



Microsoft

PL-300 Exam

Data Analyst Associate

Questions & Answers

(Full Version)

Thank you for Purchasing PL-300 Exam

Question: 1

You are a Power BI specialist at your organization. In your finance table, you have a column called margin, which is defined as 'margin = revenue – cost of goods sold.' In your company, there are several different ways people refer to margin. Some people call margin by other terms such as income, profit or profit margin. To use the Q&A feature successfully in your dashboard, you need to configure your dataset columns to enable users to type in variations for margin.

Solution: Add Synonyms to the finance table

Does this solution meet the goal?

- A. Yes
- B. No

Answer: A

Explanation:

In the modelling tab in Power BI Desktop, you can add synonyms to a column. When a user uses Q&A, Power BI will check for synonyms when interpreting the question.

Question: 2

CASE 1

You are a Power BI specialist at your organization. In your finance table, you have a column called margin, which is defined as 'margin = revenue – cost of goods sold.' In your company, there are several different ways people refer to margin. Some people call margin by other terms such as income, profit or profit margin. To use the Q&A feature successfully in your dashboard, you need to configure your dataset columns to enable users to type in variations for margin.

Solution: Add a detailed description of how you defined margin

Does this solution meet the goal?

- A. Yes
- B. No

Answer: B

Explanation:

In the modelling section, you can add a description within the properties of a column. A description is helpful for other modellers to understand the purpose of the column. However, this description does not have any impact on how Q&A interprets synonyms.

Question: 3

CASE 1

You are a Power BI specialist at your organization. In your inventory table, there are several different ways people refer to inventory. Some people call inventory by other terms such as stock, supply, parts or supply. To use the Q&A feature successfully in your dashboard, you need to configure your inventory table and columns.

Solution: Set the row label on the inventory table

Does this solution meet the goal?

- A. Yes
- B. No

Answer: A

Explanation:

When you click on the table name in the modelling view, you can assign a row label to the column. A role label allows you to define which column best identifies a row in the table. This label assists Q&A to generate better visualisations as it knows the best column that identifies a table.

Question: 4

CASE 1

You are a Power BI specialist at your organization. In your inventory table, there are several different ways people refer to inventory. Some people call inventory by other terms such as stock, supply, parts or supply. To use the Q&A feature successfully in your dashboard, you need to configure your inventory table and columns.

Solution: Use Teach Q&A

Does this solution meet the goal?

- A. Yes
- B. No

Answer: A

Explanation:

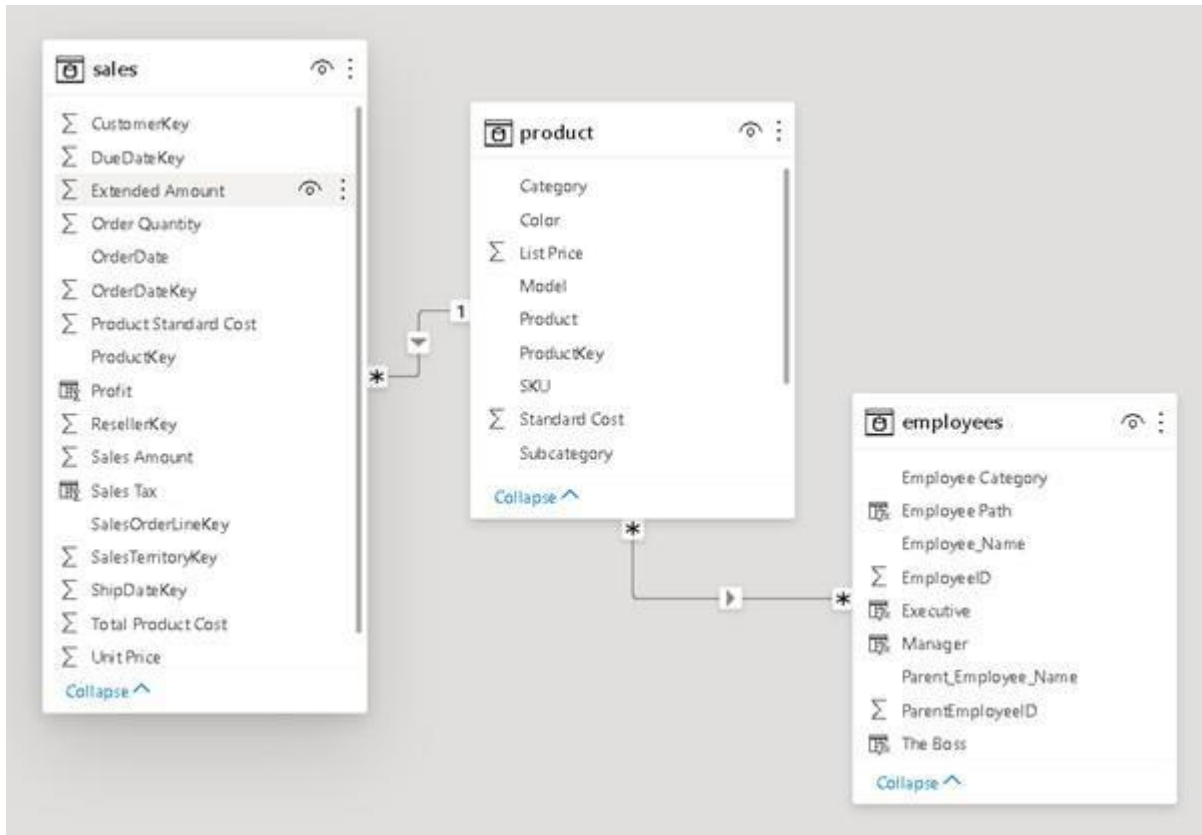
When you click on the Q&A setup button in the home ribbon on Power BI Desktop, one of the options is to Teach Q&A. Teach Q&A allows you to enter in a question in the language that someone in your organization may use such as 'What was my stock at the end of August.' If Power BI does not know understand a word such as 'stock', you are prompted to define what 'stock' refers to. This way, when someone asks a similar question, Power BI will interpret the question correctly.

Question: 5

CASE 2

You have the below relationship between sales, product and employees. The employees table is joined to the product table by 'category', and the product table is joined to the sales table by 'ProductKey.' Your boss asks you to build a visual for each Manager's sales by Subcategory.

What do you need to configure to solve that problem?



- A. Create a hierarchy in the product table for subcategory
- B. In the employees table, change EmployeeID to type text
- C. Set the cross-filter between product and employees to both
- D. In the Model view, change the product table's toggle 'is hidden' to True

Answer: C

Explanation:

The current filter direction on the employees table does not allow you to select manager and the sales and category fields. You need to alter the cross-filter direction to enable the filter to flow from the employees table to the product table.

Creating a hierarchy in the product table does not help with the cross-filter direction issue in the employees table.

Changing the EmployeeID to type text is not relevant. The key used to join the employees and product tables is 'category.'

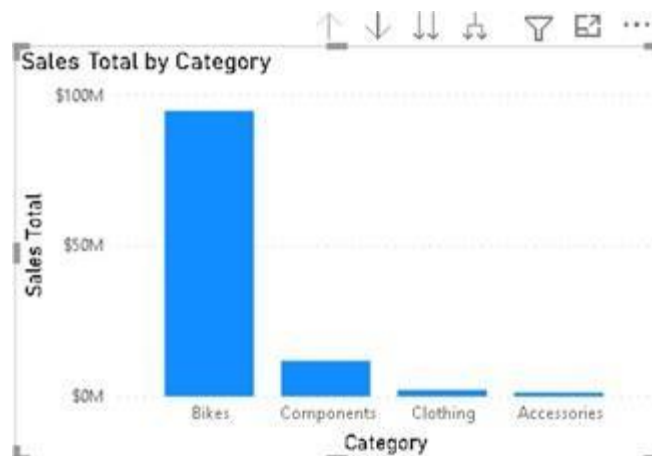
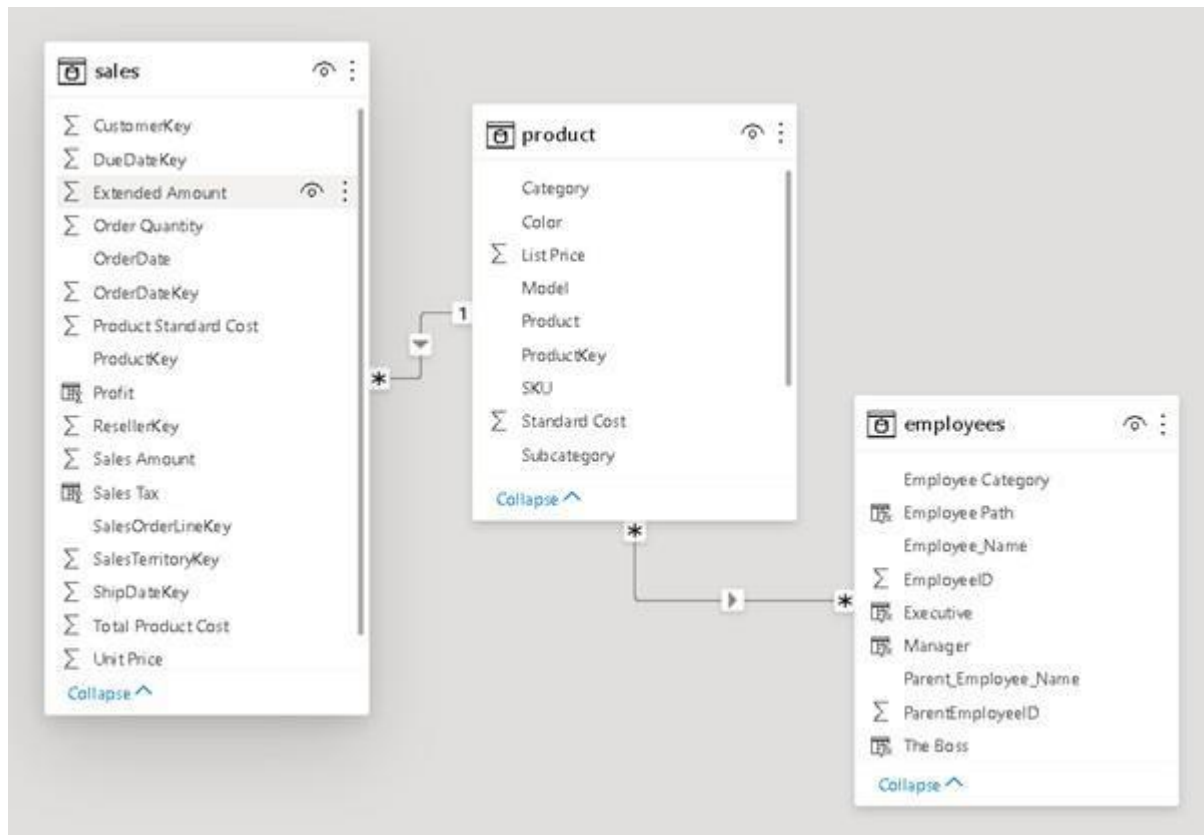
Toggling the product's table to hidden will prevent users from seeing the product table. We want to use the fields in the products table to create visuals. This will not help solve our issue.

Question: 6

CASE 2

You want to create a hierarchy in the products table for Category and Subcategory. You will then use the hierarchy as a drill down for a sales by product visualization as per the below exhibit.

What three actions should you perform in sequence?



- A. Right click on Category and select 'New Measure' -> Right click on Subcategory and select 'Add to hierarchy' -> In the visual add the hierarchy in the Axis and sales to the Values well
- B. Right click on Category and select 'Create hierarchy' -> Add Subcategory to the drill through fields -> In the visual add the hierarchy in the Axis and sales to the Values well
- C. Right click on Category and select 'Create hierarchy' -> Right click on Subcategory and select 'Add to hierarchy' -> In the visual add the category field to the Axis, which will automatically link the hierarchy
- D. Right click on Category and select 'Create hierarchy' -> Right click on Subcategory and select 'Add to hierarchy' -> In the visual add the hierarchy in the Axis and sales to the Values well

Answer: D

Explanation:

The set of steps to create a hierarchy and the drill down visual are:

1. Right click on Category and select 'Create hierarchy'

2. Right click on Subcategory and select 'Add to hierarchy'
3. In the visual add the hierarchy in the Axis and sales to the Values well

In answer A, you should not click on 'New Measure'. You want to create a hierarchy and not a measure. In answer B, you should not add Subcategory to drill through. Subcategory needs to be added to the hierarchy. A drill through is used to create a page in your report that focuses on a specific entity.

In answer C, adding the category field to the Axis of your visual will not automatically link to the new hierarchy you have created. You need to add the hierarchy to the Axis field and sales to the Values field.

Question: 7

CASE 2

You need to create a table containing unique combinations of category and subcategory and aggregated sales.

What DAX expression should you use?

- A. `DATATABLE('sales','product'[Category],'product'[Subcategory],"Sales Total",SUM(sales[Sales Amount]))`
- B. `SUMMARIZECOLUMNS('product'[Category],'product'[Subcategory],sales[Sales Amount])`
- C. `SUMMARIZE('sales','product'[Category],'product'[Subcategory],"Sales Total",SUM(sales[Sales Amount]))`
- D. `SELECTCOLUMNS('sales','product'[Category],'product'[Subcategory],sales[Sales Amount])`

Answer: C

Explanation:

You can use `SUMMARIZE` to create a summary of the input table grouped by the specified columns. You can alias an expression by using quotation marks such as "Sales Total". Also, note that you need to use the aggregation `SUM()` for the sales amount, or all sales lines will show.

In A, do not use `DATATABLE`. The `DATATABLE` function is used to build constant tables with code. In

B, the `SUM()` aggregation is missing on the sales amount field.

In D, do not use `SELECTCOLUMNS`. The `SELECTCOLUMNS` function adds a calculated column to a table and expect the input and .

Question: 8

CASE 3

You work as a Power BI professional within your company's HR group. You are creating a data model to use for reporting within the group. As you start building relationships, you see there are issues connecting some of the tables.

What two fixes are required to get the relationships working in your data model?

Table Name	Column Name	Data Type
Employees	EmployeeID	Whole number
	Hire Date	Date
	GenderID	Whole number
	AgeID	Whole number
	Ethnicity	Text
	Relocation	Text
	HR Manager	Text
	Previous company	Text
	PayID	Percentage
	BUID	Whole number
PayType	PayID	Whole number
	Signing bonus	Fixed decimal
	Salary	Fixed decimal
AgeGroup	AgeID	Whole number
	AgeGroup	Text
BU	BUID	Text
	BU Name	Text
	Region	Text
Gender	GenderID	Whole number
	Gender	Text

- A. Change the data type of Employees[PayID] and hide Employees[Relocation] and Employees[HR Manager] fields
- B. Change the data type of Employees[PayID] and BU[BUID] to Whole Number
- C. Ensure the cardinality between BU and Employees from Many to one (*:1) to Many to many (*:*)
- D. Change the data type of Employees[PayID] and BU[BUID] to Text

Answer: B

Explanation:

You need to change the data type of Employees[PayID] and BU[BUID] to Whole Number. If data types between tables do not match, you will not be able to create joins.

Answer A is incorrect as hiding fields does not help the relationship between tables. Answer C is wrong as there is no need to change the BU relationship to Many to many Answer D is incorrect as Text is the wrong data type, the correct data type is whole number

Question: 9

CASE 3

You work as a Power BI professional within your company's HR group. The report you created for retention analysis worked fine in the development environment, but when deployed has performance issues.

Solution: Remove columns from the data model not used in reports

Does this solution meet the goal?

Table Name	Column Name	Data Type
Employees	EmployeeID	Whole number
	Hire Date	Date
	GenderID	Whole number
	AgeID	Whole number
	Ethnicity	Text
	Relocation	Text
	HR Manager	Text
	Previous company	Text
	PayID	Percentage
	BUID	Whole number
PayType	PayID	Whole number
	Signing bonus	Fixed decimal
	Salary	Fixed decimal
AgeGroup	AgeID	Whole number
	AgeGroup	Text
BU	BUID	Text
	BU Name	Text
	Region	Text
Gender	GenderID	Whole number
	Gender	Text

- A. Yes
- B. No

Answer: A

Explanation:

Removing unnecessary columns from the model will reduce the data model size and allow for improved refresh time.

Question: 10

CASE 3

You work as a Power BI professional within your company's HR group. The report you created for retention analysis worked fine in the development environment, but when deployed has performance issues.

Solution: Hide columns and tables from the data model not used in reports

Does this solution meet the goal?

Table Name	Column Name	Data Type
Employees	EmployeeID	Whole number
	Hire Date	Date
	GenderID	Whole number
	AgeID	Whole number
	Ethnicity	Text
	Relocation	Text
	HR Manager	Text
	Previous company	Text
	PayID	Percentage
	BUID	Whole number
	PayType	PayID
Signing bonus		Fixed decimal
Salary		Fixed decimal
AgeGroup	AgeID	Whole number
	AgeGroup	Text
BU	BUID	Text
	BU Name	Text
	Region	Text
Gender	GenderID	Whole number
	Gender	Text

- A. Yes
- B. No

Answer: B

Explanation:

Hiding a column or a table will hide the items from the user in the Report view. The hidden column and tables are still processed by Power BI and do not affect model size or performance

Question: 11

You find an interesting visualization using the Python programming language that you want to run in Power BI.

What are the three steps required before you can use Python in Power BI?

- A. Install Python on your local machine
- B. Enable R scripting
- C. Install the libraries matplotlib and pandas
- D. Enable Python scripting
- E. Install the libraries seaborn and keras

Answer: A,C,D

Explanation:

The steps to get started with Python in Power BI are:

1. Install Python on your local machine
2. Install the libraries matplotlib and pandas
3. Enable Python scripting

Answer B is incorrect. R scripting is a separate language and has no relation with Python.

Answer E is incorrect. While seaborn is used for data visualization, matplotlib and pandas are required libraries for Python integration. Note that keras is a deep learning library and is not used for data visualization.

Question: 12

You are asked to optimize the performance of your data model. You have several intermediate queries that are not used for visualization and you have a large transactional table with a Date/Time field. What two optimizations should you do?

- A. Change all relationship cross filter directions to single
- B. Split the Date/Time field into a separate Date column and a separate Time column
- C. Turn off single select on slicers
- D. Disable Power Query load on intermediary queries

Answer: B,D

Explanation:

A Date/Time field has many contain unique or high cardinality values making optimization within the VertiPaq engine difficult. By splitting the Date/Time field into a separate Dat and Time field, you reduce the uniqueness of the data and allow for greater storage optimization. Intermediate queries that are intended to support data integration with other queries should not be loaded into the model. To avoid loading the query to the model, ensure that you disable query load in these instances.

Answer A is not correct. You should use the relationship cross filter direction to enable reporting requirements.

Answer C is not correct. Single select works more efficiently than multi-select on slicers.

Question: 13

You receive a new table to incorporate into your analysis in Power BI. You use Power Query to preview the data.

For each of the following statements, select Yes if the statement is true. Otherwise, select No.

Statement	Yes	No
By default, Data Preview analyzes the first 5,000 rows in the dataset.		
When you hover your mouse over column quality, you can see both number and percentage of valid, error and empty cells.		
You can use the entire dataset for column profiling.		

- A. Yes / Yes / Yes
- B. No / Yes / Yes
- C. No / Yes / No
- D. No / No / Yes

Answer: B

Explanation:

By default, Data Preview analyzes the first 1,000 rows in the dataset.

When you hover your mouse over a column's data preview for column quality, you can see the number and percentage for valid / error / empty cells.

You can change the Data Preview from the first 1,000 rows to the entire dataset.

Question: 14

You are the Power BI administrator at your company which builds VR headsets. You need to assign appropriate workspace roles to your colleagues and must use the lowest permission necessary to accomplish the task.

Which roles should you use for the below workspace requirements?

1. Update and delete workspaces
2. Publish apps
3. Publish content to the workspace

- A. Member / Member / Contributor
- B. Member / Member / Viewer
- C. Admin / Member / Contributor
- D. Admin / Admin / Contributor

Answer: C

Explanation:

An admin can update and delete workspaces. A member can publish apps, and a contributor can publish content to the workspace.

Question: 15

You have a table of temperatures for various cities. Some cities use Fahrenheit, while others use Celsius. You need to write a DAX expression to create a new column called Category for the following conditions.

- If the value is greater than 80 and Units are F, then 'Hot'. Otherwise 'Not Hot'
- If the value is greater than 26 and Units are C, then 'Hot'. Otherwise 'Not Hot'

Complete the below DAX expression by replacing [VALUE]:

Category =

```
[VALUE] ( [VALUE] ( [VALUE] (Temperature[Value] > 80, Temperature[Units]="F"), [VALUE] (Temperature[Value] > 26, Temperature[Units]="C") ), "Hot", "Not Hot" )
```

City	Value	Units
Austin	90	F
Baltimore	79	F
Boise	76	F
Calgary	20	C
Chicago	72	F
Detroit	70	F
Houston	97	F
Montréal	27	C
Nashville	78	F
Ottawa	24	C

- A. SWITCH / AND / OR / AND
- B. SWITCH / OR / OR / AND
- C. IF / OR / AND / AND
- D. IF / AND / OR / AND
- E. WHILE / AND / OR / AND

Answer: C

Explanation:

The correct expression is:

```
IF( OR( AND(Temperature[Value] > 80, Temperature[Units]="F"), AND(Temperature[Value] > 26, Temperature[Units]="C") ), "Hot", "Not Hot")
```

The expression begins with an IF statement. We know we have to test whether the Unit is F or C, so the first logical expression is an OR. Within the F and C check, we also have to check whether the temperature is above a threshold. Since we have two logical items that must go together, we use an AND statement. If either the C or the F condition is true, the function will return 'Hot'. If the expression is false, then we return 'Not Hot'.

Answer A and B are incorrect. A switch statement needs the form of SWITCH(, , , ...)

Answer E is incorrect. DAX has no WHILE function.

Question: 16

Your boss has scrolled through the Theme Gallery on the website <https://community.powerbi.com/>.

She asks you to use a particular theme for your company's report in Power BI Service.

How do you incorporate the theme in your report?

- A. Download the JSON file and in Custom Dashboard theme > Upload JSON theme
- B. Download the CSS file and in Custom Dashboard theme > Upload CSS theme
- C. Download the PNG file and right-click on a tile > Upload PNG theme
- D. Download the PDF file and right-click on the dashboard > Upload PDF theme

Answer: A

Explanation:

You can download a JSON file from the theme gallery. To import the theme into Power BI service, select Upload JSON theme in the Custom Dashboard theme window.

Themes are only in JSON format. All other file formats such as CSS, PNG or PDF will not work.

Question: 17

You are your company's Power BI expert. You know that data lineage shows you which data sources are used by which datasets. One of your colleagues says he cannot access data lineage.

What could be two possible explanations for data lineage not working?

- A. Only admins can see the lineage view
- B. You need a Power BI Pro license to see lineage view
- C. Lineage only works for DirectQuery datasets
- D. Lineage view is available only to users with higher than Viewer access to the workspace
- E. Each user needs to be granted lineage view permission in the tenant settings

Answer: B,D

Explanation:

For lineage to work, you need to ensure you have a Power BI Pro license and you have access to the workspace. Furthermore, users must have an Admin, Member, or Contributor role in the workspace. Users with a Viewer role can't switch to lineage view.

Answer A is incorrect. Users with Admin, Member, or Contributor roles in the workspace can see lineage view.

Answer C is incorrect. Lineage is not limited to DirectQuery datasets.

Answer E is incorrect. You do not need to assign individual permissions for lineage view in the tenant settings.

Question: 18

You have a data set that shows employees and their bosses, as per the exhibit below. There is a field for each Employee called Employee_Name and a field for their boss Parent_Employee_Name.

How would you create the Employee_Hierarchy column with a delimited hierarchy list in DAX?

EmployeeID	Employee_Name	Parent_EmployeeID	Parent_Employee_Name	Employee_Hierarchy
111	Steven May			Steven May
2	Nathan Jones	111	Steven May	Steven May Nathan Jones
3	Christian Salem	2	Nathan Jones	Steven May Nathan Jones Christian Salem
4	James Harmes	3	Christian Salem	Steven May Nathan Jones Christian Salem James Harmes
5	Chris Petracca	3	Christian Salem	Steven May Nathan Jones Christian Salem Chris Petracca

- A. PATHITEM(employees[Employee_Name], employees[Parent_Employee_Name])
- B. RELATED(employees[Parent_Employee_Name], employees[Employee_Name])
- C. CONCATENATE(employees[Parent_Employee_Name], employees[Employee_Name])
- D. PATH(employees[Employee_Name], employees[Parent_Employee_Name])

Answer: D

Explanation:

The PATH function is used to create a hierarchy. The PATH function returns a string that contains a delimited list, starting with the top/root of a hierarchy and ending with the bottom of the hierarchy.

Do not use PATHITEM. The PATHITEM() function returns the 'nth' item in the delimited list produced by the PATH function.

Do not use RELATED. The RELATED() function returns a related value from another table.

DO not use CONCATENATE. The CONCATENATE() function joins two text strings into one text string. We want a full hierarchy and not just a single concatenation.

Question: 19

You work for a computer accessories company and your data model contains the following tables:

1. Accessories table: 1k rows that are updated monthly
2. Sales table: 15M rows that are updated regularly with changes that need to be shown immediately
3. Date table: 10k rows that are updated rarely

For the three tables ABOVE, which storage mode should you use from the below options?

- Import
- DirectQuery
- Dual

- A. Accessories: Import / Sales: DirectQuery / Date: Dual
- B. Accessories: Import / Sales: DirectQuery / Date: Import
- C. Accessories: DirectQuery / Sales: Import / Date: DirectQuery
- D. Accessories: Dual / Sales: Import / Date: DirectQuery

Answer: B

Explanation:

For the accessories and date table you should use the import storage model. Imported tables with this setting are cached. Queries submitted to the Power BI dataset that return data from Import tables can be fulfilled only from cached data. The import method is used for static or low volume data.

The sales table should use the DirectQuery storage mode. Tables with this setting are not cached. Queries that you submit to the Power BI dataset from DirectQuery tables can be fulfilled only by executing on-demand queries to the data source. Use DirectQuery when you have a large data set with millions of rows that need to be shown immediately in the report.

You should not use the dual storage model. Dual storage tables can act as either cached or not cached, depending on the context of the query that's submitted to the Power BI dataset.

Question: 20

You work for a consulting company that has a contract with a large government department. Part of the requirements for the report is to configure the page for use with a screen reader for sight-impaired users. What should you configure in your report such that the page follows a logical sequence?

- A. Bookmarks
- B. Tab order
- C. Filters on all pages
- D. Layer order

Answer: B

Explanation:

The tab order is used by keyboard users to navigate the report page. Screen reader and accessibility software follow the sequence of tab order.

You should not use bookmarks on your report for this purpose. Bookmarks save the current filters and slicers, cross-highlighted visuals, sort order.

You should not use Filters on all pages. Filters select a subset of your data and do not help with accessibility.

You should not use layer order. The layer order is used to control the order in which visuals are shown and is used if you have visuals that overlap.

Question: 21

You work at a sports betting company and have a table with US soccer scores and a second table with betting odds. Both tables share a common key called GameID. Your boss asks you to create a new combined table.

Which transform should you use to create the dataset?

- A. Append queries as new
- B. Append queries
- C. Merge queries as new
- D. Merge queries

Answer: C

Explanation:

You should use the merge queries as new transformation to create a new table with soccer scores and the betting odds. A merge query allows you to combine two or more tables into a single table based on a common column between the tables. This is similar to a JOIN in SQL.

You should not use append queries as new or append queries. An append query transformation combines tables with the same schema. This is similar to a UNION query in SQL. Since we want to add a column and the tables do not have the same schema we cannot use an append transformation.

You should not use merge queries since your boss specifically asked for a new combined table. You should use the merge queries as new transformation.

Question: 22

You work for a transportation company that uses Azure IoT devices to monitor the temperature within containers. The head of Supply Chain has asked you to create a dashboard for the streaming data from the IoT devices and you need to configure Power BI appropriately.

For each of the following statements, select Yes if the statement is true. Otherwise, select No.

Statement	Yes	No
You can build report visuals using the data that flows in from the stream.		
Visualize a streaming dataset by adding a dashboard tile.		
Streaming data can make use of report functionality such as filtering.		