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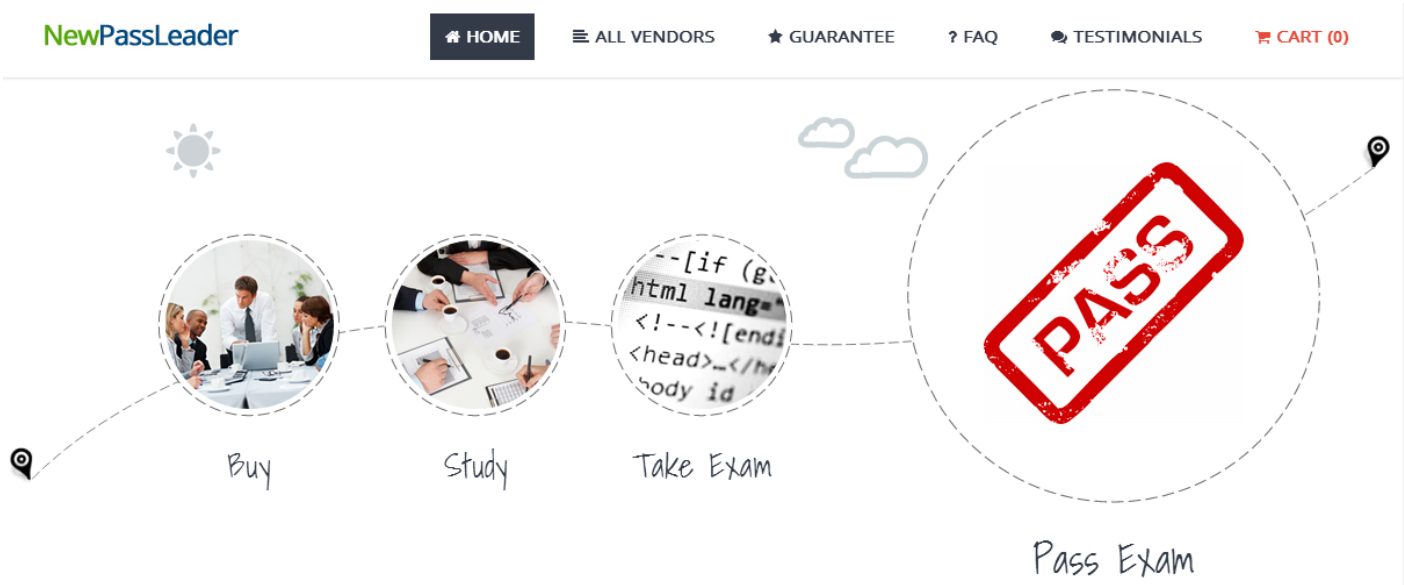

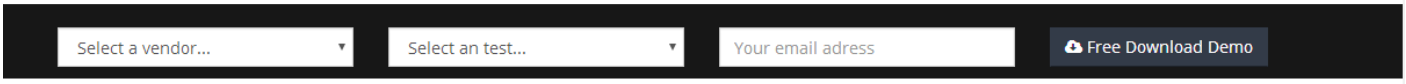

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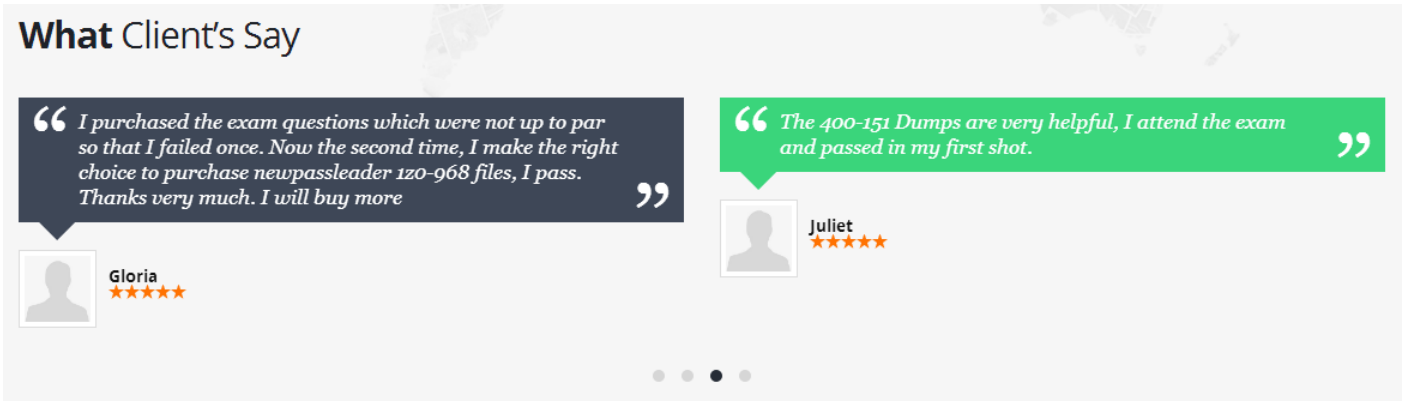

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Exam : **PL-300**

Title : Microsoft Power BI Data Analyst

Vendor : Microsoft

Version : DEMO

NO.1 Case Study 1 - Litware, Inc.

Overview

Litware, Inc. is an online retailer that uses Microsoft Power Bl dashboards and reports. The company plans to leverage data from Microsoft SQL Server databases, Microsoft Excel files, text files, and several other data sources.

Litware uses Azure Active Directory (Azure AD) to authenticate users.

Existing Environment

Sales Data

Litware has online sales data that has the SQL schema shown in the following table.

Table name	Column name	Data type
Sales_Region	region_id	Integer
	name	Varchar
Region_Manager	region_id	Integer
	manager_id	Integer
Sales_Manager	sales_manager_id	Integer
	name	Varchar
	username	Varchar
Sales	sales_id	Integer
	sales_date_id	Integer
	sales_amount	Floating
	customer_id	Integer
	sales_ship_date_id	Integer
	region_id	Varchar
Customer_Date	customer_id	Integer
	first_name	Varchar
	last_name	Varchar
Date	date_id	Integer
	date	Date
	month	Integer
	week	Integer
	year	Integer
Weekly_Returns	week_id	Integer
	total_returns	Floating
	sales_region_id	Varchar
Targets	target_id	Integer
	sales_target	Decimal
	date_id	Integer
	region_id	Integer

In the Date table, the dateid column has a format of yyyymmdd and the month column has a format of yyyymm. The week column in the Date table and the weekid column in the Weekly_Returns table have a format of yyyyww. The regionid column can be managed by only one sales manager.

Data Concerns

You are concerned with the quality and completeness of the sales data. You plan to verify the sales data for negative sales amounts.

Reporting Requirements

Litware identifies the following technical requirements:

- Executives require a visual that shows sales by region.

- Regional managers require a visual to analyze weekly sales and returns.
- Sales managers must be able to see the sales data of their respective region only.
- The sales managers require a visual to analyze sales performance versus sales targets.
- The sale department requires reports that contain the number of sales transactions.
- Users must be able to see the month in reports as shown in the following example: Feb 2020.
- The customer service department requires a visual that can be filtered by both sales month and ship month independently.
- The maximum allowed latency to include transactions in reports is five minutes.

You need to address the data concerns before creating the data model.
What should you do in Power Query Editor?

A. Select Column distribution.

B. Select the sales_amount column and apply a number filter.

C. Select Column profile, and then select the sales_amount column.

D. Transform the sales_amount column to replace negative values with 0.

Answer: C

Explanation:
It has a min and a max info so you can see if there are negative values.

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filtered by both sales month and ship month independently.
- The maximum allowed latency to include transactions in reports is
five minutes.
You need to create a calculated column to display the month based on the reporting requirements.
Which DAX expression should you use?

A. FORMAT('Date'[date],"MMM YYYY")

B. FORMAT('Date' [date_id], "MMM YYYY")

C. FORMAT('Date'[date],"M YY")

D. FORMAT('Date'[date_id], "MMM") & "" & FORMAT('Date'[year], "#")

Answer: A

Explanation:
"Format" is functional only on columns of type Date, 'date-id' is integer however 'date' is Date.

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	week	Integer
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filtered by both sales month and ship month independently.
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You need to create the required relationship for the executive's visual.
What should you do before you can create the relationship?

A. Change the data type of Sales[region_id] to Whole Number.

B. In the Sales table, add a measure for sum(sales_amount).

C. Change the data type of sales[sales_id] to Text.

D. Change the data type of sales [region_id] to Decimal Number.

Answer: A

Explanation:
Executives require a visual that shows sales by region.
The data type of Sales[region_id] must be changed from varchar to Whole Number, as Sales[region_id] is Integer.

NO.4 Case Study 1 - Litware, Inc.
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	sales_ship_date_id	Integer
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Customer_Date	customer_id	Integer
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	last_name	Varchar
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	date	Date
	month	Integer
	week	Integer
	year	Integer
Weekly_Returns	week_id	Integer
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- The customer service department requires a visual that can be

filtered by both sales month and ship month independently.
- The maximum allowed latency to include transactions in reports is
five minutes.
What should you create to meet the reporting requirements of the sales department?

A. a measure that uses a formula of COUNTROWS(Sales)

B. a calculated column that use a formula of COUNTA(Sales[sales_id])

C. a calculated column that uses a formula of SUM(Sales[sales_id])

D. a measure that uses a formula of SUM(Sales[sales_id])

Answer: A

Explanation:
The sales department requires reports that contain the number of sales transactions.
The COUNTROWS function counts the number of rows in the specified table, or in a table defined by an expression.
Incorrect:
The COUNTA function counts the number of cells in a column that are not empty.
Reference:
https://docs.microsoft.com/en-us/dax/countrows-function-dax

NO.5 Case Study 1 - Litware, Inc.
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- The customer service department requires a visual that can be

filtered by both sales month and ship month independently.
- The maximum allowed latency to include transactions in reports is
five minutes.
You need to create a relationship between the Weekly_Returns table and the Date table to meet the reporting requirements of the regional managers.
What should you do?

A. In the Weekly_Returns table, create a new calculated column named date-id in a format of yyyymmdd and use the calculated column to create a relationship to the Date table.

B. Add the Weekly_Returns data to the Sales table by using related DAX functions.

C. Create a new table based on the Date table where date-id is unique, and then create a many-to-many relationship to Weekly_Return.

Answer: A

Explanation:
Scenario: Region managers require a visual to analyze weekly sales and returns.
To relate the two tables we need a common column.

NO.6 Case Study 1 - Litware, Inc.
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Sales Data
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	sales_date_id	Integer
	sales_amount	Floating
	customer_id	Integer
	sales_ship_date_id	Integer
	region_id	Varchar
Customer_Date	customer_id	Integer
	first_name	Varchar
	last_name	Varchar
Date	date_id	Integer
	date	Date
	month	Integer
	week	Integer
	year	Integer
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Targets	target_id	Integer
	sales_target	Decimal
	date_id	Integer
	region_id	Integer

In the Date table, the dateid column has a format of yyyymmdd and the month column has a format of yyyymm. The week column in the Date table and the weekid column in the Weekly_Returns table have a format of yyyyww. The regionid column can be managed by only one sales manager.

Data Concerns

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Reporting Requirements

Litware identifies the following technical requirements:

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- Regional managers require a visual to analyze weekly sales and returns.
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- The sales managers require a visual to analyze sales performance versus sales targets.
- The sale department requires reports that contain the number of sales transactions.
- Users must be able to see the month in reports as shown in the following example: Feb 2020.
- The customer service department requires a visual that can be

filtered by both sales month and ship month independently.
- The maximum allowed latency to include transactions in reports is
five minutes.
Hotspot Question
You need to create a visualization to meet the reporting requirements of the sales managers.
How should you create the visualization? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Answer Area

Visualization type:

- Card
- Donut chart
- Gauge
- Key influencers
- KPI

Indicator:

- Date[month]
- Sales[sales_amount]
- Sales[sales_id]
- Targets[sales_target]
- Weekly_Returns[total_returns]

Trend axis:

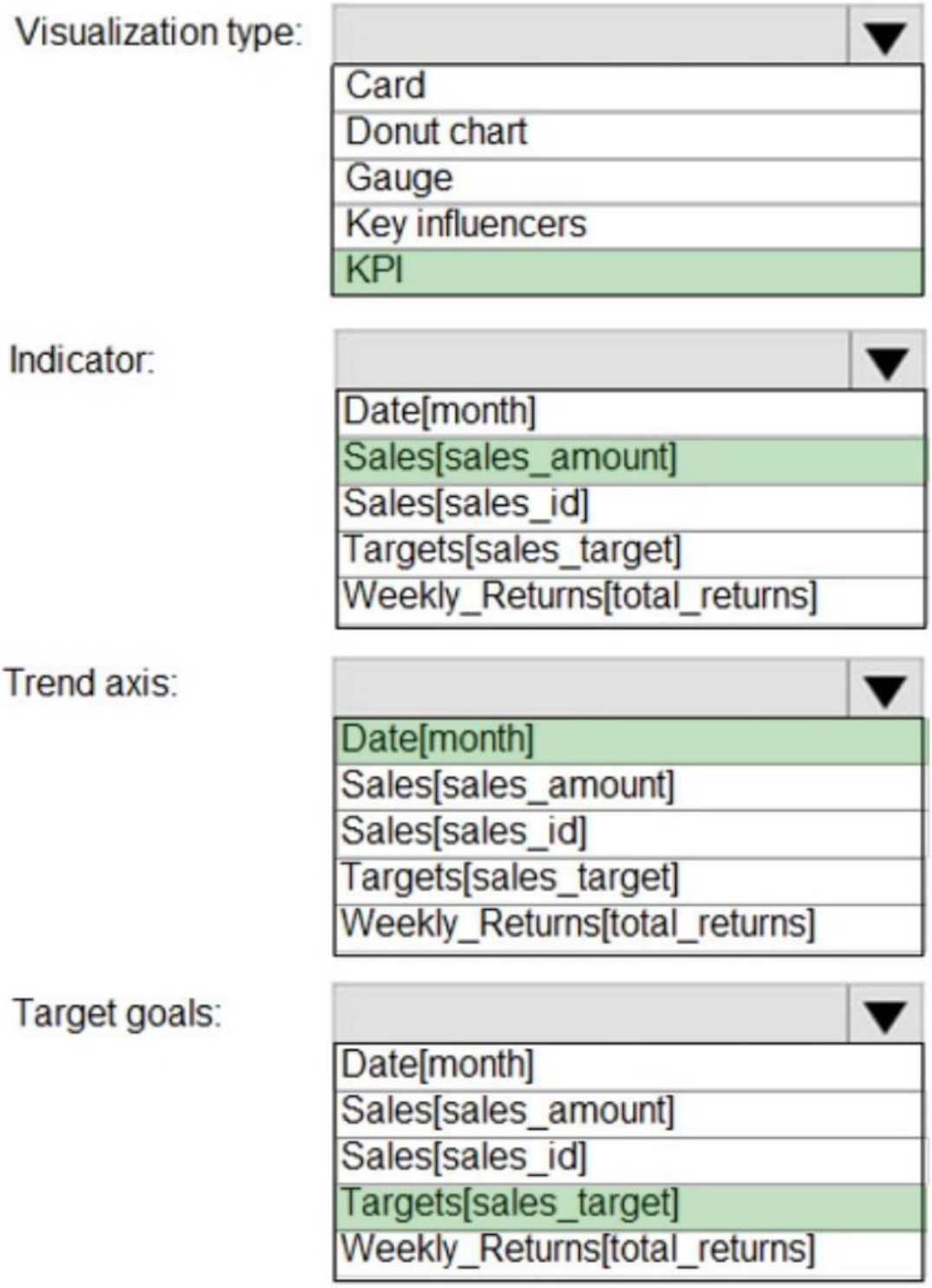
- Date[month]
- Sales[sales_amount]
- Sales[sales_id]
- Targets[sales_target]
- Weekly_Returns[total_returns]

Target goals:

- Date[month]
- Sales[sales_amount]
- Sales[sales_id]
- Targets[sales_target]
- Weekly_Returns[total_returns]

Answer:

Answer Area



Explanation:
Scenario: The sales managers require a visual to analyze sales performance versus sales targets.
Box 1: KPI
A Key Performance Indicator (KPI) is a visual cue that communicates the amount of progress made toward a measurable goal.

Box 2: Sales[sales_amount]
Box 3: Date[month]
Time > FiscalMonth. This value will represent the trend.
Box 4: Targets[sales_target]
Reference:
https://docs.microsoft.com/en-us/power-bi/visuals/power-bi-visualization-kpi

NO.7 Case Study 2 - Contoso Ltd
Overview
Existing Environment
Contoso, Ltd. is a manufacturing company that produces outdoor equipment Contoso has quarterly board meetings for which financial analysts manually prepare Microsoft Excel reports, including profit and loss statements for each of the company's four business units, a company balance sheet, and net income projections for the next quarter.
Data and Sources
Data for the reports comes from three sources. Detailed revenue, cost and expense data comes from an Azure SQL database. Summary balance sheet data comes from Microsoft Dynamics 365 Business Central. The balance sheet data is not related to the profit and loss results, other than they both relate to dates.
Monthly revenue and expense projections for the next quarter come from a Microsoft SharePoint Online list. Quarterly projections relate to the profit and loss results by using the following shared dimensions: date, business unit, department, and product category.
Net Income Projection Data
Net income projection data is stored in a SharePoint Online list named Projections in the format shown in the following table.

MonthStartDate	Projection type	ProductCategory	Department	Projection
1-Apr-20	Revenue	Bikes	N/A	200,000
1-Apr-20	Revenue	Components	N/A	250,000
1-Apr-20	Revenue	Clothing	N/A	300,000
1-Apr-20	Revenue	Accessories	N/A	150,000
1-May-20	Revenue	Bikes	N/A	200,000
1-May-20	Revenue	Components	N/A	250,000
1-Apr-20	Expense	Bikes	Bike Manufacture	50,000
1-Apr-20	Expense	Bikes	Bike Sales	3,333

Revenue projections are set at the monthly level and summed to show projections for the quarter.
Balance Sheet Data
The balance sheet data is imported with final balances for each account per month in the format shown in the following table.

AccountCategory	Account	Month	Year	BalanceAmount
Current assets	Cash and cash equivalents	3	2020	20,289
Current assets	Inventories	3	2020	4,855
Long-term liabilities	Long-term debt	3	2020	50,207
Current assets	Cash and cash equivalents	2	2020	28,209
Current assets	Inventories	2	2020	5,845
Long-tern liabilities	Long-tern debt	2	2020	49,887
Current assets	Cash and cash equivalents	1	2020	25,567
Current assets	Inventories	1	2020	65,998
Long-term liabilities	Long-term debt	1	2020	46,124

There is always a row for each account for each month in the balance sheet data.

Dynamics 365 Business Central Data

Business Central contains a product catalog that shows how products roll up to product categories, which roll up to business units. Revenue data is provided at the date and product level. Expense data is provided at the date and department level.

Business Issues

Historically, it has taken two analysts a week to prepare the reports for the quarterly board meetings. Also, there is usually at least one issue each quarter where a value in a report is wrong because of a bad cell reference in an Excel formula. On occasion, there are conflicting results in the reports because the products and departments that roll up to each business unit are not defined consistently.

Planned Changes

Contoso plans to automate and standardize the quarterly reporting process by using Microsoft Power Bl. The company wants to how long it takes to populate reports to less than two days. The company wants to create common logic for business units, products, and departments to be used across all reports, including, but not limited, to the quarterly reporting for the board.

Technical Requirements

Contoso wants the reports and datasets refreshed with minimal manual effort The company wants to provide a single package of reports to the board that contains custom navigation and links to supplementary information.

Maintenance, including manually updating data and access, must be minimized as much as possible.

Security Requirements

The reports must be made available to the board from powerbi.com. A mail-enabled security group will be used to share information with the board.

The analysts responsible for each business unit must see all the data the board sees, except the profit and loss data, which must be restricted to only their business unit's data. The analysts must be able to build new reports from the dataset that contains the profit and loss data, but any reports that the analysts build must not be included in the quarterly reports for the board. The analysts must not be able to share the quarterly reports with anyone.

Report Requirements

You plan to relate the balance sheet to a standard date table in Power Bl in a many-to-one relationship based on the last day of the month. At least one of the balance sheet reports in the quarterly reporting package must show the ending balances for the quarter, as well as for the

previous quarter.
Projections must contain a column named RevenueProjection that contains the revenue projection amounts. A relationship must be created from Projections to a table named Date that contains the columns shown in the following table.

Name	Data type	Example
Date	Date	4-Apr-2020
Month	Integer	20,2004
Month Name	Text	February
Quarter	Integer	20,202
Year	Integer	2,020

The relationships between products and departments to business units must be consistent across all reports.
The board must be able to get the following information from the quarterly reports:
- Revenue trends over time
- Ending balances for each account
- A comparison of expenses versus projections by quarter
- Changes in long-term liabilities from the previous quarter
- A comparison of quarterly revenue versus the same quarter during the prior year

You need to recommend a strategy to consistently define the business unit, department, and product category data and make the data usable across reports.
What should you recommend?

A. Create a shared dataset for each standardized entity.

B. Create dataflows for the standardized data and make the dataflows available for use in all imported datasets.

C. For every report, create and use a single shared dataset that contains the standardized data.

D. For the three entities, create exports of the data from the Power Bl model to Excel and store the data in Microsoft OneDrive for others to use as a source.

Answer: B

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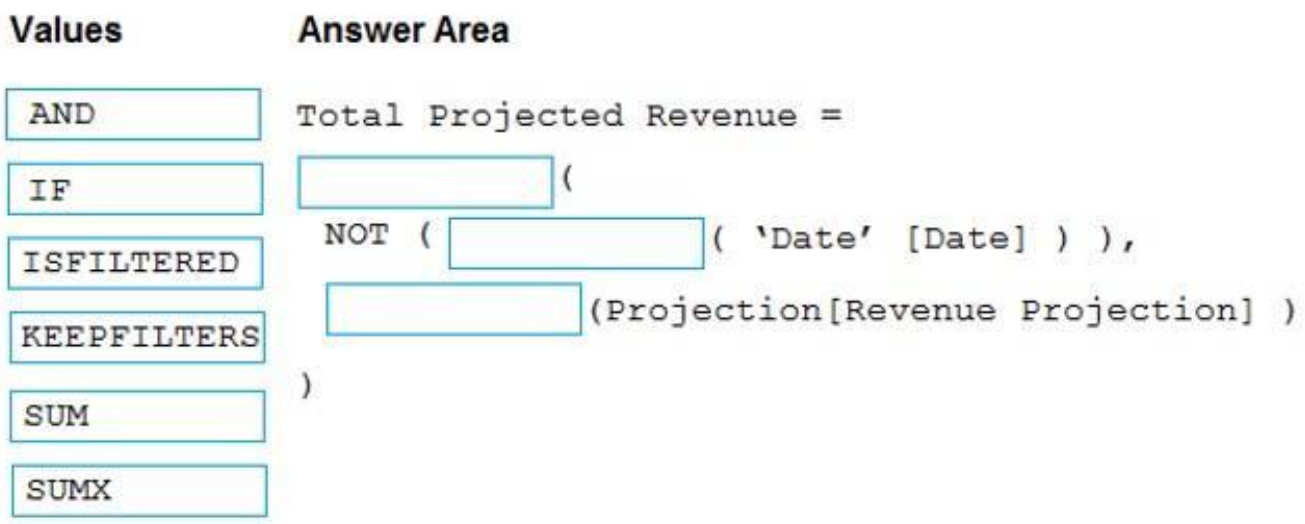
Security Requirements
The reports must be made available to the board from powerbi.com. A mail-enabled security group will be used to share information with the board.
The analysts responsible for each business unit must see all the data the board sees, except the profit and loss data, which must be restricted to only their business unit's data. The analysts must be able to build new reports from the dataset that contains the profit and loss data, but any reports that the analysts build must not be included in the quarterly reports for the board. The analysts must not be able to share the quarterly reports with anyone.
Report Requirements
You plan to relate the balance sheet to a standard date table in Power Bl in a many-to-one relationship based on the last day of the month. At least one of the balance sheet reports in the quarterly reporting package must show the ending balances for the quarter, as well as for the previous quarter.
Projections must contain a column named RevenueProjection that contains the revenue projection amounts. A relationship must be created from Projections to a table named Date that contains the columns shown in the following table.

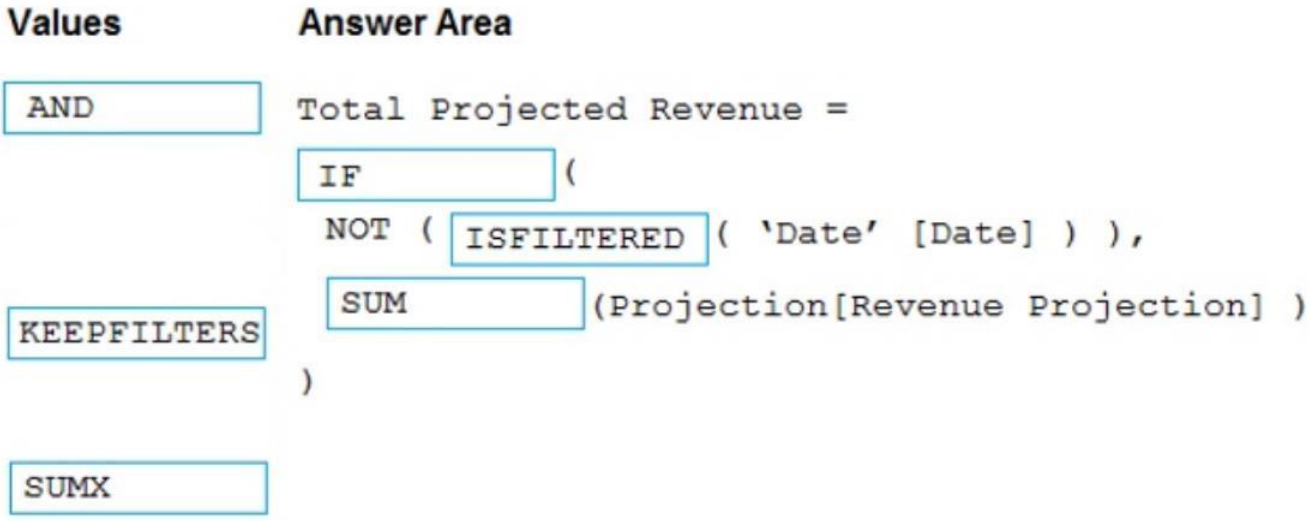
Name	Data type	Example
Date	Date	4-Apr-2020
Month	Integer	20,2004
Month Name	Text	February
Quarter	Integer	20,202
Year	Integer	2,020

The relationships between products and departments to business units must be consistent across all reports.
The board must be able to get the following information from the quarterly reports:
- Revenue trends over time
- Ending balances for each account
- A comparison of expenses versus projections by quarter
- Changes in long-term liabilities from the previous quarter
- A comparison of quarterly revenue versus the same quarter during the prior year

Drag and Drop Question
You need to create a DAX measure in the data model that only allows users to see projections at the appropriate levels of granularity.
How should you complete the measure? 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:
Scenario: Revenue projections are set at the monthly level and summed to show projections for the quarter.
Box 1: IF
Box 2: ISFILTERED
ISFILTERED returns TRUE when columnName is being filtered directly. If there is no filter on the column or if the filtering happens because a different column in the same table or in a related table is being filtered then the function returns FALSE.
Box 3: SUM
Reference:
https://docs.microsoft.com/en-us/dax/isfiltered-function-dax

NO.9 Case Study 2 - Contoso Ltd
Overview
Existing Environment
Contoso, Ltd. is a manufacturing company that produces outdoor equipment Contoso has quarterly board meetings for which financial analysts manually prepare Microsoft Excel reports, including profit and loss statements for each of the company's four business units, a company balance sheet, and net

income projections for the next quarter.

Data and Sources

Data for the reports comes from three sources. Detailed revenue, cost and expense data comes from an Azure SQL database. Summary balance sheet data comes from Microsoft Dynamics 365 Business Central. The balance sheet data is not related to the profit and loss results, other than they both relate to dates.

Monthly revenue and expense projections for the next quarter come from a Microsoft SharePoint Online list. Quarterly projections relate to the profit and loss results by using the following shared dimensions: date, business unit, department, and product category.

Net Income Projection Data

Net income projection data is stored in a SharePoint Online list named Projections in the format shown in the following table.

MonthStartDate	Projection type	ProductCategory	Department	Projection
1-Apr-20	Revenue	Bikes	N/A	200,000
1-Apr-20	Revenue	Components	N/A	250,000
1-Apr-20	Revenue	Clothing	N/A	300,000
1-Apr-20	Revenue	Accessories	N/A	150,000
1-May-20	Revenue	Bikes	N/A	200,000
1-May-20	Revenue	Components	N/A	250,000
1-Apr-20	Expense	Bikes	Bike Manufacture	50,000
1-Apr-20	Expense	Bikes	Bike Sales	3,333

Revenue projections are set at the monthly level and summed to show projections for the quarter.

Balance Sheet Data

The balance sheet data is imported with final balances for each account per month in the format shown in the following table.

AccountCategory	Account	Month	Year	BalanceAmount
Current assets	Cash and cash equivalents	3	2020	20,289
Current assets	Inventories	3	2020	4,855
Long-term liabilities	Long-term debt	3	2020	50,207
Current assets	Cash and cash equivalents	2	2020	28,209
Current assets	Inventories	2	2020	5,845
Long-tern liabilities	Long-tern debt	2	2020	49,887
Current assets	Cash and cash equivalents	1	2020	25,567
Current assets	Inventories	1	2020	65,998
Long-term liabilities	Long-term debt	1	2020	46,124

There is always a row for each account for each month in the balance sheet data.

Dynamics 365 Business Central Data

Business Central contains a product catalog that shows how products roll up to product categories, which roll up to business units. Revenue data is provided at the date and product level. Expense data is provided at the date and department level.

Business Issues

Historically, it has taken two analysts a week to prepare the reports for the quarterly board meetings.

Also, there is usually at least one issue each quarter where a value in a report is wrong because of a bad cell reference in an Excel formula. On occasion, there are conflicting results in the reports because the products and departments that roll up to each business unit are not defined consistently.

Planned Changes

Contoso plans to automate and standardize the quarterly reporting process by using Microsoft Power BI. The company wants to how long it takes to populate reports to less than two days. The company wants to create common logic for business units, products, and departments to be used across all reports, including, but not limited, to the quarterly reporting for the board.

Technical Requirements

Contoso wants the reports and datasets refreshed with minimal manual effort The company wants to provide a single package of reports to the board that contains custom navigation and links to supplementary information.

Maintenance, including manually updating data and access, must be minimized as much as possible.

Security Requirements

The reports must be made available to the board from powerbi.com. A mail-enabled security group will be used to share information with the board.

The analysts responsible for each business unit must see all the data the board sees, except the profit and loss data, which must be restricted to only their business unit's data. The analysts must be able to build new reports from the dataset that contains the profit and loss data, but any reports that the analysts build must not be included in the quarterly reports for the board. The analysts must not be able to share the quarterly reports with anyone.

Report Requirements

You plan to relate the balance sheet to a standard date table in Power BI in a many-to-one relationship based on the last day of the month. At least one of the balance sheet reports in the quarterly reporting package must show the ending balances for the quarter, as well as for the previous quarter.

Projections must contain a column named RevenueProjection that contains the revenue projection amounts. A relationship must be created from Projections to a table named Date that contains the columns shown in the following table.

Name	Data type	Example
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Month	Integer	20,2004
Month Name	Text	February
Quarter	Integer	20,202
Year	Integer	2,020

The relationships between products and departments to business units must be consistent across all reports.

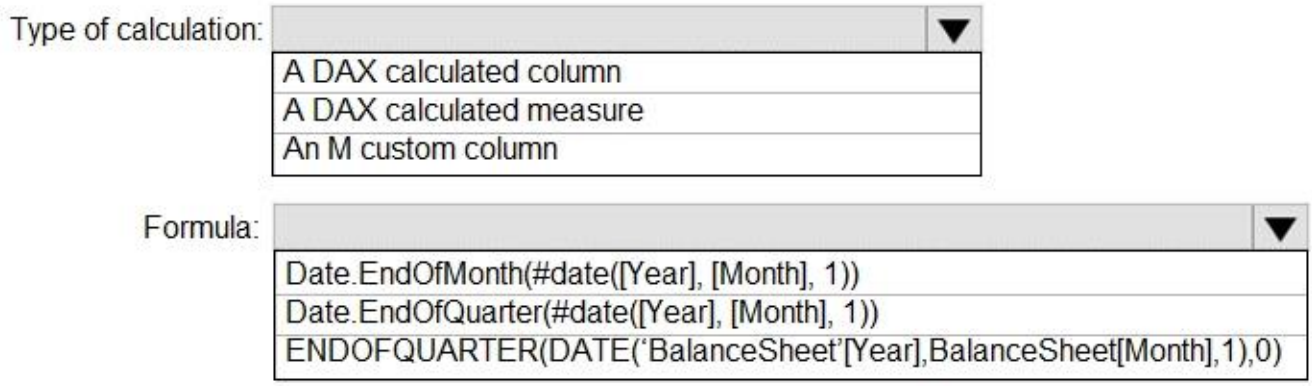
The board must be able to get the following information from the quarterly reports:

- Revenue trends over time
- Ending balances for each account
- A comparison of expenses versus projections by quarter
- Changes in long-term liabilities from the previous quarter
- A comparison of quarterly revenue versus the same quarter during the prior year

Hotspot Question

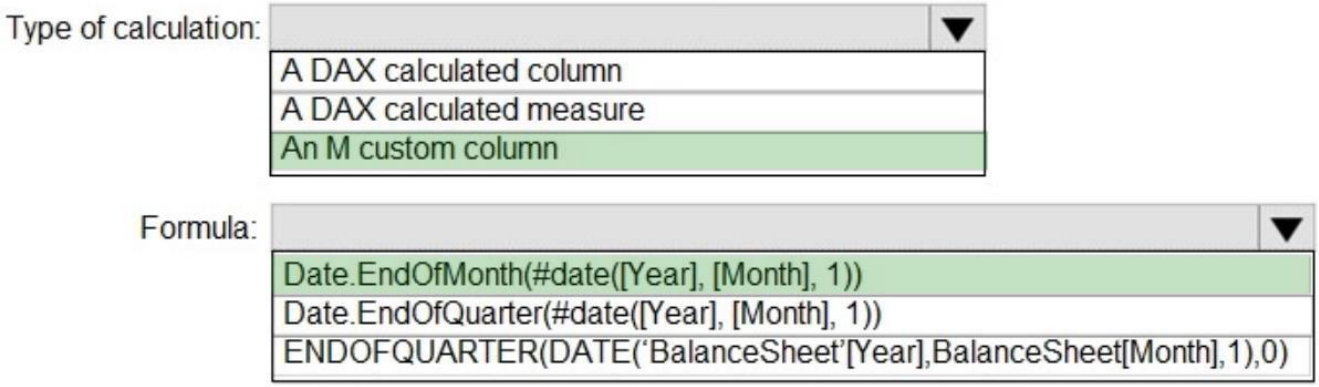
You need to calculate the last day of the month in the balance sheet data to ensure that you can relate the balance sheet data to the Date table.
Which type of calculation and which formula should you use? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Answer Area



Answer:

Answer Area



Explanation:
https://docs.microsoft.com/en-us/powerquery-m/date-endofmonth

NO.10 Case Study 2 - Contoso Ltd
Overview
Existing Environment
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Revenue projections are set at the monthly level and summed to show projections for the quarter.

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Planned Changes

Contoso plans to automate and standardize the quarterly reporting process by using Microsoft Power

BI. The company wants to how long it takes to populate reports to less than two days. The company wants to create common logic for business units, products, and departments to be used across all reports, including, but not limited, to the quarterly reporting for the board.

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You plan to relate the balance sheet to a standard date table in Power BI in a many-to-one relationship based on the last day of the month. At least one of the balance sheet reports in the quarterly reporting package must show the ending balances for the quarter, as well as for the previous quarter.

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Quarter	Integer	20,202
Year	Integer	2,020

The relationships between products and departments to business units must be consistent across all reports.

The board must be able to get the following information from the quarterly reports:

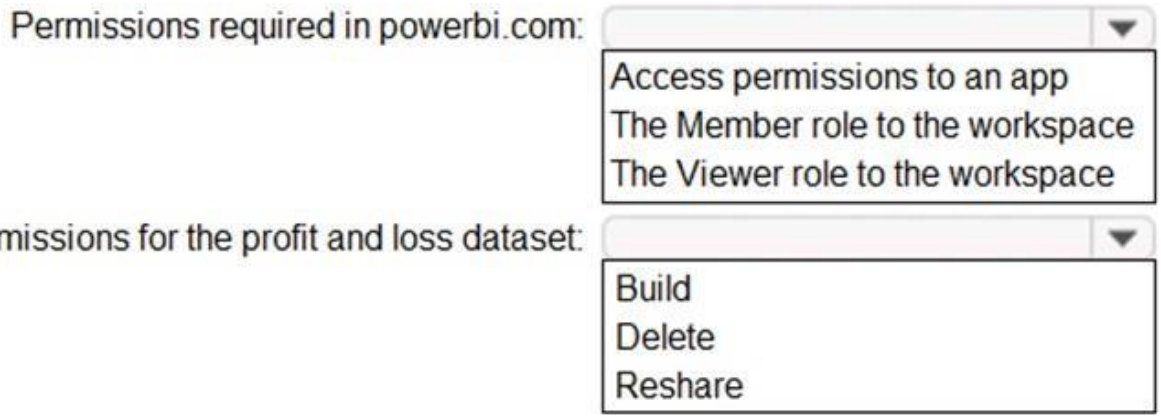
- Revenue trends over time
- Ending balances for each account
- A comparison of expenses versus projections by quarter
- Changes in long-term liabilities from the previous quarter
- A comparison of quarterly revenue versus the same quarter during the prior year

Hotspot Question

You need to grant access to the business unit analysts.

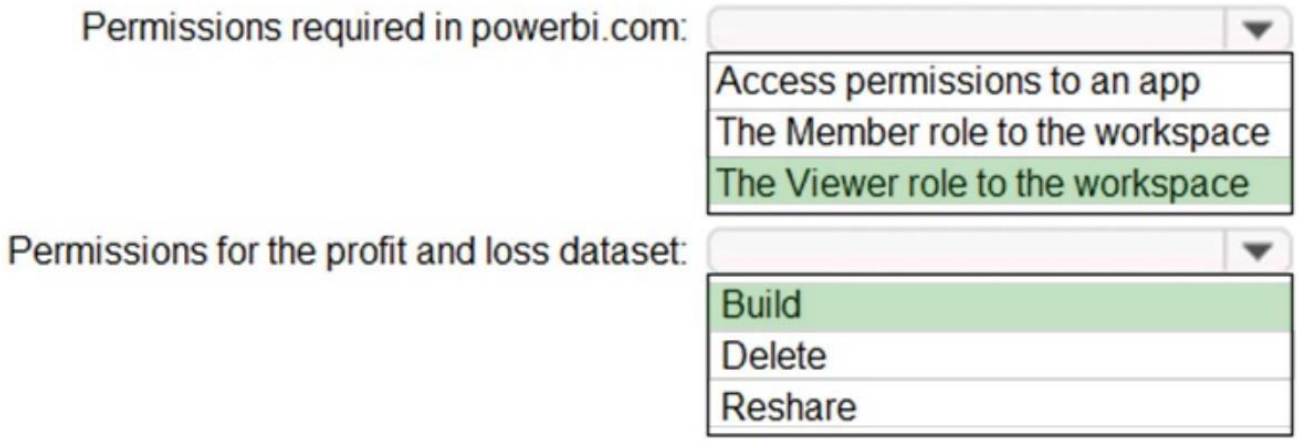
What should you configure? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Answer Area



Answer:

Answer Area



Explanation:
Box 1: The Viewer role to the workspace
The Viewer role gives a read-only experience to its users. They can view dashboards, reports, or workbooks in the workspace, but can't browse the datasets or dataflows. Use the Viewer role wherever you would previously use a classic workspace set to "Members can only view Power BI content".

Capability	Admin	Member	Contributor	Viewer
Update and delete the workspace.	X			
Add/remove people, including other admins.	X			
Add members or others with lower permissions.	X	X		
Publish and update an app.	X	X		
Share an item or share an app.	X	X		
Allow others to reshare items.	X	X		
Create, edit, and delete content in the workspace.	X	X	X	
Publish reports to the workspace, delete content.	X	X	X	
View an item.	X	X	X	X
Create a report in another workspace based on a dataset in this workspace.	X	X	X	X [1]
Copy a report.	X	X	X	X [1]

Box 2: Build
The analysts must be able to build new reports from the dataset that contains the profit and loss data.
Scenario: The reports must be made available to the board from powerbi.com.
The analysts responsible for each business unit must see all the data the board sees, except the profit and loss data, which must be restricted to only their business unit's data. The analysts must be able to build new reports from the dataset that contains the profit and loss data, but any reports that the analysts build must not be included in the quarterly reports for the board. The analysts must not be able to share the quarterly reports with anyone.
Reference:
https://www.nickyvv.com/2019/08/the-new-power-bi-workspace-viewer-role-explained.html

NO.11 Hotspot Question
You have two Power BI workspaces named WorkspaceA and WorkspaceB. WorkspaceA contains two datasets named Sales and HR.
You need to provide a user named User1 with access to the WorkspaceB. The solution must meet the following requirements:
- Create reports that use the HR dataset.
- Publish the reports to WorkspaceB.
- Prevent the ability to modify the HR dataset.
- Prevent the ability to add users to Workspaces.
What should you do? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.

Answer Area

To access the HR dataset:

- Assign User1 the Contributor role for WorkspaceA.
- Grant User1 the Build permission for the HR dataset.
- Grant User1 read permissions for the HR dataset.
- Grant User1 share permissions for the HR dataset.

To publish reports to WorkspaceB:

- Assign User1 the Admin role for Workspaces.
- Assign User1 the Contributor role for WorkspaceA.
- Assign User1 the Contributor role for WorkspaceB.
- Assign User1 the Member role for WorkspaceB.

Answer:

Answer Area

To access the HR dataset:

- Assign User1 the Contributor role for WorkspaceA.
- **Grant User1 the Build permission for the HR dataset.**
- Grant User1 read permissions for the HR dataset.
- Grant User1 share permissions for the HR dataset.

To publish reports to WorkspaceB:

- Assign User1 the Admin role for Workspaces.
- Assign User1 the Contributor role for WorkspaceA.
- **Assign User1 the Contributor role for WorkspaceB.**
- Assign User1 the Member role for WorkspaceB.

Explanation:
Box 1: Assign User1 Build permissions for the HR dataset.
More granular permissions
Power BI provides the Build permission as a complement to the existing permissions, Read and Reshare. All users who already had Read permission for datasets via app permissions, sharing, or workspace access at that time also got Build permission for those same datasets. They got Build permission automatically because Read permission already granted them the right to build new content on top of the dataset, by using Analyze in Excel or Export.
Box 2: Assign Users the Contributor role for WorkspaceB
Contributor can publish reports to the workspace, delete ontent.
Contributor cannot add members to a workspace.
Reference:
https://learn.microsoft.com/en-us/power-bi/collaborate-share/service-roles-new-workspaces

NO.12 Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question

sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
You are modeling data by using Microsoft Power BI. Part of the data model is a large Microsoft SQL Server table named Order that has more than 100 million records.
During the development process, you need to import a sample of the data from the Order table.
Solution: You add a WHERE clause to the SQL statement.
Does this meet the goal?

A. Yes

B. No

Answer: A

Explanation:
The WHERE clause has its effects before the data is imported.
Reference:
https://docs.microsoft.com/en-us/power-bi/connect-data/service-gateway-sql-tutorial

NO.13 Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
You are modeling data by using Microsoft Power BI. Part of the data model is a large Microsoft SQL Server table named Order that has more than 100 million records.
During the development process, you need to import a sample of the data from the Order table.
Solution: You write a DAX expression that uses the FILTER function.
Does this meet the goal?

A. Yes

B. No

Answer: B

Explanation:
The filter is applied after the data is imported.
Instead add a WHERE clause to the SQL statement.
Reference:
https://docs.microsoft.com/en-us/power-bi/connect-data/service-gateway-sql-tutorial

NO.14 Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
You are modeling data by using Microsoft Power BI. Part of the data model is a large Microsoft SQL Server table named Order that has more than 100 million records.
During the development process, you need to import a sample of the data from the Order table.
Solution: You add a report-level filter that filters based on the order date.
Does this meet the goal?

A. Yes
B. No
Answer: B
Explanation:
The filter is applied after the data is imported.
Instead add a WHERE clause to the SQL statement.
Reference:
https://docs.microsoft.com/en-us/power-bi/connect-data/service-gateway-sql-tutorial

NO.15 Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
You create a parameter named DataSourceExcel that holds the file name and location of a Microsoft Excel data source.
You need to update the query to reference the parameter instead of multiple hard-coded copies of the location within each query definition.
Solution: You add a Power Apps custom visual to the report.
Does this meet the goal?
A. Yes
B. No
Answer: B

NO.16 Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
You create a parameter named DataSourceExcel that holds the file name and location of a Microsoft Excel data source.
You need to update the query to reference the parameter instead of multiple hard-coded copies of the location within each query definition.
Solution: In the Power Query M code, you replace references to the Excel file with DataSourceExcel.
Does this meet the goal?
A. Yes
B. No
Answer: B
Explanation:
Instead modify the source step of the queries to use DataSourceExcelas the file path.= Note: Parameterising a Data Source could be used in many different use cases. From connecting to different data sources defined in Query Parameters to load different combinations of columns.
Reference:
https://www.biinsight.com/power-bi-desktop-query-parameters-part-1/

NO.17 Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution. After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
You create a parameter named DataSourceExcel that holds the file name and location of a Microsoft Excel data source.
You need to update the query to reference the parameter instead of multiple hard-coded copies of the location within each query definition.
Solution: You create a new query that references DataSourceExcel.
Does this meet the goal?

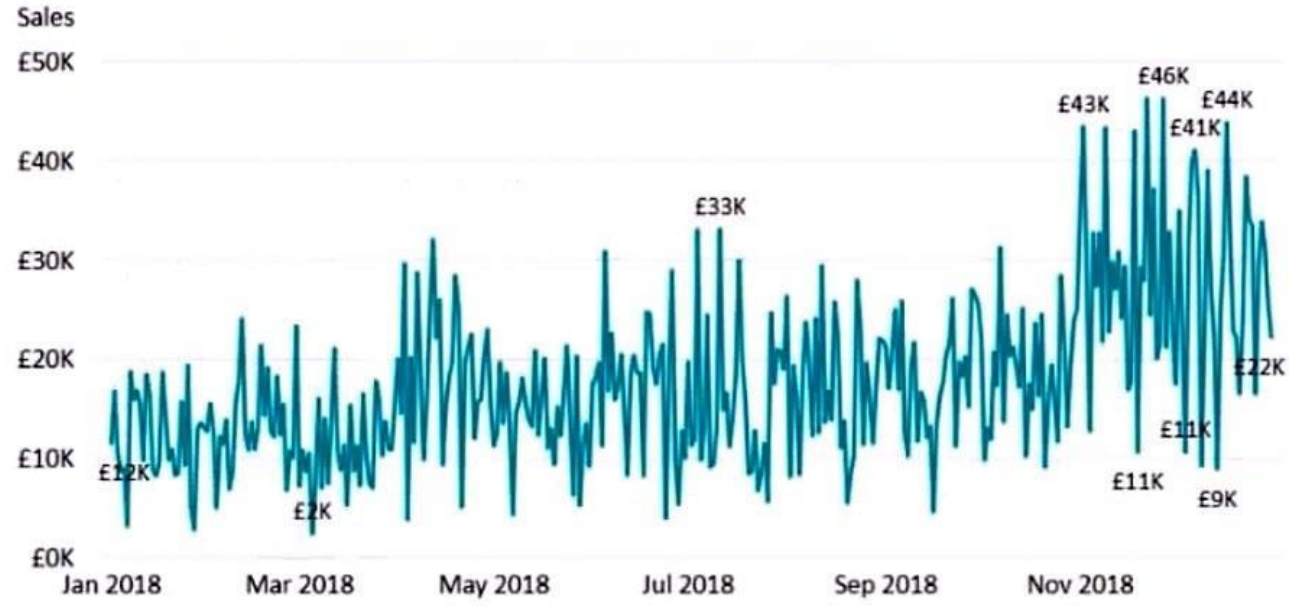
A. Yes

B. No

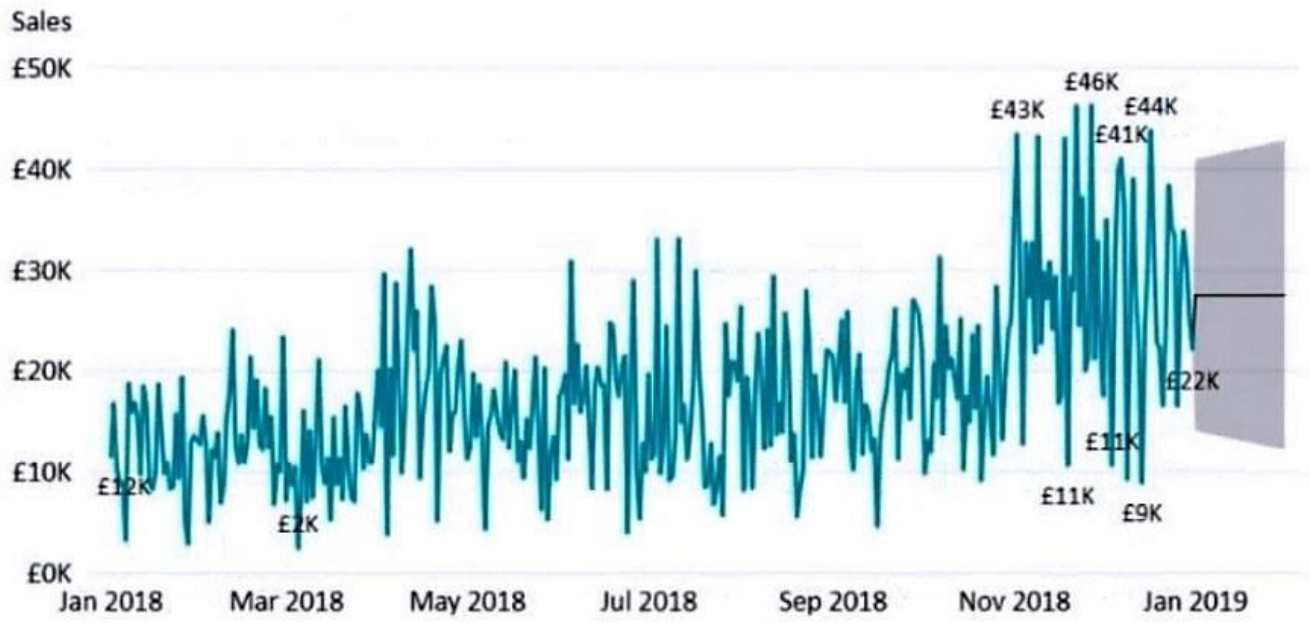
Answer: B

Explanation:
Instead modify the source step of the queries to use DataSourceExcelas the file path.
Note: Parameterising a Data Source could be used in many different use cases. From connecting to different data sources defined in Query Parameters to load different combinations of columns.
Reference:
https://www.biinsight.com/power-bi-desktop-query-parameters-part-1/

NO.18 You have the visual shown in the Original exhibit.



You need to configure the visual as shown in the Modified exhibit.



What should you add to the visual?

A. a measure

B. a trendline

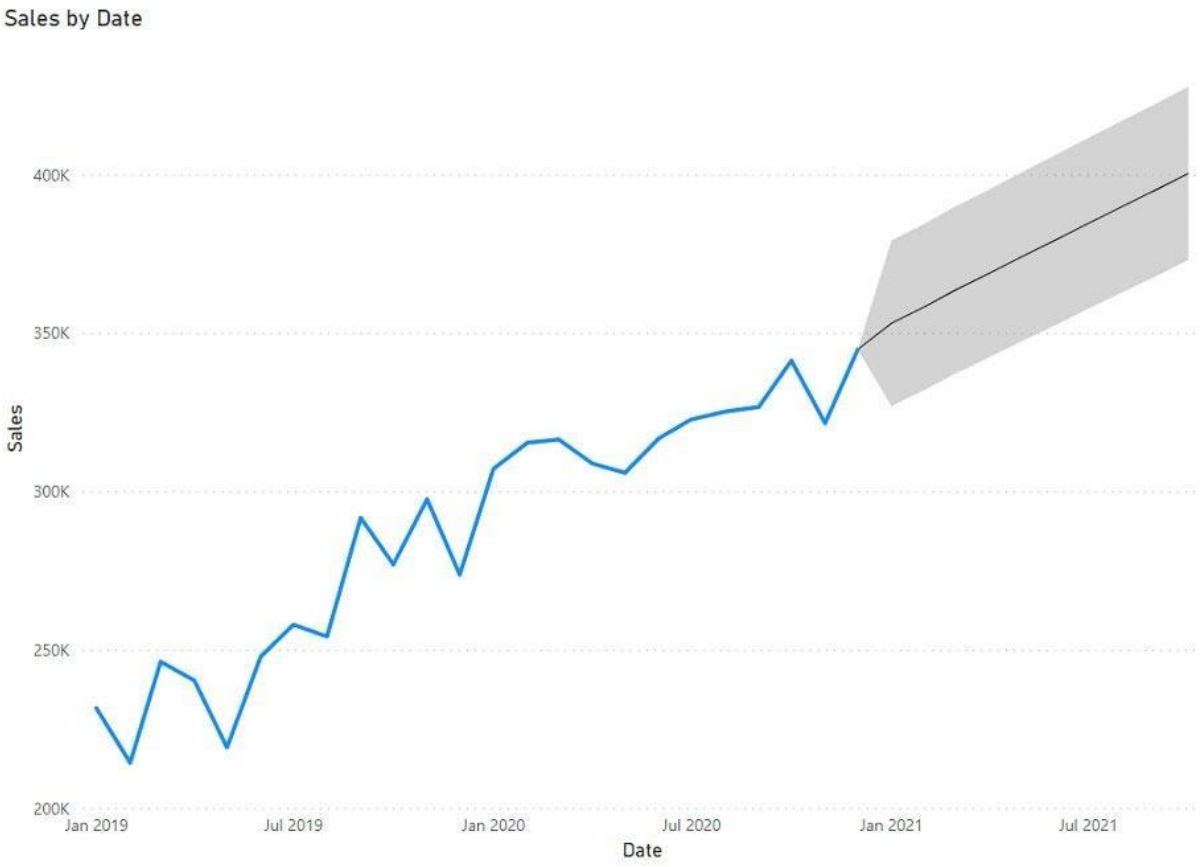
C. a forecast

D. an Average line

Answer: C

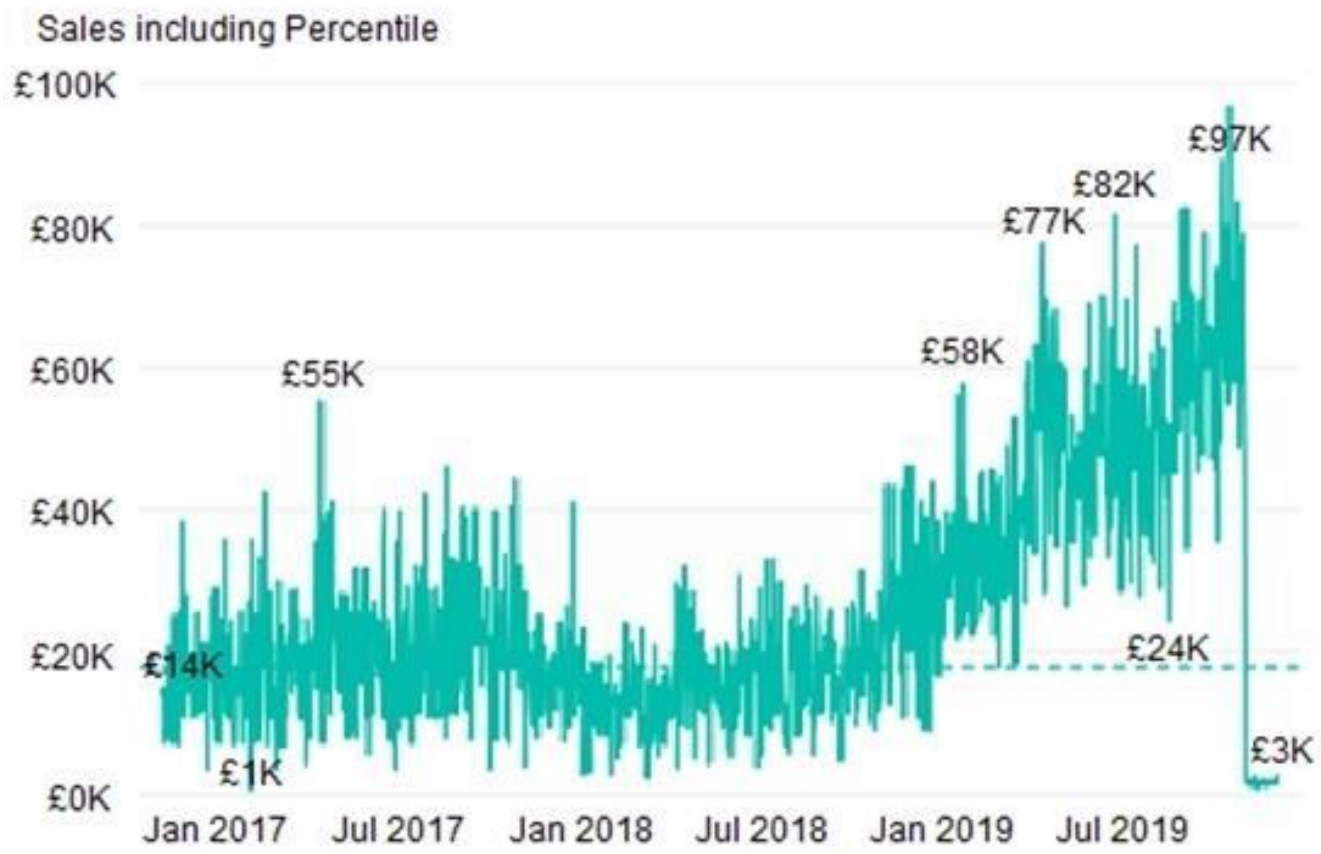
Explanation:

For example, here's how the current forecast looks like:



Reference:
https://spreadsheeto.com/power-bi-forecasting/#intro

NO.19 You plan to create the chart shown in the following exhibit.



How should you create the dashed horizontal line denoting the 40th percentile of daily sales for the period shown?

A. Create a horizontal line that has a fixed value of 24,000.

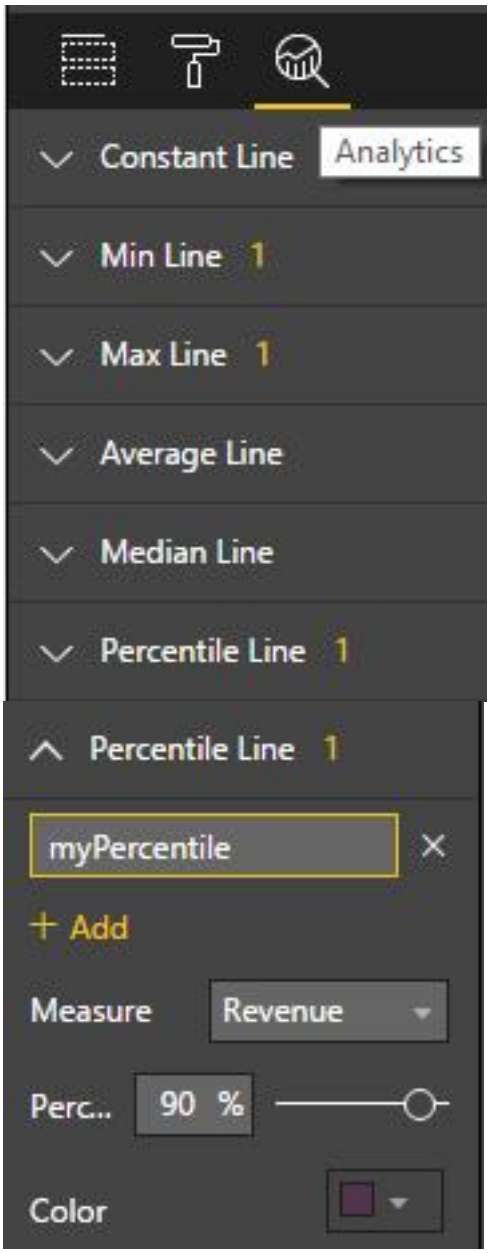
B. Add a measure to the visual that uses the following DAX expression.
Heasurel - PERCENTUEX.EXC (Sales,Sales[Total Sales],.40)

C. Add a new percentile line that uses Total Sales as the measure and 40% as the percentile.

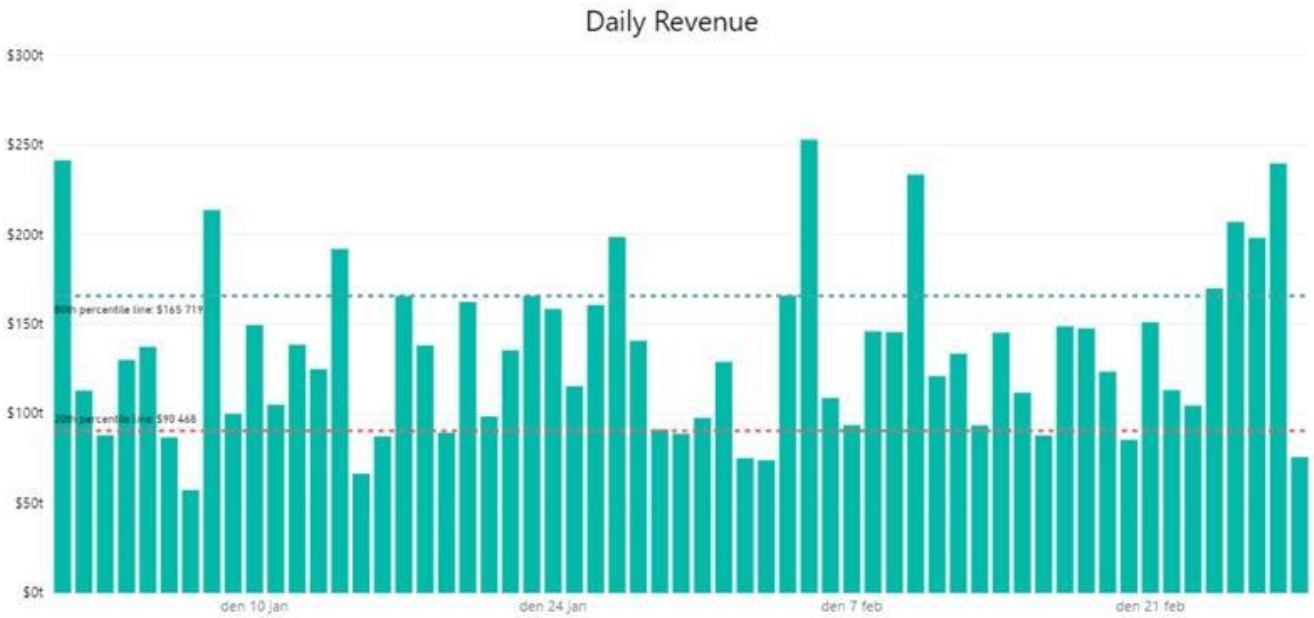
D. Add a measure to the visual that uses the following DAX expression.
Heasurel = PERCENTILEX.INC (Sales,Sales[Total Sales],6.40)

Answer: C

Explanation:
The analytics feature enables you to show percentiles across groups specified along a specific axis.
Example:
1. Click on the analytics tab
2. Select Percentile
3. You can choose a specific percentile along with other formatting options.
4. Drag a date or non-numeric dimension into the Axis of a column chart



Add percentile lines to monitor daily revenue



Incorrect Answers:
B, D: There are two main percentile functions in Power BI:
PERCENTILE.EXC(column, kth percentile)
PERCENTILE.INC(column, kth percentile)
The first parameter is the column which you want the percentile value for.
The second parameter is the kth percentile where k percentage of values will fall below.
Both formulas use a slightly different algorithm. The second algorithm works for any value of k between 0 and 1 (the 0th and 100th percentile). In the EXC version the data excludes both lower and upper bounds, while INC includes them.
Reference:
https://www.dash-intel.com/powerbi/statistical_functions_percentile.php

NO.20 You have a table that contains sales data and approximately 1,000 rows.
You need to identify outliers in the table.
Which type of visualization should you use?
A. area chart
B. donut chart
C. scatter plot
D. pie chart
Answer: C
Explanation:
Outliers are those data points that lie outside the overall pattern of distribution & the easiest way to detect outliers is though graphs. Box plots, Scatter plots can help detect them easily.
Reference:
https://towardsdatascience.com/this-article-is-about-identifying-outliers-through-funnel-plots- using -the-microsoft-power-bi-d7ad16ac9ccc

NO.21 You have a collection of reports for the HR department of your company.
You need to create a visualization for the HR department that shows a historic employee counts and predicts trends during the next six months.

Which type of visualization should you use?

A. scatter chart

B. ribbon chart

C. line chart

D. key influences

Answer: C

Explanation:

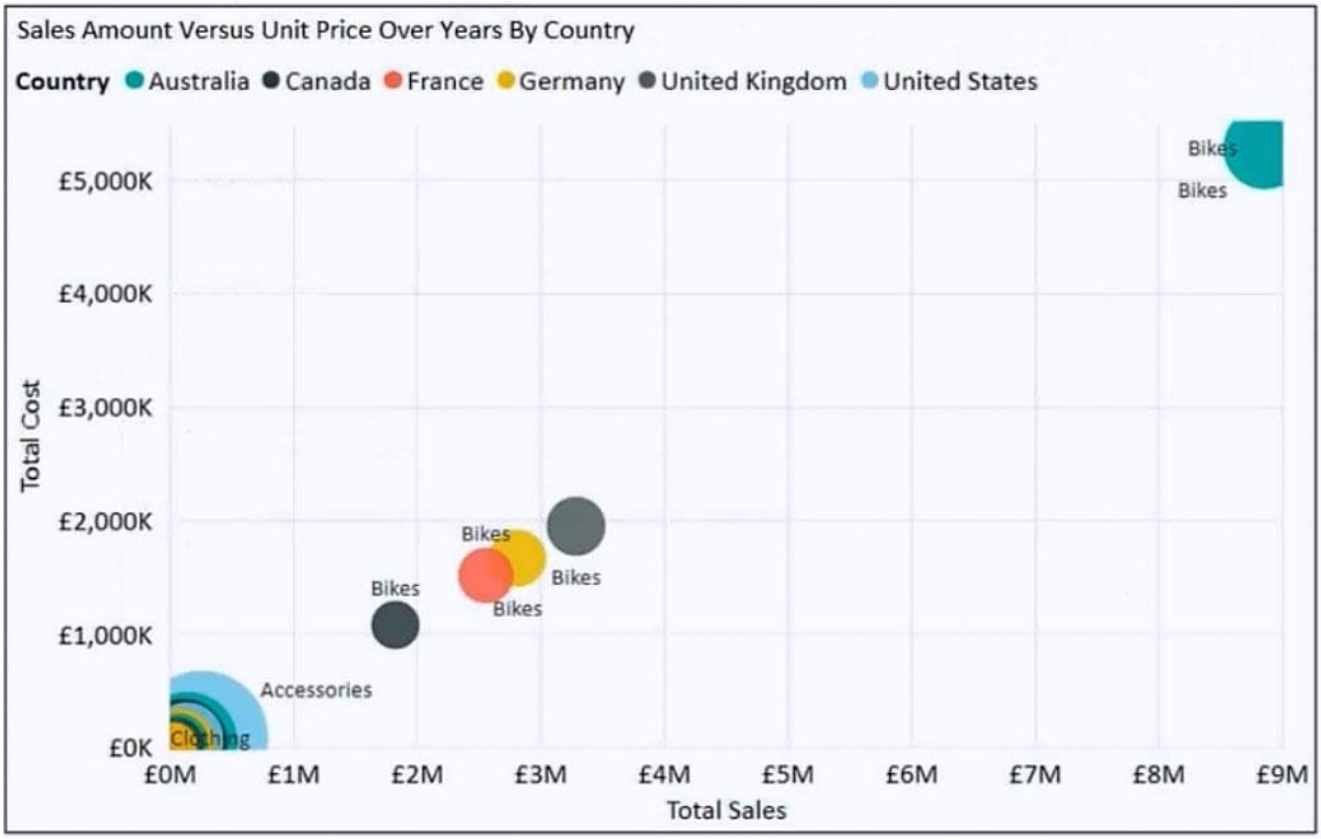
The best data for forecasting is time series data or uniformly increasing whole numbers. The line chart has to have only one line.

Try forecasting: Try the new forecasting capabilities of Power View today on your own data or with the sample report available as part of the Power BI report samples. To view your own data, upload a workbook with a Power View time series line chart to Power BI for Office 365.

Reference:

https://powerbi.microsoft.com/en-us/blog/introducing-new-forecasting-capabilities-in-power-view-for-office-365

NO.22 You have the visual shown in the exhibit.



You need to show the relationship between Total Cost and Total Sales over time.

What should you do?

A. Add a play axis.

B. Add a slicer for the year.

C. From the Analytics pane, add an Average line.

D. Create a DAX measure that calculates year-over-year growth.

Answer: B

Explanation:
When to use a slicer
Slicers are a great choice when you want to:
Display commonly used or important filters on the report canvas for easier access.
Make it easier to see the current filtered state without having to open a drop-down list.
Filter by columns that are unneeded and hidden in the data tables.
Create more focused reports by putting slicers next to important visuals.
Note: Suppose you want your report readers to be able to look at overall sales metrics, but also highlight performance for individual district managers and different time frames. You could create separate reports or comparative charts. You could add filters in the Filters pane. Or you could use slicers. Slicers are another way of filtering. They narrow the portion of the dataset that is shown in the other report visualizations.
Reference:
https://docs.microsoft.com/en-us/power-bi/visuals/power-bi-visualization-slicers

NO.23 You build a report to help the sales team understand its performance and the drivers of sales.
The team needs to have a single visualization to identify which factors affect success.
Which type of visualization should you use?

A. Key influences

B. Funnel chart

C. Q&A

D. Line and clustered column chart

Answer: A

Explanation:
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.
The key influencers visual is a great choice if you want to:
See which factors affect the metric being analyzed.
Contrast the relative importance of these factors. For example, do short-term contracts have more impact on churn than long-term contracts?
Reference:
https://docs.microsoft.com/en-us/power-bi/visuals/power-bi-visualization-influencers

NO.24 You have a data model that contains many complex DAX expressions.
The expressions contain frequent references to the related and relatedtable functions.
You need to recommend a solution to minimize the use of the related and relatedtable functions.
What should you recommend?

A. Merge tables by using Power Query.)

B. Hide unused columns in the model.)

C. Split the model into multiple models.

D. Transpose.

Answer: A

Explanation:
Combining data means connecting to two or more data sources, shaping them as needed, then

consolidating them into a useful query.
When you have one or more columns that you'd like to add to another query, you merge the queries.
Note: The RELATEDTABLEfunction is a shortcut for CALCULATETABLE function with no logical expression.
CALCULATETABLE evaluates a table expression in a modified filter context and returns A table of values.
Reference:
https://docs.microsoft.com/en-us/power-bi/connect-data/desktop-shape-and-combine-data

NO.25 You have a sales system that contains the tables shown in the following table.

Table name	Column name
Sales	sales_ID
	sales_date
	sales_amount
Date	DateID
	Month
	Week
	Year

The Date table is marked as a date table. DateID is the date data type.
You need to create an annual sales growth percentage measure.
Which DAX expression should you use?
A. SUM(sales[sales_amount]) - CALCULATE(SUM(sales[sales_amount]), SAMEPERIODLASTYEAR('Date'[DateID])
B. CALCULATE(SUM(sales[sales_amount]), DATESYTD('Date'[DateID]))
C. (SUN(sales[sales_amount]) - CALCULATE(SUM(sales[sales_amount]), SAHEPERIOOLASTYEAR('Date'[DateID]))/ CALCULATE(SUM(sales[sales_amount]), SAMEPERIOOLASTYEAR ('Date'[DateID])
D. CALCULATE(SUH(sales[sales_amount]), SAMEPERIODLASTYEAR('Date'[DateID])
Answer: C
Explanation:
SAMEPERIODLASTYEAR returns a table that contains a column of dates shifted one year back in time from the dates in the specified dates column, in the current context.
Reference:
https://docs.microsoft.com/en-us/dax/sameperiodlastyear-function-dax

NO.26 You build a report to analyze customer transactions from a database that contains the tables shown in the following table.

Table name	Column name
Customer	CustomerID (primary key)
	Name
	State
	Email
Transaction	TransactionID (primary key)
	CustomerID (foreign key)
	Date
	Amount

You import the tables.
Which relationship should you use to link the tables?

A. one-to-many from Customer to Transaction

B. one-to-one between Customer and Transaction

C. one-to-many from Transaction to Customer

D. many-to-many between Customer and Transaction

Answer: A

Explanation:
Each customer can have many transactions.
For each transaction there is exactly one customer.

NO.27 You are configuring a Microsoft Power BI data model to enable users to ask natural language questions by using Q&A.
You have a table named Customer that has the following measure.
Customer Count = DISTINCTCOUNT(Customer[CustomerID])
Users frequently refer to customers as subscribers.
You need to ensure that the users can get a useful result for "subscriber count" by using Q&A.
The solution must minimize the size of the model.
What should you do?

A. Add a description of "subscriber count" to the Customer Count measure.

B. Set Summarize By to None for the CustomerID column.

C. Add a description of "Subscriber" to the Customer table.

D. Add a synonym of "subscriber" to the Customer table.

Answer: D

Explanation:
You can add synonyms to tables and columns.
Note: This step applies specifically to Q&A (and not to Power BI reports in general). Users often have a variety of terms they use to refer to the same thing, such as total sales, net sales, total net sales. You can add these synonyms to tables and columns in the Power BI model.
This step applies specifically to Q&A (and not to Power BI reports in general). Users often have a variety of terms they use to refer to the same thing, such as total sales, net sales, total net sales. You can add these synonyms to tables and columns in the Power BI model.
Reference:
https://docs.microsoft.com/en-us/power-bi/natural-language/q-and-a-best-practices

https://docs.microsoft.com/en-us/learn/modules/ai-visuals-power-bi/2-visual

NO.28 You have a Microsoft Power BI report. The size of PBIX file is 550 MB. The report is accessed by using an App workspace in shared capacity of powerbi.com.
The report uses an imported dataset that contains one fact table. The fact table contains 12 million rows. The dataset is scheduled to refresh twice a day at 08:00 and 17:00. The report is a single page that contains 15 custom visuals and 10 default visuals. Users say that the report is slow to load the visuals when they access and interact with the report.
You need to recommend a solution to improve the performance of the report.
What should you recommend?
A. Split the visuals onto multiple pages.
B. Implement row-level security (RLS).
C. Replace the default visuals with custom visuals.
D. Increase the number of times that the dataset is refreshed.
Answer: A

NO.29 You have four sales regions. Each region has multiple sales managers.
You implement row-level security (RLS) in a data model.
You assign the relevant distribution lists to each role.
You have sales reports that enable analysis by region. The sales managers can view the sales records of their region. The sales managers are prevented from viewing records from other regions.
A sales manager changes to a different region.
You need to ensure that the sales manager can see the correct sales data.
What should you do?
A. From Microsoft Power BI Desktop, edit the Row-Level Security setting for the reports.
B. Change the Microsoft Power BI license type of the sales manager.
C. Manage the permissions of the underlying dataset
D. Request that the sales manager be added to the correct Azure Active Directory group.
Answer: D
Explanation:
Using AD Security Groups, you no longer need to maintain a long list of users.
All that you will need to do is to put in the AD Security group with the required permissions and Power BI will do the REST! This means a small and simple security file with the permissions and AD Security group.
Note: Configure role mappings
Once published to Power BI, you must map members to dataset roles.
Members can be user accounts or security groups. Whenever possible, we recommend you map security groups to dataset roles. It involves managing security group memberships in Azure Active Directory. Possibly, it delegates the task to your network administrators.
Reference:
https://www.fourmoo.com/2018/02/20/dynamic-row-level-security-is-easy-with-active-directory-security-groups/
https://docs.microsoft.com/en-us/power-bi/guidance/rls-guidance

NO.30 You have five sales regions. Each region is assigned a single salesperson.

You have an imported dataset that has a dynamic row-level security (RLS) role named Sales.
The Sales role filters sales transaction data by salesperson.
Salespeople must see only the data from their region.
You publish the dataset to powerbi.com, set RLS role membership, and distribute the dataset and related reports to the salespeople.
A salesperson reports that she believes she should see more data.
You need to verify what data the salesperson currently sees.
What should you do?

A. Use the Test as role option to view data as the salesperson's user account.

B. Use the Test as role option to view data as the Sales role.

C. Instruct the salesperson to open the report in Microsoft Power BI Desktop.

D. Filter the data in the reports to match the intended logic in the filter on the sales transaction table.

Answer: A
Explanation:
To be able to see what the specific salesperson sees (and compare it to what she should see) you should test the report as that user account since the RLS is dynamic and based on the user accounts.

NO.31 You have a collection of reports for the HR department of your company. The datasets use row- level security (RLS). The company has multiple sales regions that each has an HR manager. You need to ensure that the HR managers can interact with the data from their region only. The HR managers must be prevented from changing the layout of the reports.
How should you provision access to the reports for the HR managers?

A. Create a new workspace, copy the datasets and reports, and add the HR managers as members of the workspace.

B. Publish the reports to a different workspace other than the one hosting the datasets.

C. Publish the reports in an app and grant the HR managers access permission.

D. Add the HR managers as members of the existing workspace that hosts the reports and the datasets.

Answer: B
Explanation:
Note: Row-level security (RLS) with Power BI 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. In the Power BI service, members of a workspace have access to datasets in the workspace. RLS doesn't restrict this data access.
Reference:
https://docs.microsoft.com/en-us/power-bi/admin/service-admin-rls

NO.32 Your company plans to completely separate development and production assets such as datasets, reports, and dashboards in Microsoft Power BI.
You need to recommend an application lifecycle strategy. The solution must minimize maintenance to update access and prevent end users from viewing the development assets.
What should you recommend?

A. Create production reports in a separate workspace that uses a shared dataset from the development workspace.

Grant the end users access to the production workspace.

B. In the same workspace, create separate copies of the assets and append DEV to the names of the copied assets.
Grant the end users access to the workspace.

C. Create separate workspaces for development and production.
Grant the end users access to the production workspace.

D. Create one workspace for development.
From the workspace, publish an app for production.

Answer: C

NO.33 You are creating a visual to show the ranking of product categories by sales revenue.
Your company's security policy states that you cannot send data outside of your Microsoft Power BI tenant.
Which approach provides the widest variety of visuals while adhering to the security policy?

A. Use default visuals or custom visuals uploaded from a .pbiviz file.

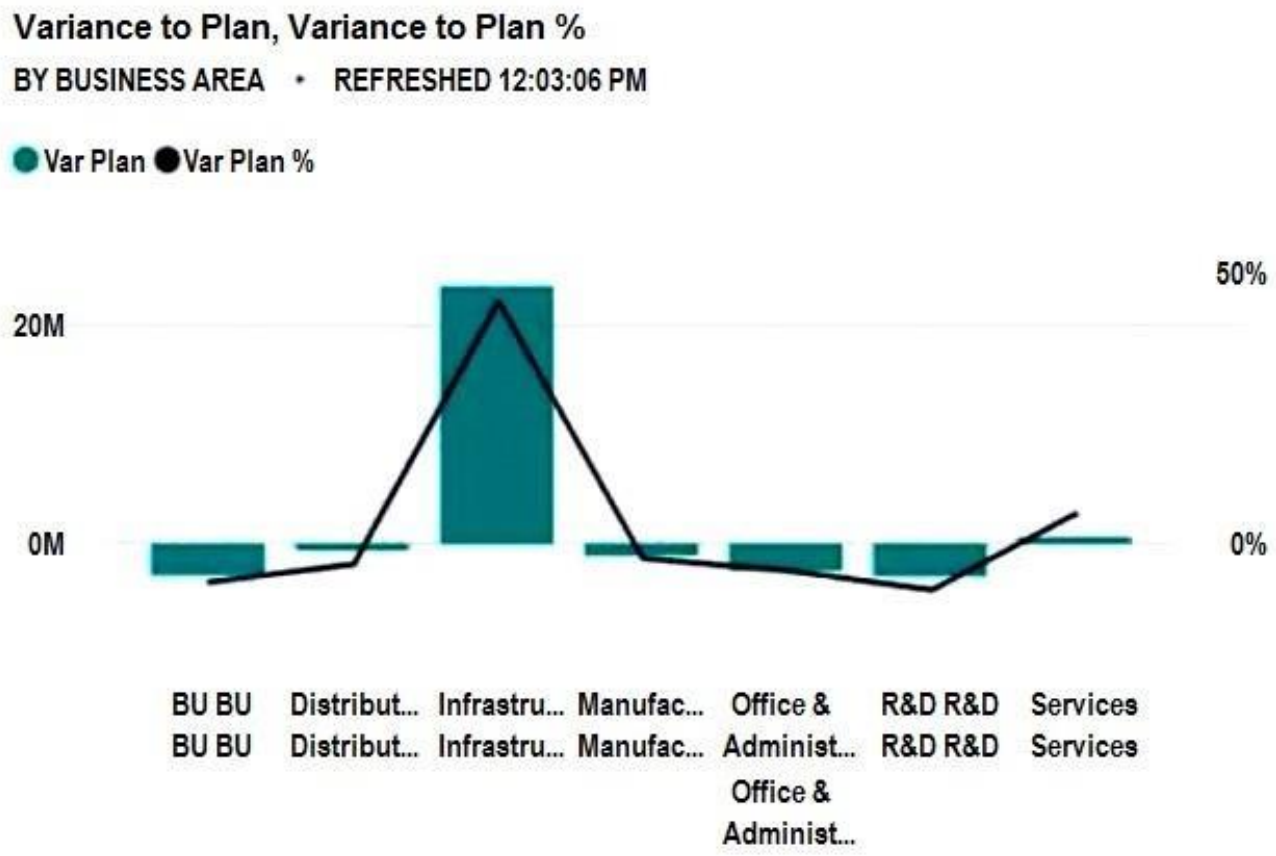
B. Use only default visuals.

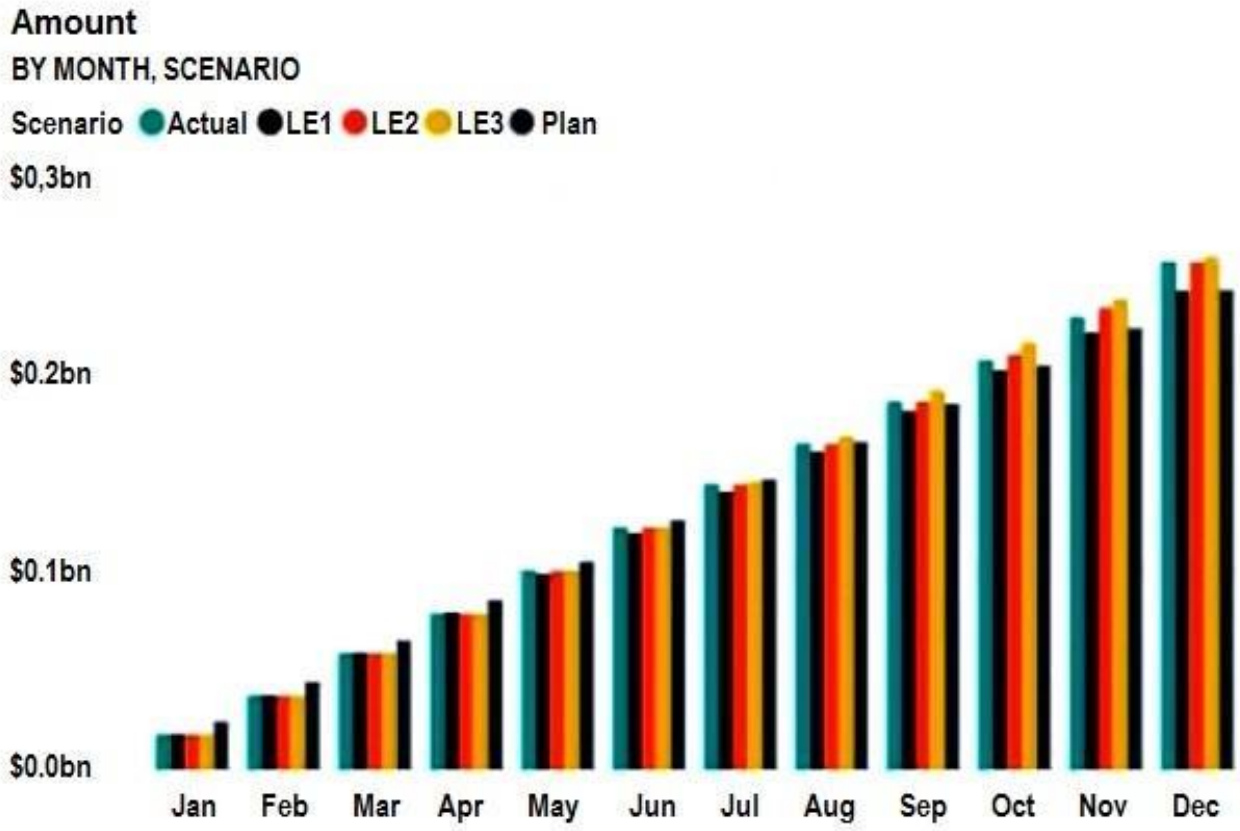
C. Use default or any custom visuals from the marketplace.

D. Use default or certified custom visuals.

Answer: C

NO.34 You have a Microsoft Power BI dashboard. The report used to create the dashboard uses an imported dataset from a Microsoft SQL Server data source.
The dashboard is shown in the exhibit.



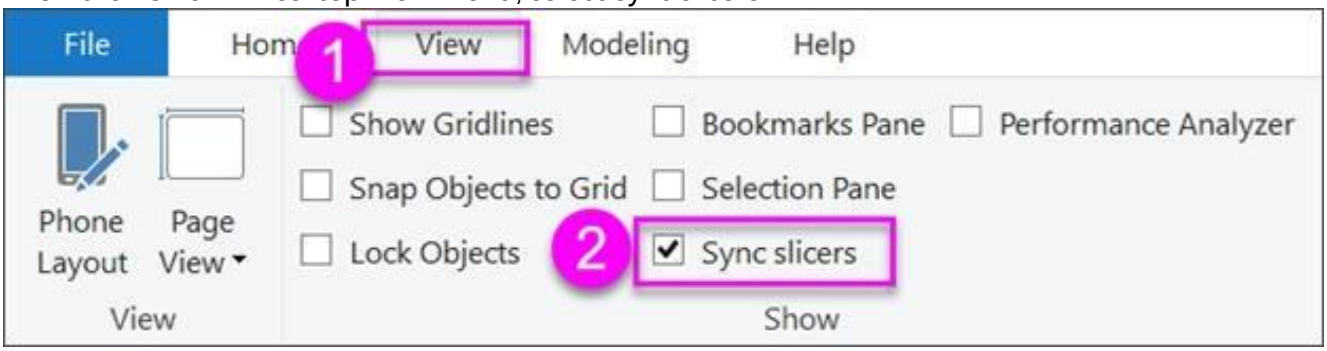


What occurred at 12:03:06 PM?

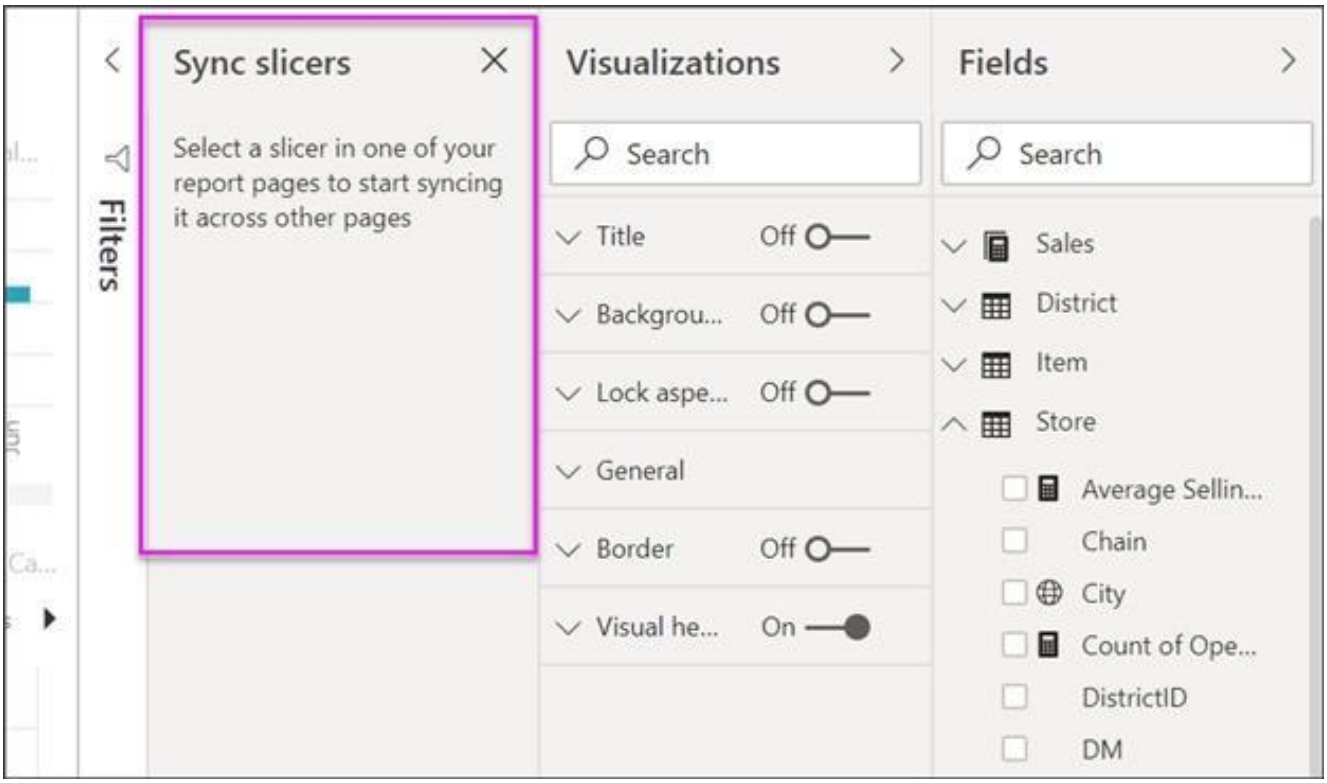
A. A user pressed F5

B. A new transaction was added to the data source.
C. A user added a comment to a tile.
D. The dashboard tile cache refreshed.
Answer: D

NO.35 You have a report that contains four pages. Each page contains slicers for the same four fields.
Users report that when they select values on a slicer on one page, the visuals are not updated on all the pages.
You need to recommend a solution to ensure that users can select a value once to filter the results on all the pages.
What are two possible recommendations to achieve this goal? Each correct answer presents a complete solution. NOTE: Each correct selection is worth one point.
A. Sync the slicers across the pages.
B. Replace the slicers with page-level filters.
C. Replace the slicers with visual-level filters.
D. Create a bookmark for each slicer value.
E. Replace the slicers with report-level filters.
Answer: AE
Explanation:
E: Add a report-level filter to filter an entire report.
The visuals on the active page, and on all pages in the report, change to reflect the new filter.
A: You can sync a slicer and use it on any or all pages in a report.
1. On the Power BI Desktop View menu, select Sync slicers.



The Sync slicers pane appears between the Filters and Visualizations panes.



Reference:
https://docs.microsoft.com/en-us/power-bi/create-reports/power-bi-report-add-filter
https://docs.microsoft.com/en-us/power-bi/visuals/power-bi-visualization-slicers