

## SAS® Visual Analytics Using SAS® Viya®

### Data Sources and Data Items (20-25%)

#### Import data into SAS Visual Analytics

- Import local data
- Import server data (Oracle, Hadoop, SAS)
- Differentiate between local and server data imports

#### Examine, modify, and create data items

- Create and use parameterized data items
- Examine data item properties and measure details
- Change data item properties
- Create custom sorts
- Create distinct counts
- Create aggregated measures
- Create calculated items
- Create hierarchies
- Create custom categories

#### Select and work with data sources

- Work with multiple data sources
- Change data sources
- Refresh data sources

### Analyze Data (30-35%)

#### Create, modify, and interpret automatic chart objects for analyzing data

- Identify the options available in an automatic chart

#### Create, modify, and interpret graph and table objects for analyzing data

- Work with list table object
- Work with crosstab object
- Work with bar chart object
- Work with line chart object
- Work with scatter plot object
- Work with bubble plot object
- Work with histogram object
- Work with box plot object
- Work with heat map object

- Work with geo map object
- Work with treemap object
- Work with correlation matrix object
- Work with bubble change plot object
- Work with time series plot object

**Create, modify, and interpret data analysis using report objects (i.e. adding fit lines, forecasting, network, path and text analysis objects, etc.)**

- Add fit lines to scatter plot and heat map object
- Work with forecasting object
- Work with network analysis object
- Work with path analysis object
- Work with text analytics object

**Interact with objects for analyzing data**

- Control appearance of objects (options, ranks, display rules, sorting, etc.)
- Use filters on data source and objects
- Export data and images from objects

## Build Reports (45-50%)

**Create and modify list tables and crosstabs to build a report**

- Create and modify list tables
- Create table display rules
- Add sparklines
- Create and modify crosstabs
- Manipulate columns
- Change options for tables and crosstabs
- Create hierarchies from a crosstab
- Create and modify display rules

**Create and modify graphs to build a report**

- Create and modify bar charts, targeted bar charts, waterfall charts
- Create and modify pie charts
- Create and modify line charts
- Create and modify scatter plots
- Create and modify time series plots
- Create and modify bubble plots
- Create and modify treemap
- Create and modify dual axis charts
- Create and modify key values
- Create and modify word cloud

- Create and modify butterfly chart
- Adjust options for graphs
- Create and modify geography maps
- Create and modify gauges

### Create and modify controls, containers, and content to build a report

- Place report objects in containers
- Given a scenario, select the appropriate container (stacking, prompt, etc.)
- Add text report objects
- Include dynamic text in a text object
- Add image report objects
- Add controls to reports
- Given a scenario, apply the proper controls

### Design a report using pages and layouts

- Layout the report and pages
- Move, duplicate, and change report objects
- Create and work with pages
- Modify report options

### Add actions, filters, ranks and alerts to reports

- Add actions within page
- Add links to other reports
- Add external links
- Add filters and ranks to report objects
- Add page prompts and report prompts
- Add actions to reports
- Work with parameters

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**Note:** All 12 main objectives will be tested on every exam. The expanded objectives are provided for additional explanation and define the entire domain that could be tested.