]` contains "blog" AND `Traffic[Referring URL]` does not start with "/"

The dataset takes a long time to refresh. You need to modify Posts and Traffic queries to reduce toad times. Which two actions will reduce the toad times? Each correct answer presents part of the solution. NOTE: Each correct selection is worth one point.

A. Remove the rows in Traffic in which Traffic Referring URL does not start with "/"

B. Remove the rows in Posts in which Post Publish Date is in the last seven days.

C. Remove Traffic IP Address, Traffic (Browser Agent, and Traffic Referring URL).

D. Remove Posts Full Text and Posts Summary.

E. Remove the rows in Traffic in which Traffic URL visited does not contain "blog"

Answer:

D, E

Explanation:

To reduce dataset load times, the most effective strategies involve reducing the volume of data being imported. This is achieved by removing unnecessary columns and rows.
Option D is correct because the PostsFull Text and PostsSummary columns are not used in any report visuals. These columns likely contain large amounts of text, significantly increasing the dataset size. Removing them is a standard performance optimization practice.
Option E is correct because the report focuses specifically on "web traffic to a blog." Filtering the Traffic table to include only rows where the URL contains "blog" removes all irrelevant traffic data, drastically reducing the number of rows in the largest table and improving refresh performance.

Why Incorrect Options are Wrong:

A. The logic to filter Referring URL based on whether it starts with "/" is arbitrary and may not effectively remove a significant amount of irrelevant data compared to filtering by the report's main subject.
B. This action removes recent data from the Posts table, which is actively used in a visual (PostsPublish Date). This would compromise the accuracy and relevance of the report.
C. While removing these unused columns from the Traffic table is a valid optimization, removing the large text columns in Posts (D) and filtering the Traffic table to its essential scope (E) are generally more impactful.

References:

1. Microsoft Learn, "Optimize a model for performance in Power BI": In the "Apply data reduction techniques" unit, it states, "Two primary techniques are to remove columns and remove rows." It specifically advises removing columns not used for reporting and filtering rows to load a smaller, relevant subset of data. This directly supports removing unused large text columns (D) and filtering rows to the report's scope (E).
Reference: Microsoft Learn, Module "Optimize a model for performance in Power BI", Unit 4 "Apply data reduction techniques".
2. Microsoft Docs, "Data reduction techniques for Import modeling": This document outlines best practices.
Under the section "Remove unnecessary columns", it recommends removing columns not used in the model, especially "columns that store long text values." This validates option D.

Under the section "Remove unnecessary rows", it advises filtering fact-type tables in Power Query to load only the necessary subset of data. This validates option E, which filters the Traffic (fact) table.
Reference: Microsoft Power BI Documentation, "Guidance for Power BI Desktop Import modeling", section "Data reduction techniques for Import modeling".

Question: 4

You have a Power Bi report for the procurement department. The report contains data from the following tables.

Table name	Source	Description	Column name	Approximate record count
Suppliers	Microsoft Dynamics 365	A list of all the suppliers approved for use by the company.	• ID • Name • Country	100,000
LineItems	Microsoft Dynamics 365	All individual purchases made by employees across the company. An average of five line items per invoice.	• ID • Invoice ID • Invoice Date • Supplier ID • Description • Units • Price per Unit • Discount • Price	1,000,000,000

There is a one-to-many relationship from Suppliers to Lineitems that uses the ID and Supplier ID columns. The report contains the visuals shown in the following table.

Name	Used field	Filter

Supplier usage by count and value of invoices	`Suppliers[ID]`
	`Suppliers[Name]`
	`LineItems[Invoice ID]`
	`LineItems[Price]`
		None

Spend by supplier location	`Suppliers[Country]` `LineItems[Price]`	*None*
Top 10 largest invoices last month	`LineItems[Invoice ID]` `LineItems[Price]`	`LineItems[Invoice Date]` in last calendar month

You need to minimize the size of the dataset without affecting the visuals. What should you do?

A. Remove the rows from Lineitems where LineItemsinvoice Date is before the beginning of last month

B. Merge Suppliers and UneItems.

C. Group LineItems by Lineitems invoice id) and Lineitemsinvoice Date) with a sum of Lineitems(price).

D. Remove the LineitemsDescription column.

Answer:

D

Explanation:

The objective is to reduce the dataset size without altering the functionality of the existing visuals. The report visuals use the Supplier Name and Category columns from the Suppliers table, and the Invoice Date and Price columns from the LineItems table. The LineItemsDescription column is not used in any of the visuals. Removing unnecessary columns is a fundamental technique for optimizing a Power BI data model. High-cardinality text columns, such as Description, can consume significant memory. By removing this unused column, the dataset size is reduced without any impact on the report's visuals or calculations.

Why Incorrect Options are Wrong:

A. Removing rows based on Invoice Date would alter the data available to the date slicer and other visuals, thus affecting the report.
B. Merging the tables would denormalize the model, repeating supplier information for each line item, which would likely increase the overall dataset size.
C. Grouping LineItems would remove the Supplier ID column, which is essential for the relationship with the Suppliers table, thereby breaking the visuals.

References:

1. Microsoft Learn: Optimize a model for performance in Power BI. In the "Apply data reduction techniques" unit, it states, "It's a model design best practice to remove any columns that aren't required... It's especially important to remove high-cardinality columns, which are columns that contain many unique values." The Description column is a prime example.
Source: Microsoft Learn, "Optimize a model for performance in Power BI," Unit: "Apply data reduction techniques."
2. Microsoft Docs: Data reduction techniques for Import modeling. This document explicitly lists "Remove unnecessary columns" as a key technique. It explains, "Each column has a storage cost, and some can be expensive... Columns with a high number of unique values (high

cardinality) are the most expensive."
Source: Microsoft Power BI Documentation, "Data reduction techniques for Import modeling,"
Section: "Remove unnecessary columns."

Question: 5

DRAG DROP You are modifying a Power Bi model by using Power Bl Desktop. You have a table named Sales that contains the following fields.

Name	Data type
Transaction ID	Whole Number
Customer Key	Whole Number
Sales Date Key	Date
Sales Amount	Whole Number

You have a table named Transaction Size that contains the following data.

Transaction Size ID	Transaction Size	Min	Max
1	Small	0	10,000
2	Medium	10,001	100,000
3	Large	100,001	999,999,999

You need to create a calculated column to classify each transaction as small, medium, or large based on the value in Sales Amount. How should you complete the code? To answer, drag the appropriate values to the correct targets. Each value may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content. NOTE: Each correct selection is worth one point.

Values

- ALL
- AND
- CALCULATE
- FILTER
- OR
- SUM

Answer Area

```
Transaction Size =
VAR SalesTotal = 'Sales'[Sales]
VAR FilterSegment =
        [Value] (
            'Transaction Size',
            [Value] (
                'Transaction Size'[Min] <= SalesTotal,
                'Transaction Size'[Max] >= SalesTotal
            )
        )
VAR Result =
        [Value] ( DISTINCT ( 'Transaction Size'[Transaction Size] ), FilterSegment )
RETURN
        Result
```

Answer:

First Value: FILTER

Second Value: AND

Third Value: CALCULATE

Explanation:

This DAX expression creates a calculated column to classify sales transactions. Here's a breakdown of the chosen functions:

• FILTER: This function is used first to create a temporary table variable (FilterSegment). It iterates through the 'Transaction Size' table and includes only the row where the current row's SalesTotal is between the Min and Max values.

• AND: This logical function is used inside FILTER to combine two conditions. It's essential because a transaction's Sales Amount must be both greater than or equal to the Min value and less than or equal to the Max value to belong to a specific size category.

• CALCULATE: This function evaluates an expression within a modified filter context. In this case, it evaluates the expression DISTINCT('Transaction Size'Transaction Size) using the FilterSegment table as its filter. This action isolates the single correct transaction size name (e.g., 'Small') from the filtered row, which is then returned as the result.

The completed code would look like this:

```
Transaction Size =

VAR SalesTotal = 'Sales'Sales Amount

VAR FilterSegment =

 FILTER (

 'Transaction Size',

 AND (

 'Transaction Size'Min = SalesTotal,
```

```
'Transaction Size'Max = SalesTotal

)

)

VAR Result =

CALCULATE ( DISTINCT ( 'Transaction Size'Transaction Size ), FilterSegment )

RETURN

Result
```

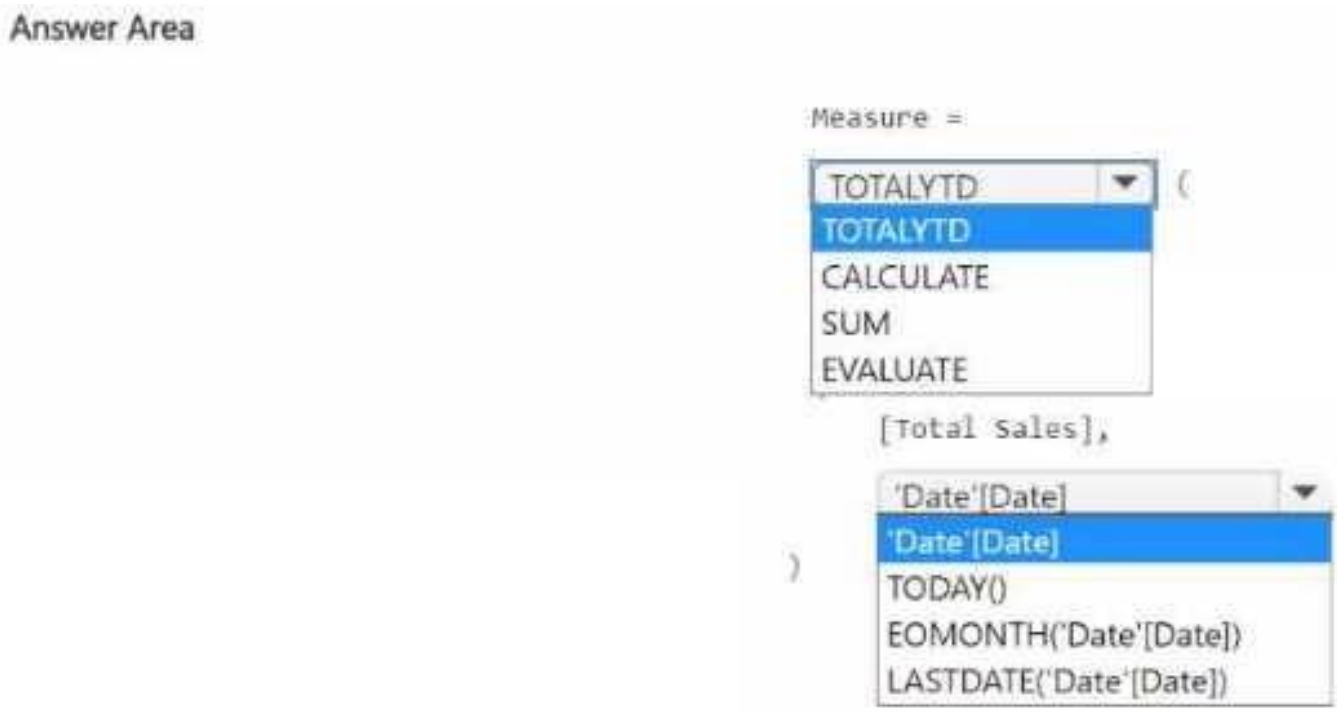
References:

CALCULATE function (DAX): The official Microsoft documentation explains that CALCULATE evaluates an expression in a context modified by filters. Table expressions, like the FilterSegment variable used here, can serve as filters.
Microsoft Docs, "CALCULATE function (DAX) - DAX Microsoft Learn", Filter arguments section.

FILTER function (DAX): This documentation details how FILTER returns a table that is a subset of another table, based on a filter condition. This is precisely how FilterSegment is created.
Microsoft Docs, "FILTER function (DAX) - DAX Microsoft Learn", Syntax and Parameters sections.
AND function (DAX): The AND function is described as checking whether two arguments are TRUE and returning TRUE if both are TRUE. This is required to create the correct range check within the FILTER expression.
Microsoft Docs, "AND function (DAX) - DAX Microsoft Learn", Syntax section.

Question: 6

You have a Power BI report that contains a measure named Total Sales. You need to create a new measure that will return the sum of Total Sates for a year up to a selected date. How should you complete the DAX expression? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.



Answer:

Explanation:

The objective is to calculate a year-to-date (YTD) sum of the Total Sales measure.

• The TOTALYTD function is the correct choice as it's a time intelligence function specifically designed to evaluate an expression's value for the year up to the last date in the current filter context.

• The function's syntax, TOTALYTD(expression, dates), requires a column of dates as its second argument. The 'Date'Date column provides this necessary contiguous range of dates for the function to operate correctly.

Other options like CALCULATE could be used with other functions to achieve the same result (e.g., CALCULATE(Total Sales, DATESYTD('Date'Date))), but TOTALYTD is the more direct and precise function for this specific requirement.

References:

Microsoft Corporation. (n.d.). TOTALYTD function (DAX). Microsoft Learn. Retrieved from learn.microsoft.com/en-us/dax/totalytd-function-dax.
Details: The official documentation explicitly defines the function's purpose: "Evaluates the year-to-date value of the expression in the current context." It also specifies the syntax, requiring an expression and a dates column, confirming the correct selections.

Question: 7

DRAG DROP -

You have a Microsoft Excel spreadsheet named Excel1 that contains survey results.

You have a Power BI dashboard named DashboardA that has Q&A enabled.

You need to ensure that users who can access DashboardA can ask questions based on the contents of Excel1 and pin visuals based on their queries to

DashboardA. The solution must minimize development time.

Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

Select and Place:

[image could not be rendered]

Answer:

[image could not be rendered]

Explanation:

The goal is to enable Power BI's natural language Q&A feature for an Excel data source and make it accessible from a specific dashboard. The most efficient sequence to achieve this is as follows:

• Format as a table: Power BI works best with structured data. Formatting your data as a table in Excel is the standard prerequisite for Power BI to correctly recognize and import the data fields, including headers, into a dataset.

• Import as a dataset: To use Q&A, the data must exist as a Power BI dataset. The Import option in the Power BI service is the correct action to create a new dataset from the tables within the Excel file. The alternative, 'Upload', simply places the Excel file in the workspace without creating a queryable dataset for Q&A.

• Add a tile to the dashboard: The Q&A feature on a dashboard queries all datasets that are associated with it. The way to create this association is by pinning a tile (such as a visual from a report or a Q&A result) from the dataset to the dashboard. This action links the dataset to

DashboardA, enabling users to ask questions against the Excel data directly from the dashboard's Q&A box.

References:

Microsoft Power BI Documentation, "Get data from Excel workbook files": This official guide details the differences between uploading an Excel file and importing its data. It specifies, "When you import Excel data, any supported data in tables and/or a data model are imported into a new dataset in Power BI." This supports the necessity of the first two steps: formatting data into tables and then using the import function.

Microsoft Power BI Documentation, "Create a Power BI dashboard from a report": This document explains how dashboards are composed of tiles pinned from reports and datasets. It clarifies that "The dashboard Q&A feature automatically enables when you pin a live page from a report, and it is also enabled for any dataset you have connected."

Microsoft Power BI Documentation, "Use Power BI Q&A to explore your data and create visuals": This resource states that the dashboard Q&A feature searches for answers in any dataset that has a tile pinned to that dashboard. This directly confirms that adding a tile from the new dataset to the dashboard is the final required step to link them for Q&A functionality.

Question: 8

You have a Power BI query named Sates that imports the columns shown in the following table.

Name	Description	Sample value
ID	A unique value that represents a sale	10253
Sale_Date	Sales date A column to extract the date of the sale	2021-11-23T09:53:00
Customer_ID	Represents a unique customer ID number	13158
Delivery_Time	Elapsed delivery time in hours Can contain null values	51.52
Status	Sales status Contains only the following two values: Finished and Canceled	Finished
Canceled_Date	Cancellation date and time Can contain null values	2021-11-24T14:11:23

Usees only use the dale part of the Sales.Date field. Only rows with a Status of Finished are used in analysis. You need to reduce the load times of the query without affecting the analysis. Which two actions achieve this goal? Each correct answer presents a complete solution. NOTL Each correct selection is worth one pant.

A. Remove the rows in which sales status has a value of Canceled.

B. Change the data type of sale DeliveryTime to Integer

C. Removes (Canceled Date).

D. Split Sales SaleDate into separate date and time columns.

E. Remove sales SalesDate.

Answer:

A, D

Explanation:

To reduce query load times, the volume of data being imported must be minimized. The two primary methods for this are removing unnecessary rows and reducing the size/complexity of columns.

1. The problem states that only rows with a Status of 'Finished' are used. Therefore, filtering out rows with other statuses, such as 'Canceled', during the query process is a direct and effective way to reduce the number of rows loaded into the data model.
2. The problem also states that users only need the date part of SaleDate. A DateTime data type has high cardinality and uses more memory than a Date data type. Splitting the SaleDate column

allows for the removal of the unneeded time component, which reduces the column's cardinality and memory footprint, thereby improving performance.

Why Incorrect Options are Wrong:

B. Change the data type of sale DeliveryTime to Integer: This is an arbitrary change that could lead to data loss or misinterpretation, as the intended use and format of DeliveryTime are unknown.
C. Removes (Canceled Date): While removing an unused column is a valid optimization, Action D addresses the other explicit requirement about the SaleDate column, making the pair (A, D) a more complete solution that maps directly to both constraints provided.
E. Remove sales SalesDate: This action is incorrect because the date information from this column is explicitly required for the analysis.

References:

1. Microsoft Learn. (2023). Optimize a model for performance in Power BI - "Optimize data models" unit.
Reference for A: This official training module states, "You can also reduce the dataset size by removing unnecessary rows... You can apply filters in Power Query Editor to remove unnecessary rows from being loaded into your model." This directly supports filtering rows based on the 'Status' column.

Reference for D: The module explains, "High-cardinality columns have a performance cost... A datetime column is a good example... If you only need to store the date, then change the data type to Date. Or, you can split the column into two columns... You can then remove the time column if you don't need it." This supports splitting the SaleDate to remove the unneeded time component.
2. Microsoft Docs. (2023). Power BI performance best practices - "Data model optimization" section.
Reference for A & D: This documentation emphasizes the importance of reducing data model size by "removing unnecessary columns and rows" and "optimizing column data types." It specifically identifies DateTime columns as candidates for optimization by splitting them if the time component is not required, which reduces cardinality.

Question: 9

You are creating a Power BI model that contains a table named Store. Store contains the following fields. You plan to create a map visual that will show store locations and provide the ability to drill down from Country to State/Province to City. What should you do to ensure that the locations are mapped property?

A. Set the data category of City. State/Province, and Country.

B. Set Summarization for City. State/Province, and Country to Don't summarize

C. Change the data
type of City. State/Province, and Country.

D. Create a calculated column that concatenates the values it City, State/Province, and Country.

Answer:

A

Explanation:

To ensure Power BI's mapping engine correctly interprets and geocodes geographic data, you must set the appropriate data category for each location-based column. By explicitly categorizing the Country, State/Province, and City columns, you provide essential context to the underlying Bing Maps service. This resolves potential ambiguities (e.g., a city name that exists in multiple countries) and is the standard procedure for preparing data for reliable map visuals. Once categorized, these fields can be used to create a drill-down hierarchy in the map visual.

Why Incorrect Options are Wrong:

B. Text fields are set to 'Don't summarize' by default in Power BI; this is the correct state but not the action required to ensure proper mapping.
C. The data type for geographic names like City or Country should be 'Text'. Changing this data type would be incorrect and prevent mapping.
D. Concatenating the fields into a single column would create a single location value, preventing the creation of the required multi-level drill-down hierarchy.

References:

1. Microsoft Learn. (2023). Tips and tricks for map visuals (bubble, shape, and Azure maps). In the "Use data categorization" section, it states: "To help with geocoding, Power BI lets you specify the Data Category for the data fields. In Data view, select the desired column. From the Column tools ribbon, select the appropriate Data Category, for example, Address, City, Continent, Country, County, Postal Code, State, or Province."
2. Microsoft Learn. (2023). Create and use maps (filled maps) in Power BI. The section "Set geographic categories in Power BI Desktop" explicitly guides the user: "In Power BI Desktop, you

can set the data category for a column. In the Data view, select the column you want. On the Modeling tab, select Data Category and then the correct category."
3. University of California, Berkeley. (n.d.). Power BI - Maps. In the "Data Categorization" section of its Power BI guide, it advises: "To ensure that your geocoding is correct, you can set the data category on your data fields. In data view, select the column you want to modify. From the Modeling ribbon, select the appropriate Data Category."

Question: 10

You are creating a sales report in Power BI for the NorthWest region sales territory of your company. Data will come from a view in a Microsoft SQL Server database. A sample of the data is shown in the following table:

ID	ProductKey	OrderDate	ShipDate	CustomerKey	SalesTerritoryRegion	SalesOrderNumber	SalesOrderLineNumber	OrderQuantity	UnitPrice	SalesAmount	TaxAmount	Freight
1	310	2010-12-29	2011-01-05	21768	Canada	SO43697	1	1	3578.27	3578.27	286.2616	89.4568
2	346	2010-12-29	2011-01-05	27365	France	SO43698	1	1	3399.99	3399.99	271.9992	84.9998
3	346	2010-12-29	2011-01-05	76537	NorthWest	SO43699	1	1	3399.99	3399.99	271.9992	84.9998
4	336	2010-12-29	2011-01-05	34256	SouthWest	SO43700	1	1	699.0982	699.0982	55.9279	17.4775
5	346	2010-12-29	2011-01-05	34253	Australia	SO43701	1	1	3399.99	3399.99	271.9992	84.9998
6	311	2010-12-30	2011-01-06	12543	SouthWest	SO43702	1	1	3578.27	3578.27	286.2616	89.4568
7	310	2010-12-30	2011-01-06	76545	Australia	SO43703	1	1	3578.27	3578.27	286.2616	89.4568

The report will facilitate the following analysis: • The count of orders and the sum of total sales by Order Date • The count of customers who placed an order • The average quantity per order You need to reduce data refresh times and report query times. Which two actions should you perform? Each correct answer presents part of the solution NOTE: Each correct selection is worth one point.

A. Fillet the data to only the NorthWest region sales territory.

B. Remove the CustomerKey and ProductKey columns.

C. Remove the TaxAmt and Freight columns.

D. Set the data type for SatesOrderNumber to Decimal Number

Answer:

A, C

Explanation:

To optimize performance by reducing data refresh and report query times, the fundamental principle is to minimize the amount of data loaded into the Power BI model.

1. Filtering Rows (A): The report is specifically for the "NorthWest" sales territory. By filtering the data to include only rows from this region during the data import process, you significantly reduce the total number of rows in the dataset. A smaller row count leads to faster data refreshes and quicker query execution.

2. Removing Columns (C): The analysis requirements do not involve the TaxAmt or Freight columns. Removing unnecessary columns reduces the model's memory footprint and complexity. This practice, known as reducing cardinality, is a key best practice for improving performance in Power BI.

Why Incorrect Options are Wrong:

B. Remove the CustomerKey and ProductKey columns.
Removing CustomerKey is incorrect because it is required to calculate the "count of customers who placed an order."
D. Set the data type for SatesOrderNumber to Decimal Number.
SalesOrderNumber is an identifier, likely text. Changing it to a numeric type, especially decimal, is inappropriate and would not improve performance; it could cause errors or increase model size.

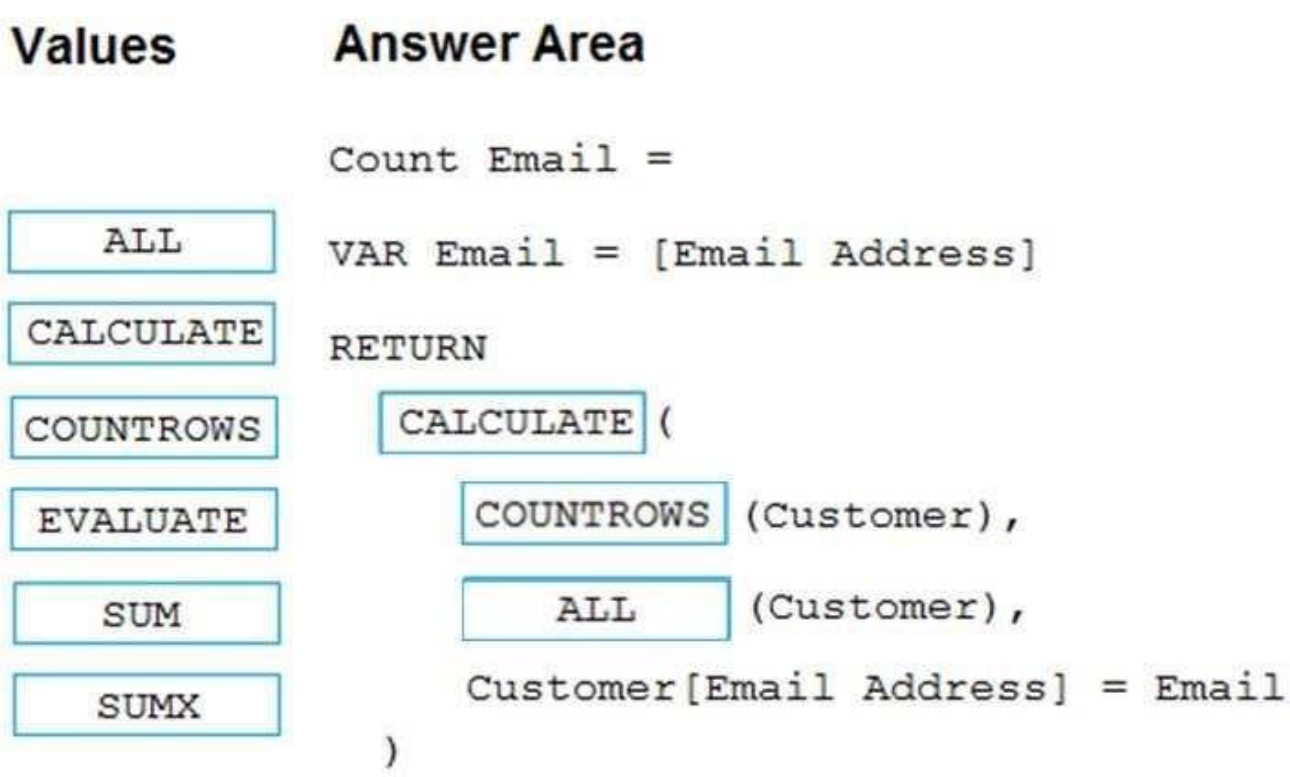
References:

1. Microsoft Power BI Documentation, "Data reduction techniques for Import modeling": This official guide explicitly recommends removing unnecessary columns and rows as primary methods for improving performance. It states, "The smaller a model is, the faster it will be... Two primary techniques are available: removing columns and removing rows."
Section: "Remove unnecessary columns" and "Remove unnecessary rows".
2. Microsoft Power BI Documentation, "Power Query query folding": Applying filters at the source, such as filtering by SalesTerritoryRegion, allows for query folding. This pushes the filtering operation back to the SQL Server database, which processes the filter much more efficiently before sending the reduced dataset to Power BI, drastically improving refresh performance.
Section: "Query folding guidance".
3. Microsoft Power BI Documentation, "Optimization guide for Power BI": This guide emphasizes the importance of reducing model size. It states, "A key factor that determines model performance is the dataset size... Remove any columns that you don't need. Remove any rows that you don't need."
Section: "Data model optimization" - "Reduce your data model size".

Question: 11

DRAG DROP You have a Power BI table named Customer that contains a field named Email Address. You discover that multiple records contain the same email address. You need to create a calculated column to identify which records have duplicate email addresses. How should you complete the OAX expression for the calculated column? To answer, drag the appropriate values to the correct targets. Each value may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content NOTE: Each correct selection is worth one point.

Answer:



Explanation:

The goal is to create a calculated column that counts, for each row, how many times its email address appears in the entire Customer table. This requires overriding the default row context.

• VAR Email = Email Address: This line stores the email address of the current row into a variable named Email.

• CALCULATE (Box 1): This function is essential as it modifies the context in which an expression is evaluated. It's the primary function that will contain the logic.

• COUNTROWS(Customer) (Box 2): This is the expression that CALCULATE will evaluate. It counts the number of rows in the Customer table after the new filters are applied.

• ALL(Customer) (Box 3): This function is the crucial filter modifier. In a calculated column, there is an inherent row context, meaning calculations typically only see the current row. ALL(Customer) removes this context, allowing the calculation to see the entire table.

• CustomerEmail Address = Email: This is the final filter. After ALL(Customer) has exposed the entire table, this expression filters it down to only those rows where the Email Address matches the email stored in the Email variable (i.e., the email from the original current row).

The complete expression counts the rows in the full Customer table that match the current row's email address, correctly identifying duplicates.

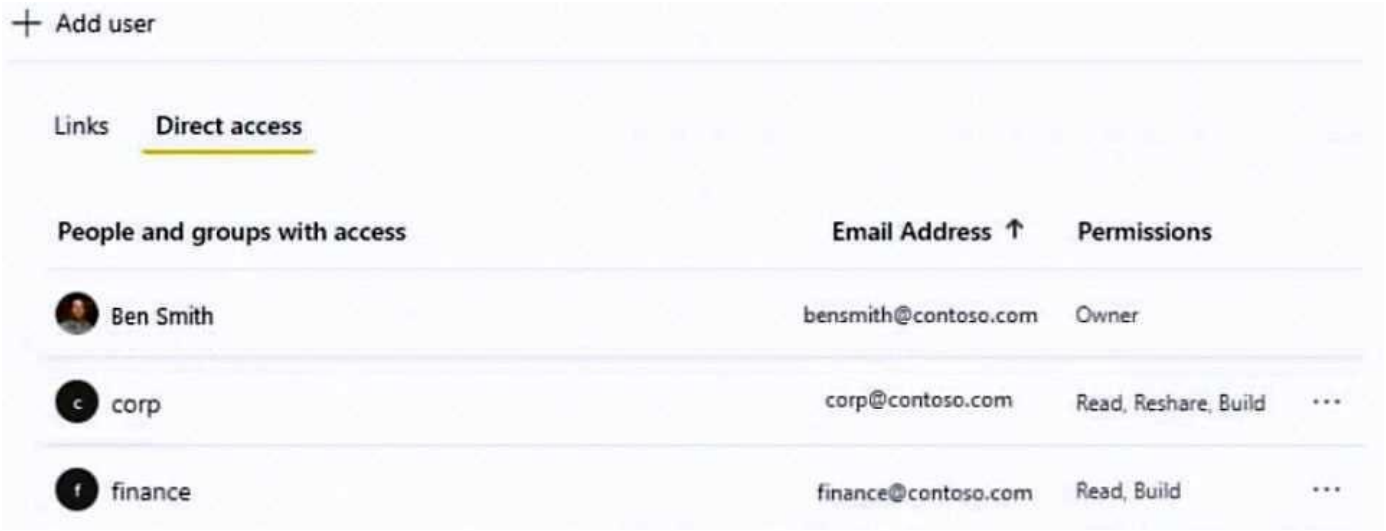
References:

CALCULATE function (DAX): The CALCULATE function evaluates an expression in a modified filter context. Its first argument is the expression to evaluate, followed by a series of filters. This supports using CALCULATE as the main function (Box 1).
Source: Microsoft, "CALCULATE function (DAX)," DAX reference, learn.microsoft.com. Retrieved September 26, 2025.
ALL function (DAX): The ALL function returns all the rows in a table, ignoring any filters that might have been applied. The documentation states, "This function is useful for clearing filters and creating calculations on all the rows in a table." This confirms its role in removing the row context (Box 3).
Source: Microsoft, "ALL function (DAX)," DAX reference, learn.microsoft.com. Retrieved September 26, 2025.
COUNTROWS function (DAX): This function simply counts the number of rows in a table. It is the aggregation expression needed inside CALCULATE (Box 2).
Source: Microsoft, "COUNTROWS function (DAX)," DAX reference, learn.microsoft.com.

Retrieved September 26, 2025.
Context in DAX Formulas: Official Power BI documentation explains that calculated columns have an inherent row context. To perform a calculation that references the entire table from within a row context, you must use a function like ALL to modify the filter context.
Source: Microsoft, "Context in DAX formulas," Power BI Documentation, learn.microsoft.com. Retrieved September 26, 2025.

Question: 12

HOTSPOT



You have a dataset that has the permissions shown in the following exhibit. Use the drop-down menus to select the answer choice that completes each statement based on the information presented in the graphic. NOTE: Each correct selection is worth one point.

Answer Area

Users in the finance group can **[answer choice]** the dataset.

- assign sensitivity labels to
- use Analyze in Excel with
- delete

Users in the corp group can **[answer choice]** the dataset.

- grant the Build permission for
- grant the Read permission for
- remove a table from

Answer:

Answer Area

Users in the finance group can **[answer choice]** the dataset. use Analyze in Excel with

Users in the corp group can **[answer choice]** the dataset. grant the Read permission for

Explanation:

The provided image displays the direct access permissions for a Power BI dataset. The answers are determined by the capabilities associated with each permission level.

• For the finance group: This group has Read and Build permissions. The Build permission is specifically required for users to create new content based on the dataset, which includes using the "Analyze in Excel" feature. The other options, such as deleting the dataset or assigning sensitivity labels, require Owner or Write permissions, which this group does not have.

• For the corp group: This group has Read, Build, and Reshare permissions. The key permission here is Reshare, which allows users to grant their existing permissions to other users. Since the corp group possesses the Build permission, the Reshare permission enables them to grant that same Build permission to others. Removing a table requires Write permission, which the group lacks.

References:

Microsoft Power BI Documentation, "Dataset permissions": This official document outlines the capabilities granted by each permission level.
Build permission: "Build permission applies to datasets. When you give a user Build permission, they can build new content on your dataset, such as reports, dashboards, pinned tiles from Q&A, paginated reports, and Insights Discovery. .... Users with Build permission can also use Analyze in Excel."
Reshare permission: "Allows a recipient to reshare the item. This option is available only for users with the Reshare permission on the item." When a user with Reshare permission shares an item, they can grant any of the permissions they themselves possess.

Question: 13

From Power 61 Desktop, you publish a new dataset and report lo a Power BI workspace. The dataset has a row-level security (RLS) role named HR. You need to ensure that the HR team members have RLS applied when they view reports based on the dataset. What should you do?

A. From Power BI Desktop, change the Row-Level Security settings.

B. From Power BI Desktop, import a table that contains the HR team members

C. From powerbi.com.add users to the HR role for the dataset.

D. From powerbi.com, share the dataset to the HR team members.

Answer:

C

Explanation:

Row-level security (RLS) roles are defined within the Power BI Desktop model. However, once the dataset is published to the Power BI service (powerbi.com), the assignment of users or security groups to these roles must be performed in the service. The correct procedure is to navigate to the security settings of the published dataset in the Power BI workspace and add the HR team members to the pre-defined "HR" role. This action enforces the RLS rules for those specific users when they access reports built on this dataset.

Why Incorrect Options are Wrong:

A. Power BI Desktop is used to create and define the RLS roles and their filter rules, not to assign members to those roles for the published report.
B. Importing a table of users is a technique for implementing dynamic RLS, but it does not by itself assign users to the role; that assignment still happens in the service.
D. Sharing a dataset or report grants access permissions (e.g., Read, Build) but does not assign users to a specific RLS role for data filtering.

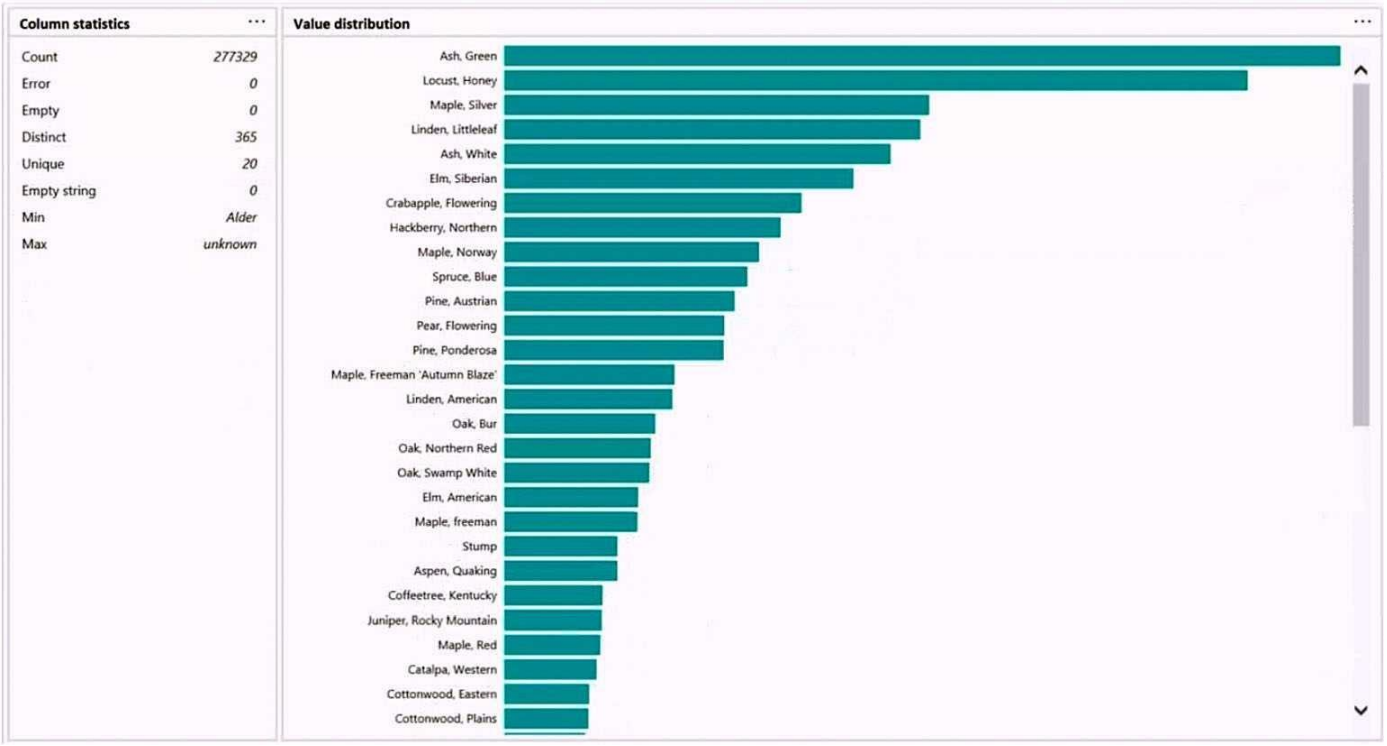
References:

1. Microsoft Learn. (2023). Row-level security (RLS) with Power BI.
Section: "Manage security on your model"
Content: "After you publish your Power BI Desktop report to the Power BI service, you can manage security and add or remove members. ... In the Power BI service, find the dataset ... select More options ... and select Security. On the row-level security page, you add members to a role you created in Power BI Desktop."
2. Microsoft Learn. (2023). Restrict data access with row-level security (RLS) for Power BI Desktop.
Section: "Manage security on your model"

Content: "To manage security on your data model, open the workspace where you saved your report in the Power BI service... Select the Security option. Here, you add members to a role you created in Power BI Desktop." This section explicitly details the process of adding users to a role within the Power BI service, confirming this is the correct step after publishing.

Question: 14

HOTSPOT You are profiling data by using Power Query Editor. You have a table that contains a column named column1. Column statistics and Value distribution for column1 are shown in the following exhibit.



Answer Area

There **[answer choice]** only once.
- are 20 values that occur
- are 365 values that occur
- are 277,329 values that occur
- is one value that occurs

The Pear, Flowering species is found more often in column1 than the **[answer choice]** species.
- Ash, Green
- Crabapple, Flowering
- Elm, American
- Spruce, Blue

Answer:

are 20 values that occur

Elm, American

Explanation:

The Column statistics pane provides a summary of the data in the selected column. The Unique statistic specifically identifies the count of values that appear only once in the entire dataset. In the provided exhibit, the value for "Unique" is 20, meaning there are exactly 20 values that occur a single time.

The Value distribution chart visually represents the frequency of each value in the column, with longer bars indicating higher frequency. By comparing the length of the bar for "Pear, Flowering" to the options, it's clear that its bar is longer than the one for "Elm, American". This indicates that the "Pear, Flowering" species appears more often in the column than the "Elm, American" species.

References:

Microsoft Corporation. (n.d.). Use the data profiling tools. Microsoft Learn. Retrieved from learn.microsoft.com/en-us/power-query/data-profiling-tools.
Details: This official documentation explains the features of the Power Query Editor's data profiling tools. The "Column profile" section details the meaning of each statistic, explicitly defining Unique as "The number of values that only appear once." It also explains that the Value distribution chart shows the frequency of the values.
Abiteboul, S., Hull, R., & Vianu, V. (1995). Foundations of Databases. Addison-Wesley.
Section 4.2, "Attributes and Domains": This foundational text discusses data properties. The concept of a unique value is fundamental to database theory and refers to an instance of data that has no duplicates within its scope, aligning with the definition used in modern data profiling tools.
Kimball, R., & Ross, M. (2013). The Data Warehouse Toolkit: The Definitive Guide to Dimensional Modeling (3rd ed.). Wiley.
Chapter 3, "Retail Sales": While focused on data warehousing, this book extensively covers data quality and profiling as a prerequisite for analysis. It emphasizes the importance of understanding value distributions, including identifying unique and distinct counts, to assess data consistency and integrity, which is the exact purpose of the Power Query feature shown.

Question: 15

DRAG DROP You have a Microsoft Excel workbook that contains two sheets named Sheet1 and Sheet2. Sheet1 contains the following table named Table1.

Products
abc
def
ghi
jkl
mno

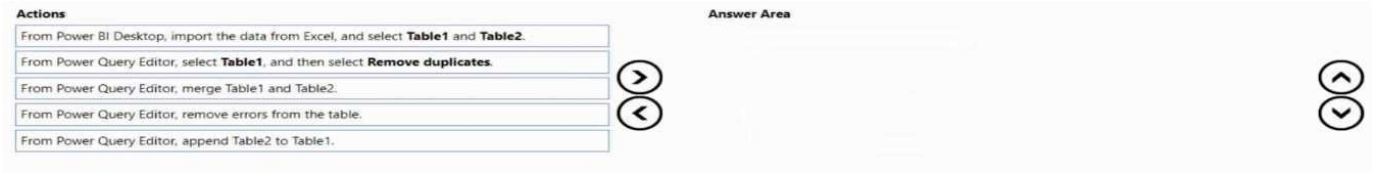
Sheet2 contains the following table named Table2.

Products
abc
xyz
tuv
mno
pqr
stu

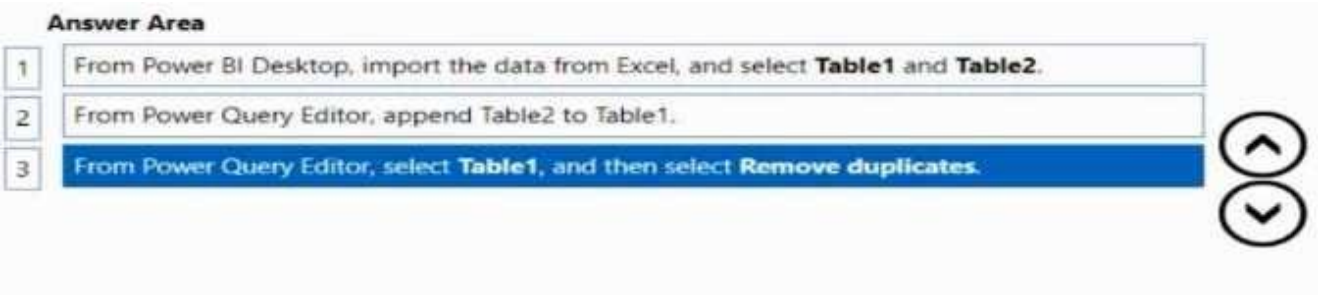
You need to use Power Query Editor to combine the products from Table1 and Table2 into the following table that has one column containing no duplicate values.

Products
abc
xyz
tuv
mno
pqr
stu
def
ghi
jkl

Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.



Answer:



Explanation:

The objective is to combine two tables into a single column with unique values. This requires a three-step process in Power Query:

• Import Data: The first step is to load the source data into Power BI. You must import both Table1 and Table2 from the Excel workbook to make them available in the Power Query Editor.

• Append Queries: The goal is to stack the rows from Table2 onto the end of Table1. The Append operation does exactly this, creating a single, longer table that contains all rows from both source tables. A Merge operation, in contrast, would join the tables based on a common column, which is not what's needed here.

• Remove Duplicates: After appending, the combined table will contain duplicate product entries (e.g., 'abc' and 'mno'). The final requirement is a list of unique products, so the Remove Duplicates action is used on the combined table's product column to eliminate these repeated values.

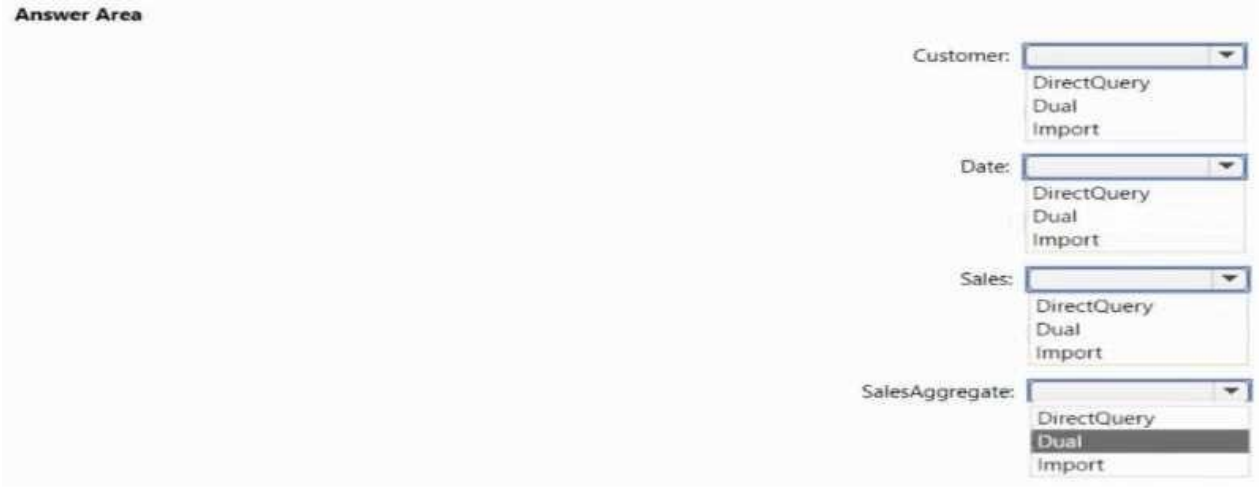
References:

Microsoft Power Query Documentation. The overall process of connecting to data and shaping it is outlined here. The first step always involves getting the data.
Source: Microsoft Docs, "Tutorial: Shape and combine data in Power BI Desktop," Section: "Connect to data."
Microsoft Power Query Documentation on Appending Queries. This document explicitly describes the Append operation as a way to combine two or more tables into a single table.
Source: Microsoft Docs, "Append queries," Section: "Append queries." This section states, "The append operation creates a single table by adding the contents of one or more tables to another."
Microsoft Power Query Documentation on Removing Duplicates. This guide details how to use the "Remove Duplicates" feature to ensure all values in a column are unique.

Source: Microsoft Docs, "Work with duplicates," Section: "Remove duplicates." It explains, "For this example, your goal is to remove the duplicates found in a table... select the column... then select Remove duplicates."

Question: 16

HOTSPOT You plan to create the Power BI model shown in the exhibit. (Click the Exhibit tab.) The data has the following refresh requirements: • Customer must be refreshed daily. • Date must be refreshed once every three years. • Sales must be refreshed in near real time. • SalesAggregate must be refreshed once per week. You need to select the storage modes for the tables. The solution must meet the following requirements:



Answer:

Customer: Dual

Date: Dual

Sales: DirectQuery

SalesAggregate: Import

Explanation:

The selection of storage modes is determined by balancing data freshness requirements with query performance. This configuration creates a composite model.

• Sales: The requirement for near real-time data makes DirectQuery the only suitable option. This mode queries the data source directly each time, ensuring the data is always current.

• SalesAggregate: This table is an aggregation that is only refreshed weekly. The Import mode is ideal here. It caches the data within the Power BI model, leading to significantly faster query performance for aggregated reports, and a weekly scheduled refresh meets the requirement.

• Customer and Date: These are dimension tables that need to filter both the real-time Sales table (DirectQuery) and the cached SalesAggregate table (Import). The Dual storage mode is designed for this exact scenario. It allows Power BI to use the cached version of these tables for performance when interacting with imported data, and to act as DirectQuery when filtering the live Sales data, providing maximum efficiency and flexibility.

References:

Microsoft Power BI Documentation, "Use storage mode in Power BI Desktop": This document details the three storage modes. It explains that DirectQuery is for data that changes frequently and Import is for performance. It also specifies the use of Dual mode for dimension tables in a composite model: "When a table has its storage mode set to Dual, it means Power BI will use Import or DirectQuery mode depending on the query context." This supports setting Customer and Date to Dual.
Microsoft Power BI Documentation, "Use composite models in Power BI Desktop": This guide explains how to combine DirectQuery and Import data sources. It highlights the primary use case for Dual mode: improving performance for dimension tables that relate to both Import and DirectQuery fact tables, which is precisely the architecture described in the question.
Microsoft Power BI Documentation, "Aggregations in Power BI": While not explicitly referenced in the question, the SalesAggregate table is a classic example of a user-defined aggregation table. The documentation states, "User-defined aggregations can improve query performance over large DirectQuery datasets... The aggregation table is cached in-memory." This confirms that an aggregation table like SalesAggregate should be set to Import mode to be cached for performance gains.

Question: 17

You are building a Power BI report that uses data from an Azure SQL database named erp1. You Import the following tables.

Name	Description
Products	Contains the product catalog
Orders	Contains high-level information about orders
Order Line Items	Contains the product ID, quantity, and price details of an order

You need to perform the following analyses: • Orders sold over time that include a measure of the total order value • Orders by attributes of products sold The solution must minimize update times when interacting with visuals in the report. What should you do first?

A. From Power Query, merge the Orders query and the Order Line Hems query.

B. Calculate the count of orders per product by using a DAX function.

C. Create a calculated column that adds a list of product categories to the Orders table by using a DAX function.

D. From Power Query, merge the Order Line Items query and the Products query.

Answer:

D

Explanation:

In Power Query, merging the small Products dimension into the much larger Order Line Items fact table denormalizes the model, so every line already carries its product attributes. When the report later aggregates to "orders over time" or filters "orders by product attributes," VertiPaq no longer needs runtime joins between two tables, which materially lowers the number of storage-engine look-ups and results in faster visual-update latency. This step is performed before the data is loaded, so it does not slow interactive operations; instead, it eliminates a lookup table while retaining the required relationship (Orders 1-- Order Line Items) for order-level calculations.

Why Incorrect Options are Wrong:

A. Merging Orders with Order Line Items multiplies each order row by its lines, inflates model size, and slows queries.
B. Creating a DAX count measure does nothing to remove the runtime joins that cause latency; performance issue remains.
C. Adding a calculated column of concatenated categories bloats the Orders table, adds no necessary relationship, and leaves joins untouched.

References:

1. Microsoft Learn - "Star schema in Power BI: Denormalize small dimensions into the fact table when it improves query performance" (power-bi/transform-model/star-schema.md, "Denormalize dimensions" section, 3, accessed 2025-09-12).
2. Microsoft Learn - "Optimize your Power BI data model for performance" (power-bi/guidance/optimize-model-performance.md, "Flatten small lookup tables" section, 2-4).
3. Microsoft Learn - "Merge queries" (power-query/merge-queries.md, Steps 1-3: description of combining two related tables before load).
4. Microsoft Learn - "VertiPaq internals" whitepaper (msdn.microsoft.com/library/hh212944.aspx), Section 4.2 "Eliminating relationships lowers storage-engine joins."

Question: 18

You have a Power BI report hosted on powerbi.com that displays expenses by department for department managers. The report contains a line chart that shows expenses by month. You need to enable users to choose between viewing the report as a line chart or a column chart. The solution must minimize development and maintenance effort. What should you do?

A. Add a column chart, a bookmark, and a button for users to choose a visual.

B. Create a mobile report that contains a column chart.

C. Create a separate report page for users to view the column chart.

D. Enable report readers to personalize visuals.

Answer:

D

Explanation:

The "Personalize visuals" feature in Power BI is designed specifically for this scenario. By enabling this report-level setting, you empower end-users to modify visuals to suit their needs, including changing the visualization type from a line chart to a column chart. This approach is the most efficient as it involves enabling a single option in the report settings. It requires no additional development of visuals, bookmarks, or pages, thereby minimizing both initial development and ongoing maintenance effort, which directly aligns with the question's constraints.

Why Incorrect Options are Wrong:

A. This method is functional but requires significantly more development effort: adding a new chart, managing visibility in the selection pane, creating at least two bookmarks, and configuring buttons.
B. Creating a mobile-optimized report does not fulfill the requirement for users viewing the standard report on a desktop or web browser.
C. While simple to set up, creating a separate page doubles the maintenance effort. Any future changes to filters, titles, or other visuals must be replicated on both pages.

References:

1. Microsoft Learn. (2023). Let users personalize visuals in a report.
Reference: In the "Enable personalization in a report" section, it states, "When you enable this feature for a report, by default all visuals in that report can be personalized." The "What a user can change" section explicitly lists "Change the visualization type" as a capability. This confirms that enabling this single feature meets the requirement with minimal effort.
2. Microsoft Learn. (2023). Use personal bookmarks in the Power BI service.
Reference: The "Capture changes to a visual" section explains how personalization works in

conjunction with personal bookmarks. It notes, "When you personalize a visual in a report, you can save it as a personal bookmark." This shows how users can save their preferred view (e.g., the column chart) for future sessions, enhancing the user experience provided by the "Personalize visuals" feature.

3. Microsoft Learn. (2023). Create bookmarks in Power BI Desktop to share insights and build stories.

Reference: The documentation on creating bookmarks details a multi-step process involving the Selection and Bookmarks panes. This demonstrates that the bookmarking method (Option A) is more complex and time-consuming to develop and maintain compared to enabling the "Personalize visuals" feature.

Question: 19

You have two Power BI reports named ReportA and ReportB that each uses a distinct color palette. You are creating a Power BI dashboard that will include two visuals from each report You need to use a consistent dark theme for the dashboard. The solution must preserve the original colors of the reports. Which two actions should you perform? Each correct answer presents part of the solution. NOTE: Each correct selection is worth one point.

A. Upload a snapshot.

B. Select the dark dashboard theme.

C. Turn on tile flow.

D. When pinning visuals to the dashboard, select Use destination theme.

E. For the browser, set the color preference to dark mode.

Answer:

B, D

Explanation:

To achieve a consistent dark theme on a Power BI dashboard, two primary actions are required. First, the dashboard's theme must be set to "Dark". This changes the dashboard's background and tile containers to a dark color scheme. Second, when pinning visuals from reports that have different color palettes, you must select "Use destination theme." This action forces the pinned visual to adopt the dashboard's theme, overriding its source report colors and ensuring all tiles on the dashboard have a consistent look and feel. The constraint to "preserve the original colors of the reports" is met because this action only affects the tile on the dashboard; the source reports themselves remain unchanged.

Why Incorrect Options are Wrong:

A. Upload a snapshot: This creates a static image tile. It is not the standard or recommended method for creating a dynamic, themed dashboard.
C. Turn on tile flow: This feature relates to the responsive layout and arrangement of tiles on the dashboard, not their color theme.
E. For the browser, set the color preference to dark mode: This setting affects the web browser's user interface, not the content or theme of the Power BI dashboard itself.

References:

1. Microsoft. (n.d.). Dashboard themes in the Power BI service. Microsoft Learn. Retrieved from https://learn.microsoft.com/en-us/power-bi/create-reports/service-dashboard-themes
Section: "Dashboard themes": This section explicitly lists "Dark" as one of the built-in themes you

can apply to a dashboard, supporting option B.
Section: "How dashboard themes work": This section details the options available when pinning a visual: "To use the dashboard theme, select Use destination theme." This directly supports the action described in option D as the method to make a tile conform to the dashboard's theme.
2. Microsoft. (n.d.). Pin a tile to a Power BI dashboard from a report. Microsoft Learn. Retrieved from
https://learn.microsoft.com/en-us/power-bi/create-reports/service-dashboard-pin-tile-from-report
Section: "Pin a visual from a report": This document illustrates the "Pin to dashboard" dialog box, which contains the "Theme for this visual" setting. It confirms that "Use destination theme" is the specific choice required to apply the dashboard's theme to the new tile, validating option D.

Question: 20

HOTSPOT You need to create a Power BI report. The first page or the report must contain the following two views: * Sales By Postal Code * Sales by Month Both views must display a slicer to select a value for a field named Chain. The Sales By Postal Code view must display a map visual as shown in the following exhibit.

Answer:

Map

Explanation:

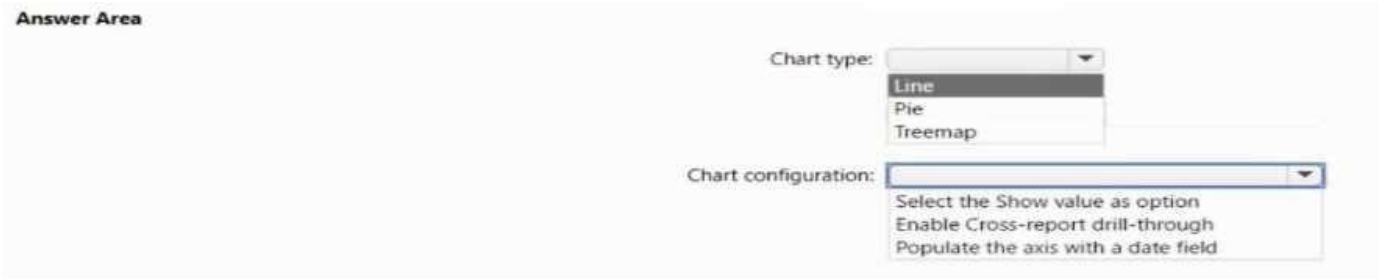
The question requires creating a "Sales By Postal Code" view that matches the provided exhibit. The exhibit shows a geographic map where data points are represented as circles (bubbles) of varying sizes over specific locations. In Power BI, this visualization is created using the Map visual. The postal code field provides the geographic location, and a measure, such as sales amount, is used to determine the bubble size, effectively representing the magnitude of sales in each postal code area.

References:

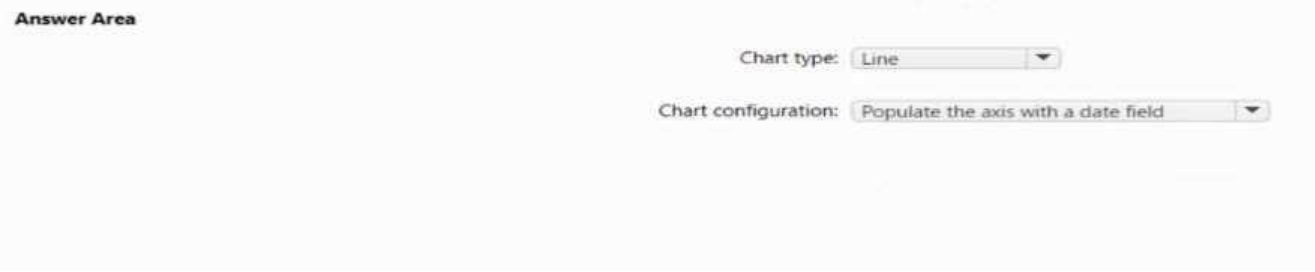
1. Microsoft Learn, Power BI Documentation. "Create and use maps (bubble, shape, and Azure maps) in Power BI." In the section "Create a bubble map," it states: "On a bubble map, the size of the bubble emphasizes the value of the data for a specific location... In the Visualizations pane, select the Map icon." This directly corresponds to the visual shown in the exhibit.
2. Microsoft Learn, Power BI Documentation. "Tips and tricks for map visuals." This document provides guidance on using location data for map visuals, stating: "To create a basic map, select the Map icon from the Visualizations pane." It further explains how to use fields for Location and Bubble size to create the required visualization.

Question: 21

HOTSPOT You have a dataset that contains revenue data from the past year. You need to use anomaly detection in Power BI to show anomalies in the dataset. What should you configure? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.



Answer:



Explanation:

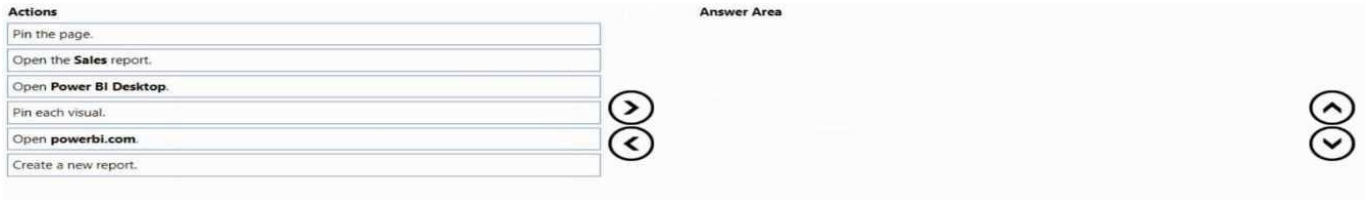
To use the anomaly detection feature in Power BI, two fundamental prerequisites must be met. First, the visual must be a line chart, as this feature is specifically designed to analyze trends over a continuous interval. Second, the chart's axis must be populated with a time-series data field, such as a date or datetime column. This is because the anomaly detection algorithm requires a chronological sequence of data points to identify values that deviate from the expected pattern or range over time. Pie charts and treemaps are unsuitable as they represent proportions and hierarchies, not trends over time.

References:

Microsoft Power BI Documentation: In the official documentation for the anomaly detection feature, it is explicitly stated that the functionality is only supported for line chart visuals and requires time-series data on the axis.
Source: Microsoft Corporation. (2023). Anomaly detection in Power BI. Microsoft Learn.
Reference: "This feature is currently only supported for line chart visuals... Anomaly detection is only supported for time series data in the Axis field of the line chart. The visual needs to be sorted by the date field." (Found in the "Limitations" and "How it works" sections).

Question: 22

DRAG DROP You have a Power BI workspace that contains a single-page report named Sales. You need to add all the visuals from Sales to a dashboard. The solution must ensure that additional visuals added to the page are added automatically to the dashboard. Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.



Answer:

Open powerbi.com

Open the Sales report

Pin the page

Explanation:

To add all visuals from a report page to a dashboard and ensure automatic updates for any new visuals, you must pin the entire page as a live tile.

• First, you need to access the Power BI service, which is done by navigating to powerbi.com, as dashboards are a feature of the Power BI service, not Power BI Desktop.

• Next, you must locate and open the specific 'Sales' report that contains the visuals you want to display on the dashboard.

• Finally, instead of pinning each visual individually, you pin the entire page. This creates a single "live tile" on the dashboard that mirrors the report page. Any changes made to the report page, including adding or removing visuals, will be automatically reflected in the dashboard tile.

References:

Microsoft Power BI Documentation: In the "Dashboards for Power BI service consumers" article, the section "Pin a tile to a dashboard from a report" details the process. It explicitly states, "Pin an entire report page, as a live tile, to a Power BI dashboard." The steps outlined are: open a report in the Power BI service and then select the pin icon to pin the page. This confirms the necessity of being in the service and opening the report first. The documentation also highlights that

changes made to the report are automatically synced with the dashboard when pinning a live page. (See section: "Pin an entire report page to a dashboard").
Microsoft Learn: The "Create a Power BI dashboard" module explains the difference between pinning a visual and pinning a live report page. It clarifies that pinning a live page is the method to use when you want the dashboard tile to update automatically as the underlying report page changes. (See section: "Pin a live report page to a dashboard").

Question: 23

You need to create a visual that enables the adhoc exploration of data as shown in the following exhibit.

Which type of visual should you use?

A. Q&A

B. decomposition tree

C. smart narrative

D. key influencers

Answer:

B

Explanation:

The exhibit displays a decomposition tree visual. This visual is specifically designed for ad-hoc exploration and root cause analysis. It allows users to break down, or decompose, a measure by various dimensions in any order they choose. The user can interactively select which dimension

to drill down into at each level of the hierarchy, which directly supports the requirement for "ad-hoc exploration of data" by visualizing how a total value is distributed among its constituent parts.

Why Incorrect Options are Wrong:

A. Q&A: This visual answers natural language questions by generating a standard visual; it does not create the interactive, hierarchical tree structure shown.
C. Smart narrative: This visual generates a dynamic, text-based summary of insights from the report, not an interactive exploratory chart.
D. Key influencers: This visual is used to identify the primary drivers or factors that impact a specific metric, not for hierarchical decomposition.

References:

1. Microsoft Learn. (2023). Create and view decomposition tree visuals in Power BI. "The decomposition tree visual in Power BI lets you visualize data across multiple dimensions. It automatically aggregates data and enables drilling down into your dimensions in any order. It is also an artificial intelligence (AI) visualization, so you can ask it to find the next dimension to drill down into based on certain criteria. This capability makes it a valuable tool for ad hoc exploration and conducting root cause analysis."
Reference Location: Introduction paragraph.
2. Microsoft Learn. (2023). Use AI visuals in Power BI. "The decomposition tree visual helps you explore a single metric by breaking it down by its component dimensions. It's a powerful tool for ad-hoc exploration and root cause analysis."
Reference Location: Section: "Decomposition tree".

Question: 24

You are creating a Power BI report by using Power Bi Desktop. You need to include a visual that shows trends and other useful information automatically. The visual must update based on selections in other visuals. Which type of visual should you use?

A. key influencers

B. decomposition tree

C. Q&A

D. smart narrative

Answer:

D

Explanation:

The smart narrative visual is an AI-powered visualization in Power BI that automatically generates a textual summary of insights, trends, and key takeaways from the data in your report. This narrative is dynamic and interactive. When a user selects data points or applies filters in other visuals on the same report page, the smart narrative automatically updates its analysis and text to reflect the filtered data context. This perfectly matches the requirement for a visual that shows trends automatically and updates based on selections.

Why Incorrect Options are Wrong:

A. key influencers: This visual identifies the factors that drive a specific metric, focusing on contribution analysis rather than providing a general summary of trends.
B. decomposition tree: This visual is used for root cause analysis and ad-hoc exploration by breaking down a metric into its constituent dimensions, not for generating an automatic narrative.
C. Q&A: This visual allows users to ask questions using natural language to generate visuals on the fly; it does not automatically provide a summary of existing report visuals.

References:

1. Microsoft Power BI Documentation, "Create smart narrative summaries": "The smart narrative visualization helps you provide a quick text summary of visuals and reports. It provides relevant innovative insights that you can customize... This summary is dynamic. It automatically updates the generated text and analysis when you cross-filter."
2. Microsoft Power BI Documentation, "Create key influencers visualizations": "The key influencers visual helps you understand the factors that drive a metric you're interested in. It analyzes your data, ranks the factors that matter, and displays them as key influencers."
3. Microsoft Power BI Documentation, "Create and view decomposition tree visuals in Power BI": "The decomposition tree visual in Power BI lets you visualize data across multiple dimensions. It

automatically aggregates data and enables drilling down into your dimensions in any order... It's an artificial intelligence (AI) visualization, so you can ask it to find the next dimension to drill down into based on certain criteria."
4. Microsoft Power BI Documentation, "Create a Q&A visual in a report in Power BI": "The Q&A visual allows users to ask natural language questions and get answers in the form of a visual. Users can use it to quickly get answers to their data."

Question: 25

You have a Power BI workspace that contains several reports. You need to provide a user with the ability to create a dashboard that will use the visuals from the reports. What should you do?

A. Grant the Read permission for the datasets to the user.

B. Add the user as a Viewer of the workspace.

C. Share the reports with the user.

D. Create a row-level security (RLS) role and add the user to the role.

E. Add the user as a member of the workspace.

Answer:

E

Explanation:

To create a new dashboard within a Power BI workspace, a user requires permissions to create content. The workspace roles that grant this capability are Contributor, Member, and Admin. The Viewer role is strictly read-only and does not allow content creation. Granting the Member role to the user provides the necessary permissions to access the existing reports, pin visuals from them, and create a new dashboard within that same workspace. This role aligns with the principle of providing sufficient permissions to accomplish the required task.

Why Incorrect Options are Wrong:

A. Grant the Read permission for the datasets to the user.
This permission only allows a user to view reports built on the dataset; it does not grant the right to create new content like dashboards in the workspace.
B. Add the user as a Viewer of the workspace.
The Viewer role is read-only. Users with this role can view and interact with existing reports and dashboards but cannot create, edit, or delete any content.
C. Share the reports with the user.
Sharing provides read-only access to specific reports. While a user could pin visuals to a dashboard in their own "My Workspace," they cannot create a new dashboard within the shared workspace.
D. Create a row-level security (RLS) role and add the user to the role.
RLS is a data security feature used to restrict data access for specific users. It is unrelated to permissions for creating or editing Power BI content like dashboards.

References:

1. Microsoft Power BI Documentation, "Roles in workspaces in Power BI": This official document details the capabilities of each workspace role. The table under the "Workspace role capabilities" section explicitly states that the Viewer role cannot "Create, edit, delete" dashboards, while the Member and Contributor roles can.
Reference: Microsoft Learn. (2023). Roles in workspaces in Power BI. Retrieved from https://learn.microsoft.com/en-us/power-bi/collaborate-share/service-roles-new-workspaces, Section: "Workspace role capabilities".
2. Microsoft Power BI Documentation, "Share Power BI reports and dashboards with coworkers and others": This document clarifies that sharing an item gives recipients view and interact permissions but not edit permissions, which are required for creating new content in the workspace.
Reference: Microsoft Learn. (2023). Share Power BI reports and dashboards. Retrieved from https://learn.microsoft.com/en-us/power-bi/collaborate-share/service-share-dashboards, Section: "Share a report or dashboard".

Question: 26

You have a Power BI workspace that contains a dataset. a report, and a dashboard. The following groups have access: • External users can access the dashboard. • Managers can access the dashboard and a manager-specific report. • Employees can access the dashboard and a row-level security (RLS) constrained report. You need all users, including the external users, to be able to tag workspace administrators if they identify an issue with the dashboard. The solution must ensure that other users see the issues that were raised. What should you use?

A. subscriptions

B. comments

C. alerts

D. chat in Microsoft Teams

Answer:

B

Explanation:

The comments feature in the Power BI service is designed for collaboration directly on dashboards and reports. It allows all users with access, including external guest users, to add comments. Crucially, it supports "@" mentions, which can be used to tag and notify workspace administrators about an issue. The comment thread is visible to everyone who can view the dashboard, ensuring that other users can see the issues that were raised. This directly meets all the requirements of the scenario.

Why Incorrect Options are Wrong:

A. subscriptions: Subscriptions are used to schedule and email snapshots of reports and dashboards to users. They do not provide a mechanism for feedback or collaborative issue tracking.
C. alerts: Data alerts are automated notifications triggered when data in a dashboard tile crosses a predefined threshold. They are not a tool for users to manually report issues.
D. chat in Microsoft Teams: While Power BI content can be shared in Teams for discussion, this creates a separate communication channel. The comments feature is a more integrated, native solution within the Power BI service itself.

References:

1. Microsoft Learn. (2023). Add comments to dashboards and reports in the Power BI service.
Section: "Add a general comment" and "Comment on a specific visual"
Content: This document explicitly states, "You can add comments to an entire dashboard... You can also @mention others to pull them into the conversation." It confirms that comments are a

collaborative feature visible to those with access.
2. Microsoft Learn. (2023). Email subscriptions for Power BI reports and dashboards.
Section: "Subscribe to a report or dashboard"
Content: This source details the functionality of subscriptions, which is to "receive an email with a snapshot of the report or dashboard." This confirms it is a content delivery system, not a communication tool.
3. Microsoft Learn. (2023). Data alerts in the Power BI service.
Section: "Set data alerts in the Power BI service"
Content: This document explains that alerts are used to "get notified when data in your dashboards changes above or below limits you set." This confirms alerts are for automated data monitoring, not user-initiated communication.

Question: 27

You have a report in Power BI named report1 that is based on a shared dataset. You need to minimize the risk of data exfiltration for report1. The solution must prevent other reports from being affected. What should you do?

A. Clear Allow recipients to share your dashboard and Allow users to build new content using the underlying datasets for the dataset.

B. Select the Allow end users to export both summarized and underlying data from the service or Report Server Export data option for the report.

C. Select the Don't allow end users to export any data from the service or Report Server Export data
option for the report.

D. Apply row-level security (RLS) to the shared dataset.

Answer:

C

Explanation:

To minimize data exfiltration for a single report without affecting other reports using the same shared dataset, you must apply a report-level setting. The "Export data" option in the report's settings allows you to control data export specifically for that report. Selecting "Don't allow end users to export any data" directly prevents users from exporting summarized or underlying data from visuals in report1, thereby mitigating the risk of data exfiltration. This change is isolated to report1 and does not alter the shared dataset or any other reports connected to it.

Why Incorrect Options are Wrong:

A. Modifying dataset permissions affects all reports and users connected to that shared dataset, violating the requirement that other reports should not be affected.
B. This option explicitly allows data export, which increases the risk of data exfiltration, directly contradicting the goal of the question.
D. Row-level security (RLS) is applied at the dataset level, which would affect all reports using that dataset. It restricts data access but does not prevent the export of visible data.

References:

1. Microsoft Learn. (2023). Change report settings in the Power BI service.
Section: "Export data"
Content: This document details the report-level settings for data export. It explicitly lists the option to set export permissions to "None," which "prevents your report readers from exporting any data from your report." This confirms it is a report-specific control.

2. Microsoft Learn. (2024). Build permission for shared datasets.
Section: "Ways to get Build permission"
Content: This document clarifies that "Build permission is a dataset-level permission." Modifying it, as suggested in option A, would impact anyone trying to build content from the shared dataset, thus affecting more than just report1.
3. Microsoft Learn. (2024). Row-level security (RLS) with Power BI.
Section: "Set up RLS"
Content: The documentation explains that RLS is configured on the model (dataset) in Power BI Desktop and then managed in the Power BI service. This confirms RLS is a dataset-level feature and would apply to all reports using that dataset.

Question: 28

HOTSPOT You have a Power BI report. You have the following tables.

Name	Description
Balances	The table contains daily records of closing balances for every active bank account. The closing balances appear for every day the account is live, including the last day.
Date	The table contains a record per day for the calendar years of 2000 to 2025. There is a hierarchy for financial year, quarter, month, and day.

You have the following DAX measure.

```
Accounts :=
CALCULATE (
```

Answer Area

Statements	Yes	No
A table visual that displays the date hierarchy at the year level and the [Accounts] measure will show the total number of accounts that were live throughout the year.	○	○
A table visual that displays the date hierarchy at the month level and the [Accounts] measure will show the total number of accounts that were live throughout the month.	○	○
A table visual that displays the date hierarchy at the day level and the [Accounts] measure will show the total number of accounts that were live that day.	○	○

Answer:

Answer Area

Statements	Yes	No
A table visual that displays the date hierarchy at the year level and the [Accounts] measure will show the total number of accounts that were live throughout the year.	○	◉
A table visual that displays the date hierarchy at the month level and the [Accounts] measure will show the total number of accounts that were live throughout the month.	○	◉
A table visual that displays the date hierarchy at the day level and the [Accounts] measure will show the total number of accounts that were live that day.	◉	○

Explanation:

The DAX measure Accounts is designed to count the number of unique accounts. A standard implementation for this would be DISTINCTCOUNT(BalancesAccountID). This measure operates within the filter context provided by the visual.

• Day Level: When the table visual is at the day level, the filter context for the measure is a single day. The measure will count the distinct accounts that have a record in the Balances table for that specific day, which correctly represents the number of accounts live on that day.

• Month and Year Level: When the context is expanded to a month or a year, the DISTINCTCOUNT function will count every unique account that had a balance record on at least one day within that period. It does not ensure the account was active for every single day of the

period. An account active for only one day in a year will be counted the same as an account active for all 365 days. Therefore, the measure does not show accounts that were live throughout the entire month or year.

References:

Microsoft Corporation. (n.d.). DISTINCTCOUNT function (DAX). Microsoft Learn. Retrieved from https://learn.microsoft.com/en-us/dax/distinctcount-function-dax

This document states that the function "counts the number of distinct values in a column." When applied over a date range, it counts all distinct values that appear at any point within that range.

Microsoft Corporation. (n.d.). Understanding filter context. Power BI Documentation. Retrieved from https://learn.microsoft.com/en-us/power-bi/transform-model/desktop-evaluation-context#filter-context

This resource explains how visuals, such as a table grouped by a date hierarchy, create a filter context that constrains DAX calculations to a subset of data (e.g., a specific day, month, or year).

Russo, M., & Ferrari, A. (2019). The Definitive Guide to DAX: Business intelligence for Microsoft Power BI, SQL Server Analysis Services, and Excel (2nd ed.). Microsoft Press.

Chapter 4, "Evaluation Contexts," explains in detail how filter context is applied at different granularities and how measures like DISTINCTCOUNT operate within that context. It confirms that a distinct count over a period includes items present at any point in the period, not necessarily throughout.

Question: 29

HOTSPOT You have a Power BI report named Orders that supports the following analysis: • Total sales over time • The count of orders over time • New and repeat customer counts The data model size is nearing the limit for a dataset in shared capacity. The model view for the dataset is shown in the following exhibit.

Answer Area

Statements	Yes	No
Summarizing Orders by the CustomerID, OrderID, and OrderDate columns will reduce the model size while still supporting the current analysis.	○	○
Removing the CustomerID column from Orders will reduce the model size while still supporting the current analysis.	○	○
Removing the UnitPrice and Discount columns from Orders will reduce the model size while still supporting the current analysis.	○	○

Answer:

Yes

No

No

Explanation:

Summarizing Orders (Yes): This is a standard data reduction technique. By summarizing or aggregating the Orders table (which is likely at a transaction line level), you reduce the total number of rows. A new table grouped by CustomerID, OrderID, and OrderDate would contain one row per order instead of one row per product line within an order. This significantly reduces the model size. To support the "Total sales over time" analysis, a new column for the total sales amount would be created during this summarization process. The other analyses-counting orders and analyzing customers-remain possible because OrderID, CustomerID, and OrderDate are retained.

Removing CustomerID (No): Removing the CustomerID column from the Orders fact table would break the relationship with the Customers dimension table. While this would reduce the model size, it would make it impossible to perform the "New and repeat customer counts" analysis, as there would be no way to link an order to a specific customer.

Removing UnitPrice and Discount (No): These columns are necessary to calculate the Total Sales measure (e.g., Sales = Quantity * UnitPrice * (1 - Discount)). Removing them would make it

impossible to support the "Total sales over time" analysis, even though it would reduce the model size.

References:

Microsoft Power BI Documentation: In the guidance on data reduction techniques for Import modeling, summarizing data is a key strategy. The documentation states, "Use Power Query to group by columns, and aggregate your data... It can result in a significant data reduction." This directly supports the first statement, as summarizing is a valid and effective method to reduce model size while maintaining analytical capability by pre-aggregating measures. (See: Microsoft Docs, Power BI guidance, Data reduction techniques for Import modeling).

Kimball, R., & Ross, M. (2013). The Data Warehouse Toolkit: The Definitive Guide to Dimensional Modeling (3rd ed.). Wiley. Chapter 2 discusses the grain of a fact table. The process described in the first statement is equivalent to raising the grain of the fact table from an individual transaction line to the order header. This is a fundamental technique in dimensional modeling to manage performance and data volume for large datasets. Removing foreign keys (Statement 2) or measure source columns (Statement 3) violates basic dimensional modeling principles for supporting the required analyses.

Question: 30

You have the Power BI model shown in the following exhibit.

There are four departments in the Departments table. You need to ensure that users can see the data of their respective department only. What should you do?

A. Create a row-level security (RLS) role for each department, and then define the membership of the
role.

B. Create a DepartmentID parameter to filter the Departments table.

C. To the ConfidentialData table, add a calculated measure that uses the currentgroup DAX function.

D. Create a slicer that filters Departments based on DepartmentID.

Answer:

A

Explanation:

The requirement is to restrict data access so that users can only view data corresponding to their specific department. This is the primary use case for Row-Level Security (RLS) in Power BI. RLS is implemented by creating roles within the Power BI model. For each role, a DAX filter expression is defined on a table (in this case, the Departments table). When a user assigned to a specific role accesses the report in the Power BI service, this DAX filter is automatically applied, restricting the rows of data they can see throughout the entire model. This method enforces security at the data model level.

Why Incorrect Options are Wrong:

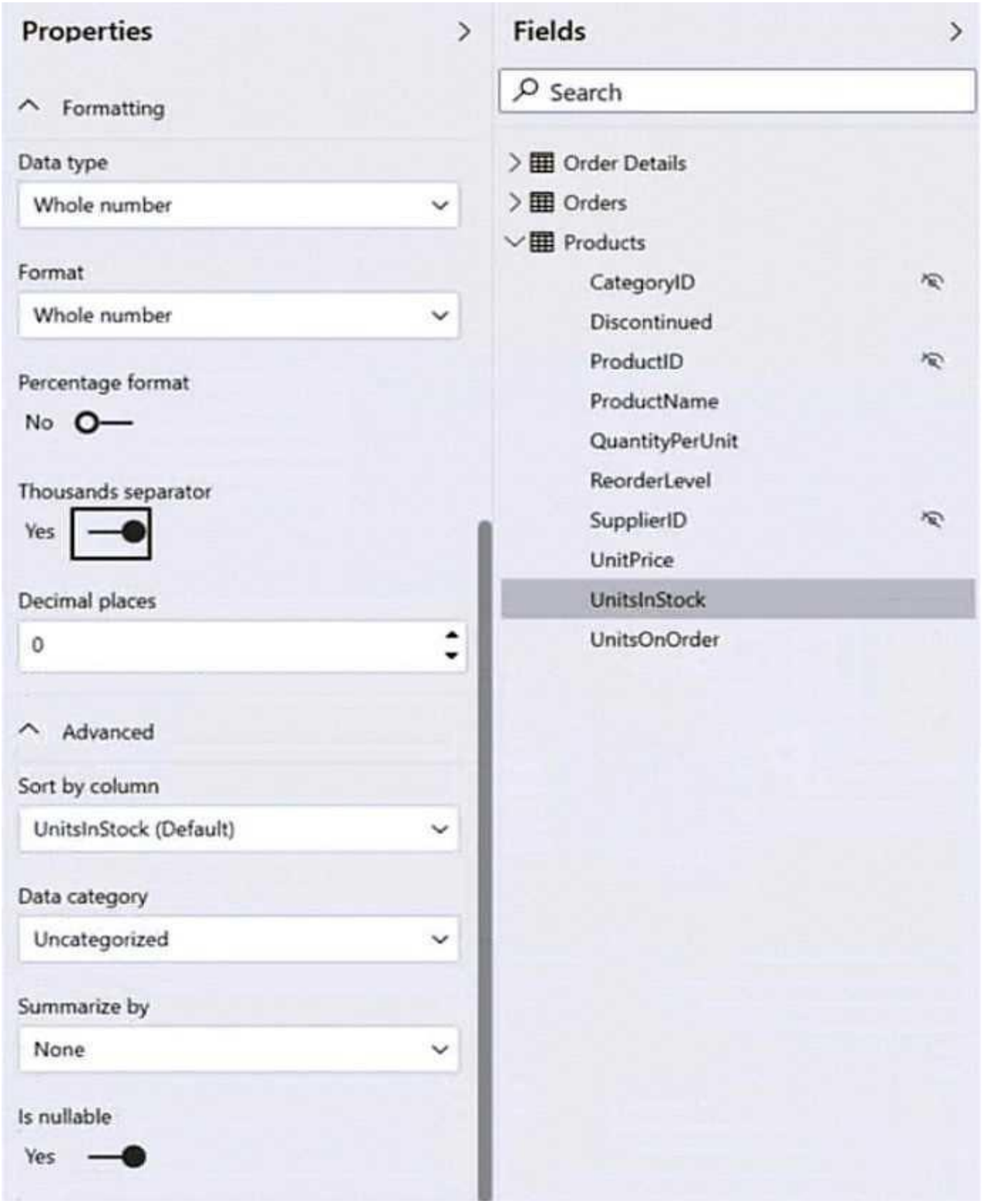
B. A parameter is a user-controlled input for interactive analysis, not a security feature. A user could easily change the parameter value to view data from other departments.
C. The CURRENTGROUP DAX function is used within grouping functions like SUMMARIZECOLUMNS to perform calculations on grouped data; it is not related to user-based security.
D. A slicer is a visual filter on the report canvas that users can freely interact with. It does not enforce security, as a user could modify or remove the slicer.

References:

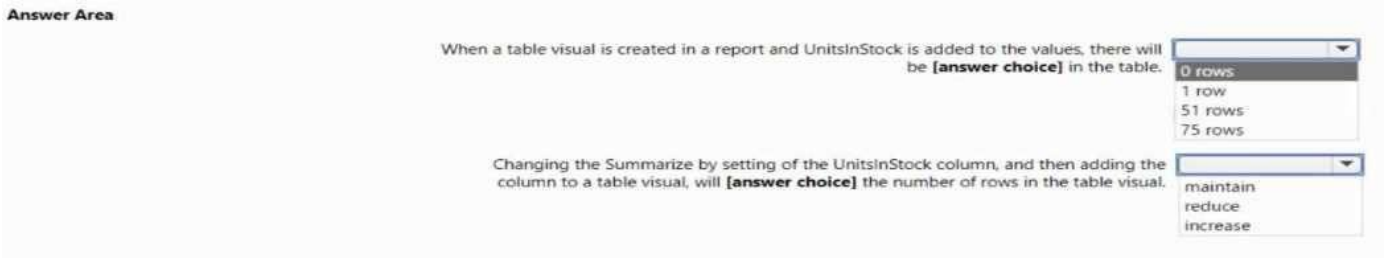
1. Microsoft Learn. (2024). Restrict data access with row-level security (RLS) for Power BI. Microsoft Power BI Documentation. Retrieved from https://learn.microsoft.com/en-us/power-bi/enterprise/service-admin-rls.
Reference Details: The section "Define roles and rules in Power BI Desktop" explicitly states, "You can define roles and rules within Power BI Desktop. When you publish to Power BI, it also publishes the role definitions... To define security roles, follow these steps. 1. Import data into your Power BI Desktop report, or configure a DirectQuery connection.....2. From the Modeling tab, select Manage Roles." This directly supports the process described in option A.
2. Microsoft Learn. (2024). Implement row-level security. PL-300: Design and build a data model in Power BI learning path. Retrieved from https://learn.microsoft.com/en-us/training/modules/design-build-tabular-model-power-bi/7-implement-row-level-security.
Reference Details: This official PL-300 courseware notes, "Row-level security (RLS) is a Power BI feature that can be used to restrict data access for given users. Filters restrict data access at the row level, and you can define filters within roles. ..You will implement RLS by creating one or more roles. A role has a unique name in the model, and it will typically include one or more rules."
3. Microsoft Learn. (2024). Row-level security (RLS) guidance in Power BI Desktop. Power BI Guidance Documentation. Retrieved from https://learn.microsoft.com/en-us/power-bi/guidance/rls-guidance.
Reference Details: The section "Implement RLS" details the process: "In Power BI Desktop, you can create a role by navigating to the Modeling ribbon and selecting Manage roles. In the Manage roles window, you can create, modify, or delete roles. ..You add a rule to a table by using a DAX expression that must return a TRUE or FALSE value." This confirms that creating roles and defining rules is the correct procedure.

Question: 31

HOTSPOT You have a column named UnitsInStock as shown in the following exhibit.



UnitsInStock has 75 non-null values, of which 51 are unique. Use the drop-down menus to select the answer choice that completes each statement based on the information presented in the graphic. NOTE: Each correct selection is worth one point.



Answer:

When a table visual is created in a report and UnitsInStock is added to the values, there will be 75 rows in the table.

Changing the Summarize by setting of the UnitsInStock column, and then adding the column to a table visual, will reduce the number of rows in the table visual.

Explanation:

The UnitsInStock column has its Summarize by property set to None. When a numeric column with this setting is added to a table visual, Power BI does not aggregate the data. Instead, it displays each individual value on a separate row. Since the column has 75 non-null values, the table will display 75 rows.

Changing the Summarize by setting from 'None' to an aggregation function (such as Sum, Average, or Count) alters this behavior. When the column is subsequently added to a table, Power BI will perform the specified calculation and display a single, aggregated result (assuming no other grouping columns are present). This changes the output from 75 individual rows to a single summary row, thus reducing the number of rows.

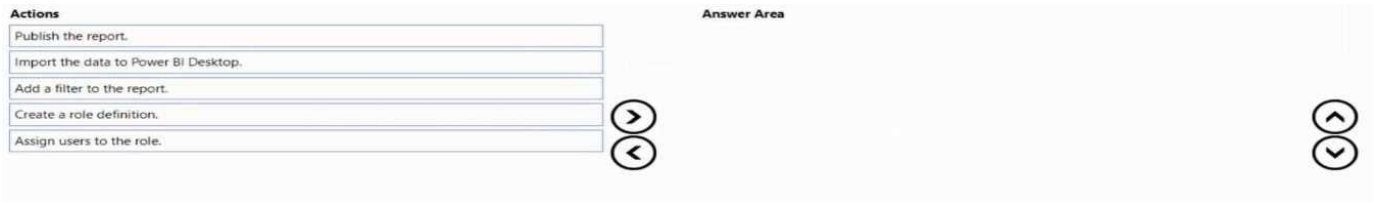
References:

Microsoft Power BI Documentation: In the "Use aggregation in Power BI Desktop" article, it states: "If you set the summarization to Do not summarize, then whenever you add that column to a visual, Power BI will simply show each of its values." This confirms that without summarization, all individual values are listed.
Source: Microsoft Learn, Power BI Documentation, "Use aggregation (sum, average, etc.) in Power BI Desktop," Section: "Change the aggregation type."
Microsoft Power BI Documentation: The default behavior for numeric fields is aggregation. As explained in the documentation, "When you add a numeric field...to a visual in a Power BI report, it's aggregated by default. It might be a sum, average, count...". Enabling summarization (by

changing it from 'None') causes the data to be aggregated into fewer rows, typically one if it's the only field in the values well.
Source: Microsoft Learn, Power BI Documentation, "Intro to aggregations in Power BI," Section: "Why use aggregations?"

Question: 32

DRAG DROP You plan to create a report that will display sales data from the last year for multiple regions You need to restrict access to individual rows of the data on a per region-basis by using roles. Which four actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.



Answer:

Import the data to Power BI Desktop.

Create a role definition.

Publish the report.

Assign users to the role.

Explanation:

The process of implementing Row-Level Security (RLS) in Power BI follows a specific workflow. First, you must bring your data into Power BI Desktop. Once the data model is available, you define the security rules by creating roles and applying DAX filter expressions to the tables. After defining the roles within the .pbix file, the report must be published to the Power BI service. The final step, which can only be done in the service, is to navigate to the dataset's security settings and assign specific users or groups to the roles you created, thereby activating the security restrictions for them.

References:

Microsoft. (2024). Row-level security (RLS) with Power BI. Microsoft Learn. Retrieved from https://learn.microsoft.com/en-us/power-bi/enterprise/service-admin-rls.
Details: The "Set up roles in Power BI Desktop" section outlines the initial steps: "1. Import data into your Power BI Desktop report. ..2. From the Modeling tab, select Manage Roles." This supports the first two steps in the sequence. The "Manage security on your model" section details the subsequent actions: "...you need to publish your report to the Power BI service. ..In the Power BI service, you can assign members to the role." This confirms the final two steps.

Question: 33

You import a Power BI dataset that contains the following tables: • Date • Product • Product Inventory The Product inventory table contains 25 million rows. A sample of the data is shown in the following table.

ProductKey	DateKey	MovementDate	UnitCost	UnitsIn	UnitsOut	UnitsBalance
167	20101228	28-Dec-10	0.19	0	0	875
167	20101229	29-Dec-10	0.19	0	0	875
167	20110119	19-Jan-11	0.19	0	0	875
167	20110121	21-Jan-11	0.19	0	0	875
167	20110122	22-Jan-11	0.19	0	0	875

The Product Inventory table relates to the Date table by using the DateKey column. The Product inventory table relates to the Product table by using the ProductKey column. You need to reduce the size of the data model without losing information. What should you do?

A. Change Summarization for DateKey to Don't Summarize.

B. Change the data type of UnitCost to Integer.

C. Remove the relationship between Date and Product Inventory.

D. Remove MovementDate.

Answer:

D

Explanation:

The Product Inventory table contains both a DateKey column (used for the relationship to the Date table) and a MovementDate column. Since the DateKey already links each record to a specific date in the Date dimension table, the MovementDate column is redundant. All date-related information (year, month, day, etc.) can be retrieved via the relationship. Removing the unnecessary MovementDate column from the 25-million-row fact table is a primary optimization technique. This action significantly reduces the model's memory footprint by eliminating a high-cardinality column without any loss of analytical information.

Why Incorrect Options are Wrong:

A. Changing summarization is a metadata setting that affects default report behavior; it does not reduce the data model's storage size.
B. Changing the UnitCost data type to Integer would truncate decimal values (e.g., 12.02 becomes 12), resulting in a loss of information.
C. Removing the relationship between the tables would break the ability to analyze inventory by date, which is a critical loss of analytical capability.

References:

1. Microsoft Learn. (2023). Data reduction techniques for Import modeling. In Power BI guidance.
Reference: Under the section "Remove unnecessary columns," the documentation states, "Columns that don't serve a purpose should be removed from your model... It's a best practice to remove any columns that aren't used for relationships, measures, or displaying in visuals." In this scenario, MovementDate is redundant because DateKey serves the relationship purpose.
2. Microsoft Learn. (2023). Understand star schema and the importance for Power BI. In Power BI guidance.
Reference: This document describes that fact tables should contain foreign keys (like DateKey) and numeric measures. Descriptive attributes (like a full date) should reside in the related dimension tables. The presence of MovementDate in the fact table violates this principle when a proper Date dimension exists, confirming its redundancy.

Question: 34

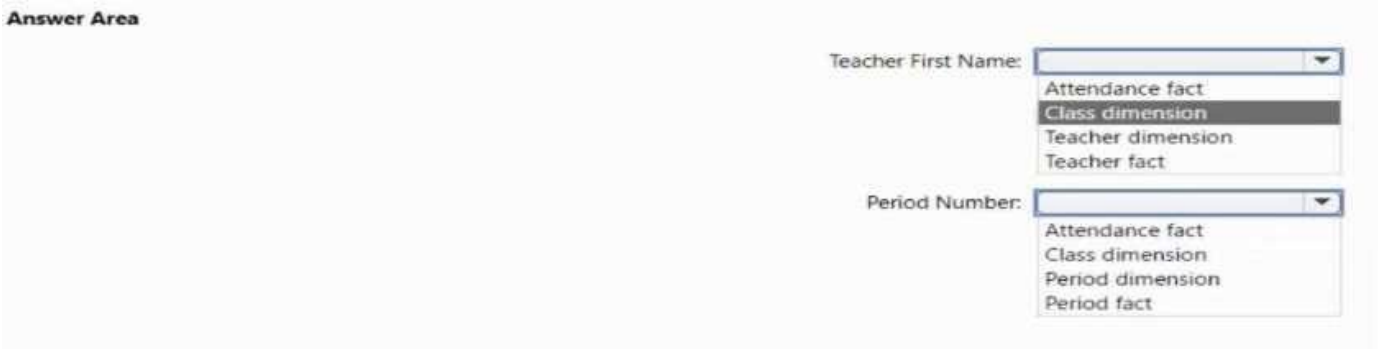
HOTSPOT You plan to create a Power BI dataset to analyze attendance at a school. Data will come from two separate views named View1 and View? in an Azure SQL database. View1 contains the columns shown in the following table.

Name	Data type
Attendance Date	Date
Student ID	Bigint
Period Number	Tinyint
Class ID	Int

View2 contains the columns shown in the following table.

Name	Data type
Class ID	Bigint
Class Name	Varchar(200)
Class Subject	Varchar(100)
Teacher ID	Int
Teacher First Name	Varchar(100)
Teacher Last Name	Varchar(100)
Period Number	Tinyint
School Year	Varchar(50)
Period Start Time	Time
Period End Time	Time

The views can be related based on the Class ID column. Class ID is the unique identifier for the specified class, period, teacher, and school year. For example, the same class can be taught by the same teacher during two different periods, but the class will have a different class ID. You need to design a star schema data model by using the data in both views. The solution must facilitate the following analysis: The count of classes that occur by period The count of students in attendance by period by day The average number of students attending a class each month In which table should you include the Teacher First Name and Period Number fields? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.



Answer:

Teacher First Name: Teacher dimension

Period Number: Attendance fact

Explanation:

In dimensional modeling, the goal is to create a star schema consisting of a central fact table and multiple surrounding dimension tables.

• Fact Tables: Contain quantitative measures and foreign keys to dimension tables. The Attendance data from View2 is transactional and forms the basis of the Attendance fact table.

• Dimension Tables: Contain descriptive, categorical attributes that describe the factual data. Attributes like teacher names, class subjects, and period times are used to slice and dice the measures in the fact table.

Teacher First Name is a descriptive attribute of a teacher entity. The best practice is to create a separate Teacher dimension containing fields like Teacher ID, Teacher First Name, and Teacher Last Name. This avoids data redundancy and organizes the model logically.

Period Number is required to analyze attendance counts by period. For the Attendance fact table to be filterable by period, it must contain a key related to the period. Since the source data for the facts (View2) already includes Period Number, it should be included in the Attendance fact table as a foreign key that links to a Period dimension.

References:

Kimball, R., & Ross, M. (2013). The Data Warehouse Toolkit: The Definitive Guide to Dimensional Modeling (3rd ed.). Wiley.
Chapter 2, "Retail Sales": This chapter introduces the core concepts of fact and dimension tables. It explains that descriptive textual attributes (like a teacher's name) belong in dimension tables, while numeric keys that connect facts to dimensions belong in the fact table (p. 25-29).

Microsoft Power BI Documentation. (2023). "Understand star schema and the importance for Power BI."
Section: "Fact tables": The documentation states, "The fact table contains dimension key columns that relate to dimension tables...". This confirms that keys needed for slicing data, like Period Number, must be present in the fact table to link to their respective dimension tables.
Section: "Dimension tables": This section clarifies that dimension tables "store the attributes that describe your business entities," which directly applies to placing Teacher First Name in a Teacher dimension.

Question: 35

You have more than 100 published datasets. Ten of the datasets were verified to meet your corporate quality standards. You need to ensure that the 10 verified datasets appear at the top of the list of published datasets whenever users search for existing datasets. What should you do?

A. Publish the datasets in an app.

B. Promote the datasets.

C. Feature the dataset on the home page.

D. Certify the datasets.

Answer:

D

Explanation:

Certification is the designated process in Power BI for marking datasets as authoritative and trustworthy, confirming they meet an organization's quality standards. Certified datasets are given the highest priority and a special badge in discovery experiences, such as the Data hub and when connecting to data from Power BI Desktop. This ensures they appear at the top of any list when users search for datasets, directly fulfilling the requirement. Promotion is a lower level of endorsement and ranks below certified content.

Why Incorrect Options are Wrong:

A. Publish the datasets in an app: This bundles content for consumption but does not affect the ranking of datasets in discovery lists.
B. Promote the datasets: While promotion increases visibility, certification provides a higher level of endorsement and a higher rank in search results, aligning with "corporate quality standards."
C. Feature the dataset on the home page: This provides a shortcut on the Power BI Home page but does not influence the order of datasets in search results.

References:

1. Microsoft Learn. (2023, October 24). Endorsement: Promote and certify Power BI content. In the "How endorsement works" section, it states, "Certified content is ranked first in lists and search results, and is marked with a certification badge." It also notes, "Certification is a bigger deal than promotion. You can certify content only if your Power BI admin has configured and enabled certification for your organization." This directly supports that certification is the correct action for datasets verified against corporate standards to achieve top ranking.
2. Microsoft Learn. (2023, October 24). Enable content certification. In the "Set up content certification" section, it explains, "Certification is a way to highlight quality content. To ensure that only authoritative content gets certified, Power BI admins decide who can certify content." This

aligns with the scenario's need to elevate datasets that meet "corporate quality standards."
3. Microsoft Learn. (2023, October 24). Data discovery using the data hub. The article illustrates how endorsed datasets are displayed prominently in the Data hub, stating, "The list of datasets shows you the workspace they reside in, as well as whether they're certified or promoted." This confirms that certification directly impacts visibility in user search experiences.