



**IIBA**

## **Exam Questions CBDA**

Certification in Business Data Analytics (IIBA - CBDA)

### NEW QUESTION 1

- (Topic 1)

An analytics team is interested in reviewing the results of a public opinion poll that is going to be conducted at the end of the month. One of the factors the team is interested in, is ensuring the result set is statistically significant. Why would this factor be important to the team?

- A. To make sure the criteria for the target audience is met
- B. Guarantee that the objectives of the poll are met
- C. Improve the likelihood of receiving a response rate of 100%
- D. Ensure that results are not biased or random

**Answer:** D

#### **Explanation:**

Ensuring the result set is statistically significant is important to the team because it means that the difference or relationship observed in the data is unlikely to be due to chance or sampling error. Statistical significance helps the team to assess the validity and reliability of their findings, and to draw meaningful conclusions and recommendations from the data.

Statistical significance also helps the team to communicate their results with confidence and credibility to the stakeholders and decision makers<sup>12</sup> References: 1: An Easy Introduction to Statistical Significance (With Examples) - Scribbr 2: Statistical Significance in Experimentation and Data Analysis - All About Circuits

### NEW QUESTION 2

- (Topic 1)

An analytics team has been asked to answer the following question: "Given that you're a customer, would you work at our company?" The team is concerned about answering this question because it is:

- A. Insignificant
- B. Short
- C. Unethical
- D. Unclear

**Answer:** D

#### **Explanation:**

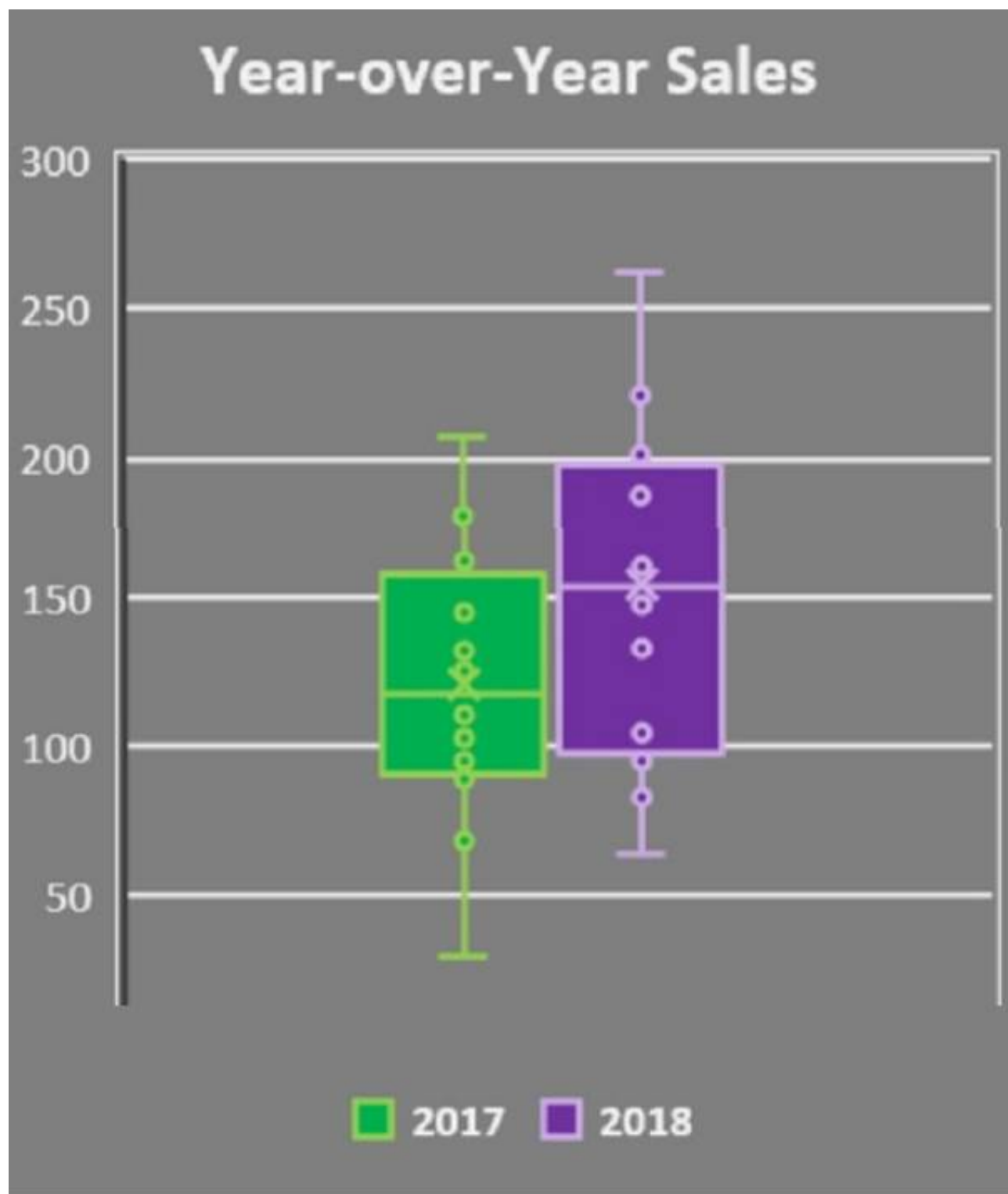
The question ??Given that you??re a customer, would you work at our company??? is unclear, because it is a hypothetical and subjective question that does not specify the purpose, scope, or context of the analysis. The question also does not define what constitutes a customer, or how the customer??s experience or satisfaction relates to the employee??s motivation or performance. The question needs to be refined and clarified to make it more focused, relevant, and feasible for the analytics team to answer. For example, the question could be rephrased as ??How does the customer satisfaction score affect the employee retention rate in our company??? References:

- Business Analysis Certification in Data Analytics, CBDA | IIBA®, CBDA Competencies, Domain 1: Identify the Research Questions
- Understanding the Guide to Business Data Analytics, page 10-11
- CERTIFICATION IN BUSINESS DATA ANALYTICS HANDBOOK - IIBA®, page 8, CBDA Exam Sample Questions and Self-Assessment, Question 16

### NEW QUESTION 3

- (Topic 1)

A software company launched a new product in late 2016. The product manager is reviewing a Box and Whisker plot used to compare year-over-year sales, from 2017 to 2018. What is the conclusion he can make from this chart?



- A. 2017 minimum and maximum sales are higher than 2018, and the 2017 median result is higher than the 2018 median result
- B. 2017 minimum and maximum sales are higher than 2018, but the 2017 median result is lower than 2018 1st quartile result
- C. 2018 minimum and maximum sales are higher than 2017, and the 2018 quartile results are higher than 2017 quartile results
- D. 2018 minimum and maximum sales are higher than 2017, and the 2018 1st quartile is higher than 2017 median result

**Answer: D**

#### NEW QUESTION 4

- (Topic 1)

Operation managers are concerned about the increasing attrition rates in the call center. A series of interviews is being conducted with call center agents to collect information to better understand the problem. Interviewees will ask open and closed ended questions that are both quantitative and qualitative. Which of the following is considered a qualitative open-ended question?

- A. How does call volume contribute to job burnout?
- B. Would morale improve if you could work 2 days per week from home?
- C. How many calls on average do you service in an hour?
- D. Do you receive more calls on Mondays or Fridays?

**Answer: A**

#### Explanation:

A qualitative open-ended question is a question that allows the respondent to express their thoughts, feelings, or opinions in their own words, without being constrained by predefined options or categories. A qualitative open-ended question can help the interviewer explore the underlying reasons, motivations, or perceptions of the respondent. Option A is a qualitative open-ended question, because it asks the respondent to explain how call volume affects their job satisfaction and well-being, which may vary from person to person and require elaboration. Options B, C, and D are not qualitative open-ended questions, because they ask the respondent to choose between two alternatives (B and D) or provide a numerical value ©, which are quantitative and closed-ended responses.

References:

- Business Analysis Certification in Data Analytics, CBDA | IIBA®, CBDA Competencies, Domain 2: Source Data
- Understanding the Guide to Business Data Analytics, page 14
- CERTIFICATION IN BUSINESS DATA ANALYTICS HANDBOOK - IIBA®, page 8, CBDA Exam Sample Questions and Self-Assessment, Question 9

#### NEW QUESTION 5

- (Topic 1)

An analyst is looking at a particular dataset that includes the scores across all 8th grade students, across three schools. The analyst is trying to determine which type of statistics average to use to best represent the results. On looking through the dataset, the analyst has identified a few extreme outliers. As a result, the

analyst was led to use the following type of average:

- A. Median
- B. Range
- C. Mean
- D. Mode

**Answer:** A

**Explanation:**

The median is the type of statistics average that the analyst should use to best represent the results, because it is a measure of central tendency that divides the data set into two equal halves. The median is the middle value of the data set when it is arranged in ascending or descending order. The median is not affected by extreme outliers, unlike the mean, which is the arithmetic average of the data set. The median can give a more accurate representation of the typical score of the 8th grade students across the three schools. Options B, C, and D are not types of statistics average, but types of statistics measures that describe other aspects of the data set. The range is a measure of dispersion that shows the difference between the highest and the lowest values of the data set. The mean is a measure of central tendency that shows the sum of the values of the data set divided by the number of values. The mode is a measure of central tendency that shows the most frequent value of the data set. References:

- Business Analysis Certification in Data Analytics, CBDA | IIBA®, CBDA Competencies, Domain 3: Analyze Data
- Understanding the Guide to Business Data Analytics, page 17
- Business Data Analytics (IIBA®-CBDA Exam preparation) | Udemy, Section 3: Analyze Data, Lecture 13: Descriptive Statistics

**NEW QUESTION 6**

- (Topic 1)

While creating a dataset for analysis, the analyst reviews the data collected and finds a large percentage of records are missing values. Which activity would the analyst perform in order to use this dataset?

- A. Clustering
- B. Scale validation
- C. Weighting
- D. Factor analysis

**Answer:** C

**Explanation:**

Weighting is a technique that assigns different values or weights to different records or variables in a dataset, based on their importance or relevance. Weighting can be used to handle missing values by giving them a lower weight or imputing them with a weighted average of other values. Weighting can also help to adjust for sampling bias or non- response bias in the data collection process. References:

- Understanding the Guide to Business Data Analytics, page 16
- Business Analysis Certification in Data Analytics, CBDA | IIBA®, CBDA Competencies, Domain 3: Analyze Data
- CERTIFICATION IN BUSINESS DATA ANALYTICS HANDBOOK - IIBA®, page 8, CBDA Exam Sample Questions and Self-Assessment, Question 4

**NEW QUESTION 7**

- (Topic 1)

An insurance company has seen an upward trend in winter-related accidents over the past three years. The company has just completed an analytics study to better understand the primary reasons for these accidents and assess how many of the drivers were using winter tires. This analysis will help the company decide how to move forward with drivers not taking precautionary measures during winter. What type of analysis will help in determining the primary reasons and percentage of those drivers with winter tires?

- A. Prescriptive
- B. Descriptive and Predictive
- C. Descriptive
- D. Descriptive and Diagnostic

**Answer:** D

**Explanation:**

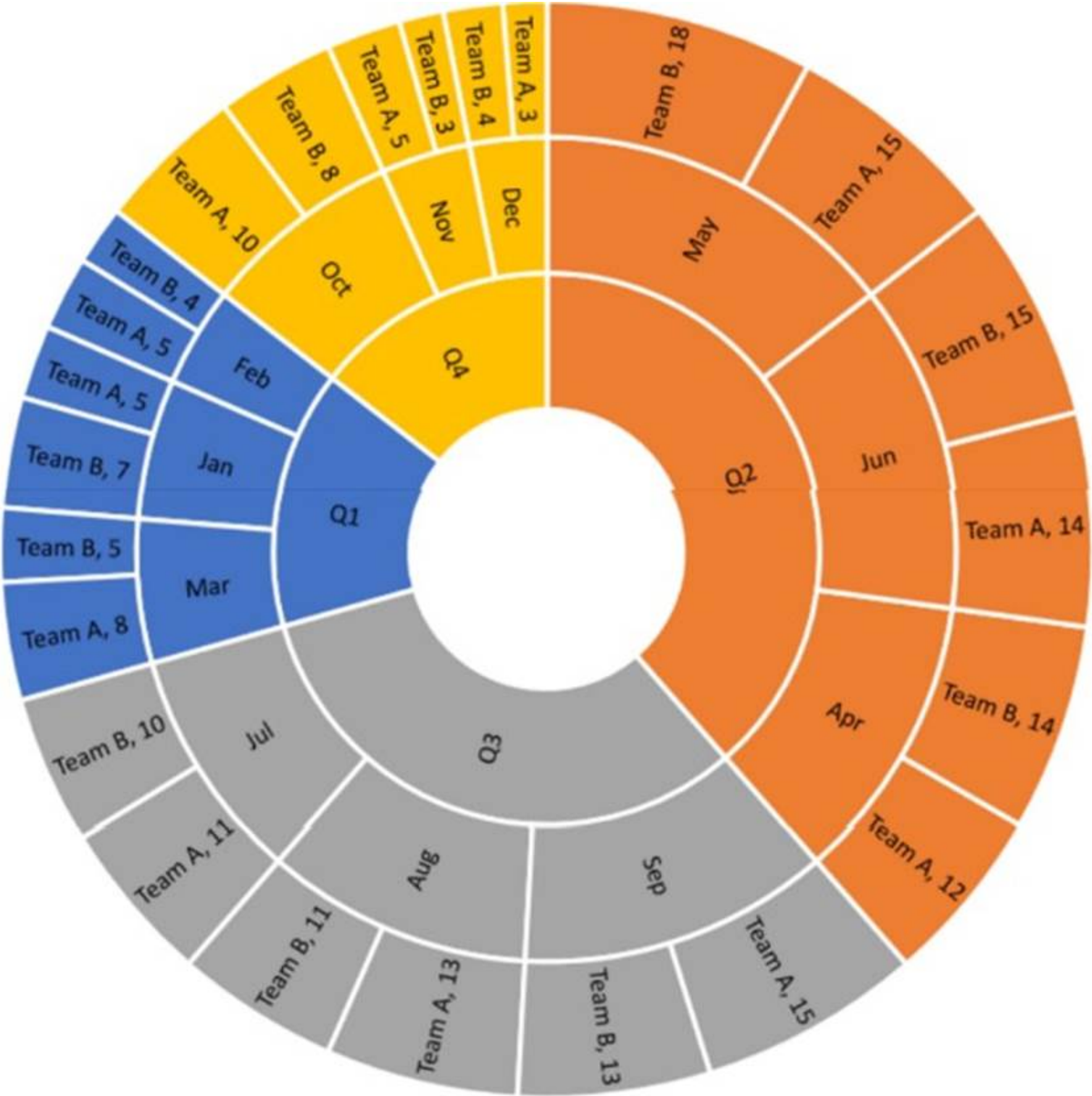
Descriptive analytics is a type of analytics that summarizes and visualizes the data to provide an overview of what has happened or is happening, such as the trend of winter- related accidents over the past three years, or the percentage of drivers using winter tires<sup>12</sup>. Diagnostic analytics is a type of analytics that explores and analyzes the data to understand why something has happened or is happening, such as the primary reasons for these accidents, or the factors that influence the drivers?? decisions<sup>13</sup>. To answer the question, both descriptive and diagnostic analytics would be needed to provide the relevant information and insights for the company. References: 1: Guide to Business Data Analytics, IIBA, 2020, p. 182: Business Analytics: Data Analysis & Decision Making, S. Christian Albright and Wayne L. Winston, 2015, p. 53: Data Science for Business, Foster Provost and Tom Fawcett, 2013, p. 13.

**NEW QUESTION 8**

- (Topic 1)

A real estate broker is tracking monthly sales between two of its teams. The results have been visualized. What insights can be drawn from the chart?





- A. Q2 was the strongest performing quarter with Team B having the top monthly sales in May
- B. Q3 was the strongest performing quarter with Team A having the top monthly sales in the quarter
- C. Q4 was the lowest performing quarter with November having the lowest monthly sales in the year
- D. Q4 was the lowest performing quarter with Team A having the lowest monthly sales in the Quarter

**Answer:** C

**Explanation:**

The chart visualizes monthly sales data for two teams over a year, divided into quarters. By analyzing the data, it is evident that November (part of Q4) had the lowest monthly sales in the year, making option C correct. There isn't enough information to verify the performance of individual teams in each quarter as per Business Data Analytics (IIBA®- CBDA) objectives and resources. References:

- [Business Analysis Certification in Data Analytics, CBDA | IIBA®], CBDA Competencies, Domain 4: Interpret and Report Results
- [Understanding the Guide to Business Data Analytics], page 9
- [CERTIFICATION IN BUSINESS DATA ANALYTICS HANDBOOK - IIBA®], page 8, CBDA Exam Sample Questions and Self-Assessment, Question 7

**NEW QUESTION 9**

- (Topic 1)

A database analyst is modelling a database for a large toy manufacturer. Which statement describes a logical database model?

- A. The layer of views created to summarize data or provide another perspective of certain data
- B. A model that depicts the actual design of the relational database
- C. An abstraction of the conceptual data model that includes rules of normalization
- D. Modelling that involves objects being defined at the schema level

**Answer:** C

**Explanation:**

A logical database model is a data model of a specific problem domain expressed independently of a particular database management product or storage technology. It describes data using notation that corresponds to a data organization used by a database management system, such as relational tables and columns. It also includes rules of normalization, which are the process of converting complex data structures into simple, stable data structures<sup>12</sup> References: 1: Logical schema - Wikipedia 2: What Is a Data Model? | Coursera

**NEW QUESTION 10**

- (Topic 1)

There were 7 students enrolled in the Introduction to Artificial Intelligence course. These were the student's scores from the final exam: 64, 70, 80, 80, 90, 98, 100  
What is the mean and mode for the outlined scores?

- A. 83.14, 80
- B. 79.84, 81.40
- C. 80,80
- D. 80, 83.14

**Answer:** A

**Explanation:**

The mean is the average of all the scores, which is found by adding them up and dividing by the number of scores. The mode is the most frequent score, which is the one that occurs the most times. To find the mean and mode for the outlined scores, we can use the following steps:

- Arrange the scores in ascending order: 64, 70, 80, 80, 90, 98, 100
- Add up the scores:  $64 + 70 + 80 + 80 + 90 + 98 + 100 = 582$
- Divide the sum by the number of scores:  $582 / 7 = 83.14$
- The mean is 83.14
- Count how many times each score occurs: 64 occurs once, 70 occurs once, 80 occurs twice, 90 occurs once, 98 occurs once, 100 occurs once
- The score that occurs the most times is 80
- The mode is 80

Therefore, the mean and mode for the outlined scores are 83.14 and 80, respectively<sup>12</sup> References: 1: Mean, median, and mode review (article) | Khan Academy 2: Mean, Median, and Mode: Measures of Central Tendency - Statistics By Jim

**NEW QUESTION 10**

- (Topic 1)

A Human Resource manager recently learned that their competitor reduced employee attrition rates by 20% after implementing personality tests as part of their screening process. Intrigued by the idea, the manager suggests collecting data on personality tests and attrition rates over the next year. The data from this year is then analyzed to explore possible relationships. What type of analytics has the team been asked to perform?

- A. Predictive
- B. Descriptive
- C. Prescriptive
- D. Diagnostic

**Answer:** B

**Explanation:**

Descriptive analytics is a type of analytics that summarizes and visualizes the data to provide an overview of what has happened or is happening, such as the attrition rates and the personality test scores of the employees<sup>12</sup>. The team has been asked to perform descriptive analytics to explore possible relationships between the data variables, without making any predictions or prescriptions for the future. References: 1: Guide to Business Data Analytics, IIBA, 2020, p. 182: Business Analytics: Data Analysis & Decision Making, S. Christian Albright and Wayne L. Winston, 2015, p. 5.

**NEW QUESTION 13**

- (Topic 1)

The research question prompting the use of analytics is well-defined. The team obtains the results and determines that the source data did not provide reliable results. As a result of this finding, the team modifies the original question to one that can be answered by the data. What is a risk that could impact the value of this analysis?

- A. The objective of the original research may not be met
- B. Timelines will be pushed out making stakeholders unhappy
- C. Increased costs associated with the source data
- D. The quality of the analysis may be negatively impacted

**Answer:** A

**Explanation:**

The risk that could impact the value of this analysis is that the objective of the original research may not be met, because the team modified the research question to fit the data, rather than finding the data that fits the research question. This could lead to a loss of alignment between the research question and the business problem, stakeholder needs, or analytical methods. The team may end up answering a different or less relevant question than the one they intended to answer, and thus provide less valuable insights or recommendations. References:

- Business Analysis Certification in Data Analytics, CBDA | IIBA®, CBDA Competencies, Domain 1: Identify the Research Questions
- Understanding the Guide to Business Data Analytics, page 10-11
- CERTIFICATION IN BUSINESS DATA ANALYTICS HANDBOOK - IIBA®, page 8, CBDA Exam Sample Questions and Self-Assessment, Question 10

**NEW QUESTION 16**

- (Topic 1)

Insights based on the data collected indicate that a multi-national company could increase its sales of a mature product by reducing its price by 20% which would result in increased revenues of 2% over a 6-month period. The team recommends this as an appropriate goal for its organization. This is considered a good goal because:

- A. It meets all the criteria for a well-defined objective

- B. The organization can derive additional revenue from the product
- C. It indicates that the company does not have to incur costs associated with retiring this product
- D. Management will be pleased that the mature product can still contribute to revenue

**Answer:** A

**Explanation:**

A well-defined objective is one that is specific, measurable, achievable, relevant, and time- bound (SMART)<sup>1</sup>. The goal of increasing sales of a mature product by reducing its price by 20% which would result in increased revenues of 2% over a 6-month period meets all these criteria, as it clearly states what the desired outcome is, how it will be measured, whether it is realistic and attainable, how it aligns with the organization's strategy, and when it will be achieved<sup>2</sup>.

References: 1: Guide to Business Data Analytics, IIBA, 2020, p. 192: SMART Goals: How to Make Your Goals Achievable, MindTools, 2021, 1.

**NEW QUESTION 19**

- (Topic 1)

The definition of data elements is different across various data sources. The organization is looking to improve the usability of data across the organization. Which practice would help address this problem?

- A. Data governance
- B. Data quality
- C. Data architecture
- D. Data ethics

**Answer:** A

**Explanation:**

Data governance is the practice of establishing and enforcing policies, standards, roles, and responsibilities for the management and use of data across the organization. Data governance helps to address the problem of inconsistent data definitions across various data sources by ensuring that data is properly defined, documented, classified, and aligned with the business objectives and requirements<sup>12</sup>. References: 1: Guide to Business Data Analytics, IIBA, 2020, p. 292: Data Governance: How to Design, Deploy and Sustain an Effective Data Governance Program, John Ladley, 2012, p. 3.

**NEW QUESTION 24**

- (Topic 1)

The interplay between enterprise systems and data analytics can be envisioned at various layers. The layer that connects the business processes to data analytics is the:

- A. information layer
- B. physical layer
- C. technical layer
- D. infrastructure layer

**Answer:** A

**Explanation:**

The information layer is the layer that connects the business processes to data analytics. It consists of the data models, data quality, data governance, and data security that enable the data to be accessed, analyzed, and transformed into insights. The information layer also supports the communication and collaboration among the stakeholders involved in the data analytics process. The other layers are the physical layer, which deals with the hardware and software components of the data infrastructure; the technical layer, which handles the data integration, data storage, data processing, and data analysis techniques; and the infrastructure layer, which provides the network, cloud, and security services for the data environment<sup>12</sup>. References: 1: Data and Analytics (D&A) - Gartner 2: Enterprise Data Analytics - SelectHub

**NEW QUESTION 28**

- (Topic 1)

An online retailer has been successful utilizing analytics to guide decisions on product placement and marketing spend.

Management has requested a task force be assembled to make recommendations on how to further develop their analytics capabilities. To begin this work, the task force builds a model to develop a shared understanding about customer segments, customer relationships, key partnerships, and the company's value proposition. The team has leveraged the following model to facilitate this discussion?

- A. Value chain analysis
- B. Balanced scorecard
- C. Business model canvas
- D. CATWOE

**Answer:** C

**Explanation:**

The business model canvas is the model that the task force has leveraged to facilitate the discussion, because it is a technique that describes the logic of how an organization creates, delivers, and captures value. The business model canvas consists of nine building blocks that cover the key aspects of a business: customer segments, value proposition, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structure. The business model canvas can help the task force develop a shared understanding of the current state of the online retailer, and identify the opportunities and challenges for developing their analytics capabilities. References:

- Business Analysis Certification in Data Analytics, CBDA | IIBA®, CBDA Competencies, Domain 6: Guide Organization-level Strategy for Business Analytics
- Understanding the Guide to Business Data Analytics, page 9
- 10.8 Business Model Canvas | IIBA®

**NEW QUESTION 30**

- (Topic 1)

A business analyst manager is planning budgets for the new year, and training opportunities for his team of business analysts. The manager sends out a survey to the team to obtain their top interests within the seven areas of training opportunities. The team results were compared against the manager's personal rating. What can be deduced from the following chart with regards to the survey results?



## Employee Training Opportunity



- A. The team's top interests in training opportunities were aligned with the manager's, which included Negotiation & Conflict Resolution and Facilitation  
 B. The team's top interests in training opportunities were aligned with the manager's, which included Teamwork and Adaptability  
 C. The manager's rating did not match with the team's rating for any of the training areas  
 D. The team had equal interest across all training areas

**Answer:** A

**Explanation:**

The chart shows the personal rating of the manager and the average team rating on different areas of training opportunities. Both the manager and the team rated ??Negotiation & Conflict Resolution?? and ??Facilitation?? highly, indicating a shared interest in these areas. These areas are also relevant for business analysts, as they involve skills such as communication, collaboration, problem-solving, and stakeholder management12 References: 1: 6 Charts You Can Use to Create Effective Reports | SurveyMonkey 2: Business Analysis Core Concept Model™ (BACCM™) - IIBA BABOK Guide v3

**NEW QUESTION 31**

- (Topic 1)

Collaborative games are used by a business analyst to identify the research questions to be explored within an analytics system.

Participants are asked to write down a research question on a sticky note, put the notes on the wall, and move them towards related research questions. What type of Collaborative game is being played?

- A. Affinity Map  
 B. Fishbowl  
 C. People polling  
 D. Product Box

**Answer:** A

**Explanation:**

An affinity map is a collaborative game that helps participants to group similar ideas or features together. It is useful for identifying research questions that are related to each other and finding common themes or patterns. In this game, participants write down their research questions on sticky notes and place them on the wall. Then, they move the notes around to form clusters of related questions. The clusters can be labeled with a descriptive name or a question that summarizes the theme. An affinity map can help participants to prioritize the most important or relevant research questions and generate insights from the data.

<https://businessanalystmentor.com/collaborative-games-business-analysis/>

**NEW QUESTION 32**

- (Topic 1)

Interested in building out the analytics capability based on the positive results obtained by past analytics efforts, the Chief Marketing Officer (CMO) pitches the idea of using analytics to guide future decision making across the enterprise. Before allocating budget to build up an enterprise analytics practice, the decision makers should:



- A. Request that a small team be assembled to brainstorm a list of capabilities to develop with any approved monies
- B. Identify the sponsor and a project manager who can collaborate on the development of the project charter
- C. Oversee the completion of up-front analysis to determine how value can be achieved through an enterprise-wide analytics practice
- D. Determine if the company has the sufficient resources to build up the analytics practice

**Answer:** C

**Explanation:**

Before investing in an enterprise analytics practice, the decision makers should have a clear understanding of the expected value and benefits of such a practice. This requires conducting an up-front analysis that identifies the business problems or opportunities that can be addressed by analytics, the data sources and technologies that are needed, the analytical models and methods that are appropriate, and the metrics and indicators that will measure the impact and outcomes of the analytics solutions<sup>12</sup>. This analysis will help to define the scope, objectives, and requirements of the enterprise analytics practice, as well as the resources, roles, and governance structures that are necessary to support it<sup>34</sup>. An up-front analysis will also help to prioritize the analytics initiatives based on their feasibility, alignment with the business strategy, and potential value creation

**NEW QUESTION 35**

- (Topic 1)

A marketing director has asked the question 'How many product purchases are expected this coming year given the current marketing campaign?'. What type of analytics would be performed to answer this question?

- A. Descriptive
- B. Predictive
- C. Diagnostic
- D. Prescriptive

**Answer:** B

**Explanation:**

Predictive analytics is a type of analytics that uses historical and current data, as well as statistical and machine learning techniques, to forecast future events or outcomes, such as product purchases, customer behavior, or market trends<sup>12</sup>. To answer the question ??How many product purchases are expected this coming year given the current marketing campaign???, predictive analytics would be performed to estimate the demand and sales based on the existing data and the marketing campaign variables. References: 1: Guide to Business Data Analytics, IIBA, 2020, p. 182: Predictive Analytics: The Power to Predict Who Will Click, Buy, Lie, or Die, Eric Siegel, 2016, p. 3.

**NEW QUESTION 36**

- (Topic 1)

Interested in experimenting with analytics, a manufacturing company hires an analyst to see how the capability can be developed within its organization. The analyst is getting started and recognizes the need to show value from the onset of their work to gain upper management's trust and future funding. What action will accomplish these objectives?

- A. Solve the biggest problem the organization has first to quickly grab the support and attention of senior management
- B. Develop a question that can be answered quickly regardless of alignment to strategy, just to get started
- C. Develop a meaningful question that can be answered with data the company already has in its possession
- D. Perform a market analysis to understand how competitors are using analytics and then launch a similar initiative

**Answer:** C

**Explanation:**

The best action for the analyst to show value from the onset of their work is to develop a meaningful question that can be answered with data the company already has in its possession. This way, the analyst can demonstrate the potential of analytics to solve relevant business problems, without spending too much time or resources on data collection or market research. The question should also be aligned with the organization??s strategy and goals, and provide actionable insights for decision making<sup>12</sup>. References: 1: Guide to Business Data Analytics, IIBA, 2020, p. 202: Data Science for Business, Foster Provost and Tom Fawcett, 2013, p. 14.

**NEW QUESTION 41**

- (Topic 1)

A dataset contains 10 measures of workplace sustainability. The analytics team is in need of producing a single score of sustainability. Which of the following techniques if used would achieve this objective?

- A. Logistic regression
- B. Linkage algorithms
- C. Factor analysis
- D. K means clustering

**Answer:** C

**Explanation:**

Factor analysis is the technique that, if used, would achieve the objective of producing a single score of sustainability, because it is a technique that reduces the dimensionality of a data set by identifying the underlying factors or latent variables that explain the variation and correlation among the observed variables. Factor analysis can help the analytics team combine the 10 measures of workplace sustainability into a smaller number of factors, and then derive a composite score of sustainability based on the factor loadings and weights. Factor analysis can also help the analytics team simplify and interpret the data, and identify the key drivers of sustainability. References:

- Business Analysis Certification in Data Analytics, CBDA | IIBA®, CBDA Competencies, Domain 3: Analyze Data
- Understanding the Guide to Business Data Analytics, page 17
- Business Data Analytics (IIBA®-CBDA Exam preparation) | Udemy, Section 3: Analyze Data, Lecture 15: Factor Analysis

**NEW QUESTION 42**

- (Topic 1)

The analytics team scheduled a meeting with key stakeholders to present their recommendations. The team envisioned this as the final step of their work and fully

expected complete acceptance of those recommendations, particularly given that very few questions were asked. They were surprised when they received word that the organization wasn't ready to move forward. What did they overlook?

- A. Stakeholders need to hear the same information multiple times
- B. Stakeholders never make quick decisions
- C. Communicating information requires a written report
- D. Communicating information is bi-directional and iterative

**Answer: D**

**Explanation:**

The analytics team overlooked the fact that communicating information is not a one-way or one-time process, but rather a bi-directional and iterative one. This means that the team should not only present their recommendations, but also solicit feedback, address concerns, clarify doubts, and confirm understanding from the stakeholders. By doing so, the team can ensure that the stakeholders are fully engaged, informed, and aligned with the recommendations, and that any potential barriers or risks are identified and mitigated before moving forward. References:

- Understanding the Guide to Business Data Analytics, page 9
- Business Analysis Certification in Data Analytics, CBDA | IIBA®, CBDA Competencies, Domain 4: Interpret and Report Results
- CERTIFICATION IN BUSINESS DATA ANALYTICS HANDBOOK - IIBA®, page 5, Step 3– Schedule and Take The Exam

**NEW QUESTION 47**

- (Topic 2)

Results of the data analysis have been analyzed and the team was confident with the results but also quite surprised the outcome was not what was expected. In pondering the value of what can be gleaned from the data, the team has no feasible solution to put forth to address the business need. A logical next step would be to:

- A. Repeat the business analytics cycle with the formation of a new research question
- B. Provide the results to a 2nd analytics team to see if similar conclusions are drawn
- C. Analyze the data again, to determine if any insights were overlooked
- D. Check the quality of the data that was used for the analysis

**Answer: A**

**Explanation:**

According to the Guide to Business Data Analytics, the business analytics cycle is an iterative process that consists of four phases: identify the research questions, source data, analyze data, and interpret and report results. The cycle can be repeated as many times as needed until the business problem or opportunity is addressed or resolved. In this situation, the team was confident with the results but also surprised that the outcome was not what was expected. This means that the initial research question may not have been relevant, specific, or testable enough to provide a feasible solution for the business need. Therefore, a logical next step would be to repeat the business analytics cycle with the formation of a new research question that is more aligned with the business goal, scope, and context.

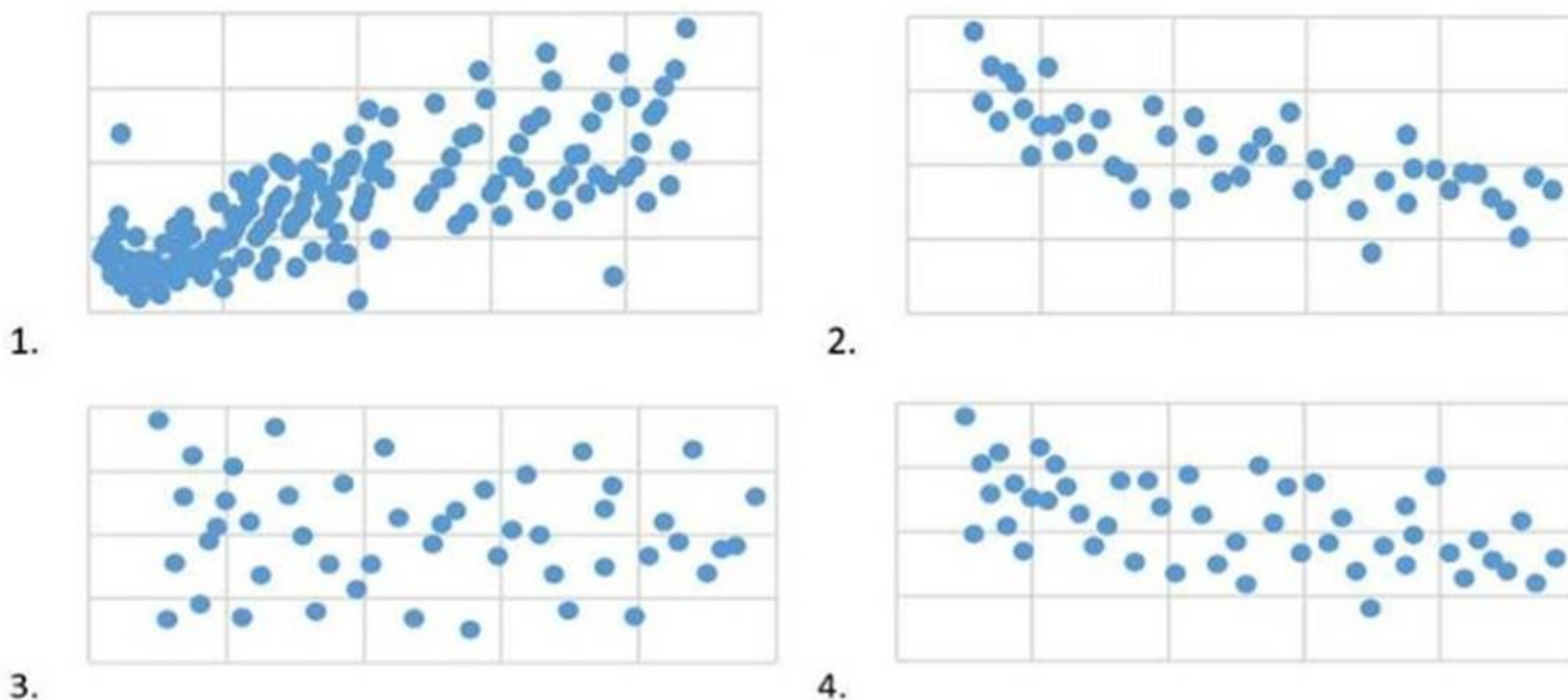
References: Guide to Business Data Analytics, page 47-48; CBDA Exam Blueprint, page 7; [Introduction to Business Data Analytics: A Practitioner View], page 15.

**NEW QUESTION 49**

- (Topic 2)

DIAGRAM TAKEN

A data scientist is analyzing a dataset to determine if there is a strong relationship between two variables. A measure of covariance is done. Which of the following graphs indicate Zero Covariance between variables?



- A. 3
- B. 1
- C. 4
- D. 2

**Answer: C**

**Explanation:**

In the context of Business Data Analytics (IIBA®- CBDA), zero covariance between two variables indicates that there is no linear relationship between those variables. When the covariance is zero, it means the variables are independent of each other. In the provided options, graph 4 shows a random scatter of data points without any apparent trend or pattern, indicating zero covariance.

References: The explanation is in alignment with the concepts and principles outlined in IIBA's resources on Business Data Analytics, particularly focusing on statistical analysis and data interpretation.

**NEW QUESTION 53**

- (Topic 2)

After completing their data analysis, an analyst is drawing out the results, explaining the methods and processes used, and identifying any limitations or weaknesses in the data or methods applied. While performing these steps, which recommended practice would the analyst apply?

- A. Use exploratory analysis to determine the best mathematical method to use
- B. Understand the communication needs of stakeholders
- C. Let the data drive the conclusions and the insights reached
- D. Learn a variety of visualization techniques for effective communications

**Answer: B**

**Explanation:**

According to the IIBA® Guide to Business Data Analytics, communication is a key skill for analysts, as it involves conveying the results, methods, and limitations of the data analysis to various stakeholders in a clear, concise, and meaningful way. To communicate effectively, analysts need to understand the communication needs of stakeholders, such as their level of interest, knowledge, and influence, their preferred format and frequency of communication, and their expectations and objectives. By understanding the communication needs of stakeholders, analysts can tailor their messages, choose the appropriate language and tone, and select the most suitable communication channels and media. Therefore, the correct answer is B, as understanding the communication needs of stakeholders is a recommended practice for analysts while performing the steps of drawing out the results, explaining the methods and processes used, and identifying any limitations or weaknesses in the data or methods applied. References: : [IIBA® Guide to Business Data Analytics], Chapter 4: Business Data Analytics Techniques, page 49, : [IIBA® Guide to Business Data Analytics], Chapter 5: Business Data Analytics Competencies, page 63-64, : [IIBA® Guide to Business Data Analytics], Chapter 6: Business Data Analytics Communication, page 71-72

**NEW QUESTION 56**

- (Topic 2)

The finance manager has reported that customers are taking much longer to remit payments this year than last. They would like help in finding a solution to address the situation. One suggestion was to offer a 10% discount to entice customers to pay their invoices in full within the first 30 days. Before offering the discount, the finance manager would like the analytics team to do some research to determine if there is value in addressing the accounts receivable problem. Which of the following is a valid question to ask in this situation?

- A. Have discounts been offered before?
- B. Are sales decreasing when accounts receivables are increasing?
- C. How does credit score impact the customer's ability to pay?
- D. Should the discount offered be set at 10% or 15%?

**Answer: A**

**Explanation:**

According to the Guide to Business Data Analytics, one of the steps in conducting business data analytics is to identify the research questions that will guide the analysis and help answer the business problem or opportunity. The research questions should be relevant, specific, measurable, achievable, and testable. In this situation, the business problem is the delay in customer payments and the potential solution is to offer a discount. A valid question to ask in this situation is whether discounts have been offered before, and if so, what was the effect on customer behavior and profitability. This question is relevant because it can help assess the feasibility and effectiveness of the proposed solution. It is also specific, measurable, achievable, and testable, as it can be answered by collecting and analyzing historical data on customer payments and discounts.

References: Guide to Business Data Analytics, page 47-48; CBDA Exam Blueprint, page 7; [Introduction to Business Data Analytics: A Practitioner View], page 15.

**NEW QUESTION 58**

- (Topic 2)

A consumer product company has recently seen decline in sales in their athletic wear over the last 3 quarters. Along with a customer satisfaction survey on their athletic wear products, a study on the competitive market has been initiated. The analyst working has created a dashboard, integrating the results from the market study with customer feedback. On reviewing with the analytics manager, the feedback received was that the visuals were powerful, but the dashboard lacked narrative. What does the manager mean by this?

- A. Commentary around why each visual was selected to depict the data will provide context
- B. More commentary needs to be added to add value to the audience
- C. Adding a story example will augment the experience for the audience
- D. Insights need to be supported by context and comments to engage the audience

**Answer: D**

**Explanation:**

According to the Guide to Business Data Analytics, a narrative is a way of communicating the results of data analysis in a clear, concise, and compelling manner. A narrative should include the following elements: the purpose of the analysis, the main findings and insights, the implications and recommendations, and the evidence and reasoning. A narrative should also use appropriate language, tone, and style for the intended audience and medium. A narrative can enhance the impact and value of the data analysis by providing context, explanation, and interpretation of the data, as well as by highlighting the key messages and actions. A dashboard that lacks narrative may not be able to convey the full meaning and significance of the data, and may not be able to engage the audience or influence their decision-making.

References: Guide to Business Data Analytics, page 81-83; CBDA Exam Blueprint, page 8; [Introduction to Business Data Analytics: A Practitioner View], page 25-26.

**NEW QUESTION 59**

- (Topic 2)



A food and beverage company would like to administer a survey to obtain customer insights about a new cookie product recently launched. A data team is asked to build the survey paying careful attention to reduce the degree of sampling error. Which criteria would help the team meet this objective?

- A. Large sample size and variation in the target population
- B. Large sample size and random selection of the target population
- C. Small sample size and specific subset of the target population
- D. Small sample size and using customers who agreed to take the survey

**Answer: B**

**Explanation:**

Sampling error is the difference between the results obtained from a sample and the results obtained from the population from which the sample is drawn<sup>1</sup>. Sampling error can affect the validity, reliability, and generalizability of the survey results<sup>2</sup>. To reduce the degree of sampling error, the data team should use a large sample size and a random selection of the target population. A large sample size means that the sample is more likely to represent the diversity and variability of the population, and that the results are more precise and accurate<sup>3</sup>. A random selection of the target population means that every member of the population has an equal chance of being included in the sample, and that the results are less biased and more representative<sup>4</sup>. The other criteria would not help the team meet this objective, as they would increase the degree of sampling error. A large sample size and variation in the target population would not reduce the sampling error, as variation refers to the differences or heterogeneity within the population, not the sample. Variation in the target population can increase the sampling error, as it makes it harder to capture the true characteristics of the population with a sample<sup>5</sup>. A small sample size and specific subset of the target population would not reduce the sampling error, as they would make the sample less representative and more prone to bias. A small sample size means that the sample is less likely to reflect the diversity and variability of the population, and that the results are less precise and accurate. A specific subset of the target population means that the sample is not randomly selected, but based on some criteria or convenience, and that the results are more biased and less representative. A small sample size and using customers who agreed to take the survey would not reduce the sampling error, as they would also make the sample less representative and more prone to bias. A small sample size has the same drawbacks as mentioned above. Using customers who agreed to take the survey means that the sample is not randomly selected, but based on self-selection or voluntary response, and that the results are more biased and less representative.

References:<sup>1</sup>: Guide to Business Data Analytics, IIBA, 2020, p. 542; Introduction to Business Data Analytics: A Practitioner View, IIBA, 2019, p. 223; Data Analysis: The Definitive Guide, Tableau, 4: Data Analysis: The Definitive Guide, Tableau, 5: Data Analysis: The Definitive Guide, Tableau, . : Data Analysis: The Definitive Guide, Tableau, . : Data Analysis: The Definitive Guide, Tableau, . : Data Analysis: The Definitive Guide, Tableau, . : Guide to Business Data Analytics, IIBA, 2020, p. 54. : Introduction to Business Data Analytics: A Practitioner View, IIBA, 2019, p. 22. : Data Analysis: The Definitive Guide, Tableau, . : Data Analysis: The Definitive Guide, Tableau, . : Data Analysis: The Definitive Guide, Tableau, . : Data Analysis: The Definitive Guide, Tableau, . : Data Analysis: The Definitive Guide, Tableau, . : Data Analysis: The Definitive Guide, Tableau, .

**NEW QUESTION 64**

- (Topic 2)

Allegra Consulting is planning on establishing an analytics system to track career progression of their consultants. Elicitation will be used to identify the required features. How would brainstorming be used to prepare for elicitation?

- A. To identify sources of business information to consider
- B. To identify the key metrics to be collected
- C. Determine the value for establishing the analytics system
- D. To choose the statistical methods required

**Answer: A**

**Explanation:**

According to the Guide to Business Data Analytics, one of the tasks under the domain of ??Identify the Research Questions?? is to identify sources of business information to consider. This task involves reviewing existing business information, such as documents, reports, databases, and systems, to determine what data is available, relevant, and reliable for answering the research questions. This task also involves identifying any gaps or limitations in the existing information and proposing ways to address them. References: Guide to Business Data Analytics, page 18-19; CBDA Exam Blueprint, page 6. Learn more1iiba.org2iiba.org3processexam.com

**NEW QUESTION 66**

- (Topic 2)

An HR manager attended a conference where the topic of HR analytics was presented. The manager returned to the office feeling strongly that analytics could be used to guide hiring decisions in the future. Which of the following results would assist the HR team in making such decisions?

- A. Employee skill gaps
- B. Employee engagement scores
- C. Workforce performance
- D. Absentee rates

**Answer: A**

**Explanation:**

According to the Introduction to Business Data Analytics: A Practitioner View, employee skill gaps are the differences between the skills that employees have and the skills that they need to perform their jobs effectively. Employee skill gaps can affect the productivity, quality, and innovation of an organization. HR analytics can help identify and measure employee skill gaps and provide insights on how to close them. HR analytics can also help guide hiring decisions by finding the best candidates who have the required skills or the potential to acquire them. By using HR analytics to address employee skill gaps, the HR team can improve the alignment of human capital with organizational goals and strategies.

References: Introduction to Business Data Analytics: A Practitioner View, page 17; CBDA Exam Blueprint, page 7; What is HR Analytics? All You Need to Know to Get Started

**NEW QUESTION 69**

- (Topic 2)

While formulating the results from completed analysis, the analytics team is applying different techniques to determine an optimal solution to the specified business problem. Which of the following runs the risk of introducing bias in their decision making process?

- A. Evidenced-based decision making



- B. Expert judgement and experience
- C. Correlations identified through artificial intelligence
- D. Letting the data tell the story

**Answer:** B

**Explanation:**

Expert judgement and experience are valuable sources of knowledge and insight for business data analytics, but they can also introduce bias in the decision making process. Bias is a tendency to favor or reject a certain perspective, outcome, or solution based on personal or subjective preferences, beliefs, or expectations. Bias can affect the quality, validity, and reliability of the data analysis and the resulting decisions. Some examples of bias that can affect expert judgement and experience are confirmation bias, availability bias, anchoring bias, and overconfidence bias. To avoid or minimize bias, business data analysts should apply critical thinking, data literacy, and ethical principles throughout the data analysis process. They should also seek diverse perspectives, challenge assumptions, validate findings, and communicate uncertainties and limitations. References:10 Cognitive Biases in Business Analytics and How to Avoid Them; Business Data Analytics: A Decision-Making Paradigm, page 8; Guide to Business Data Analytics, page 11.

**NEW QUESTION 74**

- (Topic 2)

A clinical research organization is using predictive analytics to improve patient safety and decrease costs on its clinical trials. To ensure that a standard set of tools/techniques is identified and best practices adhered to, teams are required to create scenarios to generate appropriate data for initial analysis. This practice is required because it is almost certain that data will be difficult to come by for most research. Which concern would lead the team to establish scenario development as a required technique?

- A. Data validity
- B. Data privacy
- C. Data reliability
- D. Data reproducibility

**Answer:** A

**Explanation:**

Data validity refers to the extent to which data accurately represents the phenomenon or concept that it is intended to measure<sup>1</sup>. Data validity is essential for predictive analytics, as it affects the quality and credibility of the analysis results and the subsequent decisions or actions based on them. If data is invalid, the predictions may be inaccurate, misleading, or irrelevant. However, data validity may be challenging to ensure in clinical research, as data may be scarce, incomplete, inconsistent, or subject to errors or biases<sup>2</sup>. Therefore, the team may establish scenario development as a required technique to address this concern. Scenario development is a form of document analysis that involves creating hypothetical situations or stories based on assumptions, evidence, and logic to explore the possible outcomes or implications of a problem or opportunity<sup>3</sup>. Scenario development can help the team generate appropriate data for initial analysis by simulating different conditions, variables, or events that may affect the clinical trials, and by testing the validity of the data against the scenarios<sup>4</sup>. References:1: Validity in data collection methods - OpenLearn - Open University, 2: Data Quality in Clinical Research - NCBI - NIH, 3: Scenario Analysis: How It Works and Examples - Investopedia, 4: Predictive Analytics using simulation models - AnyLogic

**NEW QUESTION 75**

- (Topic 2)

A financial institution is interested in leveraging analytics to address a recent surge in credit card fraud. The company has decided to invest in streaming analytics to obtain instant access to real-time data to stop fraudulent behavior before it occurs. Which practice will help the financial institution integrate the data as it is collected?

- A. Data quality
- B. Data management
- C. Data security
- D. Data architecture

**Answer:** D

**Explanation:**

Data architecture is the practice of designing and implementing the structures, models, standards, and processes that enable data integration, storage, and consumption. Data architecture is essential for streaming analytics, as it defines how data is collected, processed, and delivered in real time from multiple sources. Data architecture helps the financial institution integrate the data as it is collected by ensuring data compatibility, consistency, and quality across the streaming pipeline. Data architecture also supports data security, scalability, and performance for streaming analytics. References:  
? Certification in Business Data Analytics (IIBA® - CBDA), IIBA, accessed on January 20, 2024.  
? Business Data Analytics Certification - CBDA Competencies | IIBA®, IIBA, accessed on January 20, 2024.  
? Guide to Business Data Analytics, IIBA, 2020, p. 17-18.  
? What is Streaming Analytics? | Google Cloud, Google Cloud, accessed on January 20, 2024.  
? What is Data Integration? | IBM, IBM, accessed on January 20, 2024.

**NEW QUESTION 79**

- (Topic 2)

The analytics team has completed their analytics work and have agreed on a set of five key recommendations. They are now discussing how best to communicate these recommendations to the finance, customer service, and marketing teams. Recognizing that this is a diverse set of stakeholders, the business analysis professional reminds the team:

- A. All stakeholders should receive information about the recommendation in the same way
- B. Stakeholders only have the ability to understand summarized recommendations
- C. Recommendations are important and must be communicated with as much detail as possible
- D. The recommendation should be communicated in different ways for different stakeholders

**Answer:** D

**Explanation:**

According to the Guide to Business Data Analytics, the recommendation is the output of the data analysis that provides suggestions or guidance for actions or decisions based on the data insights. The recommendation should be communicated in different ways for different stakeholders, depending on their needs,

preferences, and expectations. The communication should consider the following factors:

? The level of detail and complexity: Some stakeholders may require more or less detail and complexity in the recommendation, depending on their role, responsibility, and involvement in the data analysis project. For example, the finance team may need more detail and complexity than the customer service team, as they are more concerned with the financial implications and feasibility of the recommendation.

? The format and medium: Some stakeholders may prefer different formats and mediums for receiving the recommendation, depending on their availability, accessibility, and learning style. For example, the marketing team may prefer a visual and interactive format, such as a dashboard or a presentation, than a textual and static format, such as a report or a document.

? The tone and language: Some stakeholders may respond better to different tones and languages for the recommendation, depending on their culture, background, and personality. For example, some stakeholders may appreciate a formal and professional tone and language, while others may prefer a casual and friendly tone and language.

The communication should also follow the principles of clarity, accuracy, relevance, and timeliness, as well as adhere to the ethical and legal standards for data privacy and security.

References: Guide to Business Data Analytics, page 50-51; CBDA Exam Blueprint, page 7; [Introduction to Business Data Analytics: A Practitioner View], page 16.

#### NEW QUESTION 84

- (Topic 2)

An analyst is tasked with helping the sales team make better use of its data to support informed business decision making. The analyst creates the following research question 'How can shipping costs be lowered in the northeast to remain competitive?'. This question:

- A. Is sufficient to begin analytics work and can be revised after analysis
- B. Is adequately stated and scopes the analytics initiative
- C. Needs to be further defined before mathematical modeling can begin
- D. Needs to be more broadly focused to frame the research

**Answer: C**

#### Explanation:

According to the Guide to Business Data Analytics, a research question is a clear, concise, and specific question that guides the analytics work<sup>1</sup>. The research question should be SMART: Specific, Measurable, Achievable, Relevant, and Time-bound<sup>2</sup>. The question 'How can shipping costs be lowered in the northeast to remain competitive?' is not SMART, as it lacks some important details, such as:

? What is the current shipping cost and the target cost reduction?

? What are the criteria for measuring competitiveness?

? What is the time frame for achieving the cost reduction and competitiveness?

? What are the factors that influence the shipping cost and competitiveness?

? What are the assumptions and constraints of the analysis? Therefore, the question

needs to be further defined before mathematical modeling can begin, as the modeling requires clear and precise inputs and outputs. The other options are not correct, as they imply that the question is either too vague or too narrow, which is not the case.

References: <sup>1</sup> Guide to Business Data Analytics, IIBA, 2020, p. 312; <sup>2</sup> Introduction to Business Data Analytics: A Practitioner View, IIBA, 2019, p. 11.

#### NEW QUESTION 86

- (Topic 2)

A company wants to run a monthly promotion on batteries that cost 15 cents each and sells for 50 cents. At this price, they typically sell 1000 batteries and generate a profit of 35 cents per battery for a total profit of \$350. The analytics team was asked to test two price points - 20% off (i.e. a sale price of 40 cents) and 40% off (i.e., a sale price of 30 cents). The survey data completed by 10000 participants was analyzed and showed that a 20% savings would result in sales of 1200 batteries and the 40% savings would result in 1800 batteries being sold. The team's initial recommendation was to recommend the 40% discount. Now that they are validating their recommendations, they decide to:

- A. Question why management would only want them to test two price points
- B. Change their recommendation realizing they have been victims of linear bias
- C. Redo the survey looking for a larger sample size
- D. Use their original recommendation given that the volume of sales is much higher

**Answer: B**

#### Explanation:

Linear bias is a type of cognitive bias that assumes a linear relationship between two variables, when in fact the relationship may be more complex or nonlinear. In this case, the analytics team assumed that the higher the discount, the higher the sales and profit, without considering other factors that may affect customer behavior, such as price elasticity, perceived quality, or competition. By changing their recommendation, the team can avoid making a suboptimal decision that may result in lower profit or customer satisfaction.

References: <sup>10</sup> Cognitive Biases in Business Analytics and How to Avoid Them, page 5; [Business Data Analytics: A Decision-Making Paradigm], page 9.

#### NEW QUESTION 89

- (Topic 2)

There were 7 students enrolled in the Introduction to Artificial Intelligence course. The scores from the final exam were as follows: 64, 70, 80, 80, 90, 98, 100. What is the mean and median for the outlined scores?

- A. 79.84, 80
- B. 83.14, 80
- C. 80, 83.14
- D. 83.14, 90

**Answer: B**

#### Explanation:

The mean of a set of numbers is the sum of the numbers divided by the number of numbers. The median of a set of numbers is the middle value when the numbers are arranged in ascending or descending order. To find the mean and median of the given scores, we can use the following steps:

? To find the mean, we add up all the scores and divide by 7, the number of students. The mean is  $(64 + 70 + 80 + 80 + 90 + 98 + 100) / 7 = 582 / 7 = 83.14$

? To find the median, we arrange the scores in ascending order: 64, 70, 80, 80, 90, 98, 100. Since there are an odd number of scores, the median is the middle score, which is 80.

Therefore, the mean and median for the outlined scores are 83.14 and 80, respectively. References: Guide to Business Data Analytics, page 54; CBDA Exam Blueprint, page 7; [Introduction to Business Data Analytics: A Practitioner View], page 16.

#### NEW QUESTION 91

- (Topic 2)

A large bank has recently revamped their website, adding additional features such as financial investment opportunities, spending activity, and supporting reports. Which question will add value when evaluating how the website is being used?

- A. What is the customer satisfaction rating across the branches?
- B. What are the top keywords used in searches made within the website?
- C. What is the customer retention rate since the website launch?
- D. How many articles were published since the website launch?

**Answer: C**

#### Explanation:

Customer retention rate is a measure of how many customers continue to use a product or service over a given period of time. It is an important indicator of customer loyalty, satisfaction, and value. Customer retention rate can help the bank evaluate how the website is being used by comparing the number of customers who visited the website before and after the launch of the new features. A high customer retention rate would suggest that the new features are attractive, useful, and engaging for the customers, while a low customer retention rate would indicate that the new features are not meeting the customers' needs or expectations. Customer retention rate can also help the bank identify the segments of customers who are more or less likely to use the website, and tailor their marketing and communication strategies accordingly. References:

? Certification in Business Data Analytics (IIBA® - CBDA), IIBA, accessed on January 20, 2024.

? Business Data Analytics Certification - CBDA Competencies | IIBA®, IIBA, accessed on January 20, 2024.

? Guide to Business Data Analytics, IIBA, 2020, p. 23-24.

? What is Customer Retention Rate? | HubSpot, HubSpot, accessed on January 20, 2024.

#### NEW QUESTION 92

- (Topic 2)

An analyst is working through data on comparing performance scores in different schools across the state, for ranking purposes. Since there is a lot of data and some extreme outliers, the analyst is trying to determine which type of statistical average would best represent the results. Which of the following is a concern when relying too heavily on summary statistics during data analysis?

- A. Contextualization
- B. Data variation
- C. Data properties
- D. Frequency

**Answer: A**

#### Explanation:

Summary statistics are numerical measures that describe certain characteristics of a data set, such as the mean, median, mode, standard deviation, range, or quartiles. Summary statistics can help simplify and communicate complex data, but they can also obscure or distort important information, such as the distribution, shape, outliers, or trends of the data. Contextualization is the process of providing relevant background information, assumptions, limitations, or explanations for the data analysis and its results. Contextualization can help avoid misinterpretation, confusion, or bias when using summary statistics. Contextualization can also help connect the data analysis to the business problem, objectives, and stakeholders.

References: Guide to Business Data Analytics, page 43; Introduction to Business Data Analytics: A Practitioner View, page 13.

#### NEW QUESTION 93

- (Topic 2)

An analytics team is sourcing data for a new analytics initiative and is deciding between two comparable data sources. One source being considered is a very large dataset and another consists of three smaller sources. What advantage will the larger dataset provide over the three smaller sources?

- A. More significant results
- B. Higher validity
- C. More reproducibility
- D. Higher reliability

**Answer: A**

#### Explanation:

A larger dataset may provide more significant results than three smaller sources, as it may have more statistical power to detect differences or relationships among variables<sup>1</sup>. Statistical power is the probability of finding a statistically significant result when there is a true effect in the population<sup>2</sup>. A larger dataset may have more power because it may have more variability, less sampling error, and higher precision than smaller datasets<sup>3</sup>. More significant results may lead to more confident and valid conclusions and recommendations for the analytics initiative.

Higher validity, more reproducibility, and higher reliability are not necessarily advantages of a larger dataset over three smaller sources, as they depend on other factors besides the size of the data. Validity is the degree to which the data and the analysis measure what they are intended to measure<sup>4</sup>. Reproducibility is the degree to which the data and the analysis can be replicated by another analyst using the same methods and data sources. Reliability is the degree to which the data and the analysis produce consistent results under the same conditions. These qualities may be affected by the quality, accuracy, completeness, and relevance of the data, as well as the appropriateness, transparency, and rigor of the analysis methods. A larger dataset may not be valid, reproducible, or reliable if it has errors, biases, missing values, or irrelevant variables, or if the analysis methods are not suitable, documented, or verified.

References: <sup>1</sup>: Guide to Business Data Analytics, IIBA, 2020, p. 542; Introduction to Business Data Analytics: A Practitioner View, IIBA, 2019, p. 233; Data

Analysis: The Definitive Guide, Tableau, 4: Guide to Business Data Analytics, IIBA, 2020, p. 26. : Introduction to Business Data Analytics: A Practitioner View,

IIBA, 2019, p. 25. : Guide to Business Data Analytics, IIBA, 2020, p. 26. : Introduction to Business Data Analytics: An Organizational View, IIBA, 2019, p. 13.

#### NEW QUESTION 94

- (Topic 2)

What type of data model describes the highest level of relationship between entities and represents how a business perceives its information?

- A. Conceptual
- B. Entity Relationship
- C. Logical
- D. Physical

**Answer:** A

**Explanation:**

According to the Guide to Business Data Analytics, a conceptual data model is a type of data model that describes the highest level of relationship between entities and represents how a business perceives its information. A conceptual data model is independent of any specific technology or implementation details. It focuses on the key concepts and their attributes, as well as the business rules and constraints that govern them. A conceptual data model can help communicate the business requirements and scope of the data analysis project to various stakeholders.

References: Guide to Business Data Analytics, page 53; CBDA Exam Blueprint, page 7; Data Model Types: An Explanation with Examples

**NEW QUESTION 99**

- (Topic 2)

Which attribute in the Customerissues entity would be categorized as unstructured data?

- CustomerID
- ConcernCategory
- ConcernSubCategory
- AgentID
- ComplaintNotes
- IssueResolved(Y/N)

- A. ComplaintNotes
- B. ConcernCategory
- C. IssueResolved(Y/N)
- D. ConcernSubCategory

**Answer:** A

**Explanation:**

Unstructured data is data that does not have a predefined format, structure, or schema, and that cannot be easily stored, processed, or analyzed by traditional databases or tools<sup>1</sup>. Unstructured data may include text, images, audio, video, or other types of data that are rich in information but complex and diverse in nature<sup>2</sup>. In the Customerissues entity, the ComplaintNotes attribute would be categorized as unstructured data, as it may contain free-form text that captures the details, sentiments, or emotions of the customers<sup>??</sup> complaints, and that may vary in length, language, tone, or style. The ComplaintNotes attribute would require special techniques, such as natural language processing, text mining, or sentiment analysis, to extract meaningful insights from the unstructured data<sup>3</sup>.

The other attributes in the Customerissues entity would be categorized as structured data, as they have a predefined format, structure, or schema, and that can be easily stored, processed, or analyzed by traditional databases or tools<sup>4</sup>. Structured data may include numbers, dates, codes, categories, or other types of data that are simple and consistent in nature<sup>5</sup>. In the Customerissues entity, the CustomerID, ConcernCategory, ConcernSubCategory, AgentID, and IssueResolved(Y/N) attributes would be categorized as structured data, as they may contain numeric, alphanumeric, or binary values that represent the identifiers, classifications, or statuses of the customers<sup>??</sup> issues, and that may have fixed lengths, ranges, or domains.

References:<sup>1</sup>: Guide to Business Data Analytics, IIBA, 2020, p. 412: Introduction to Business Data Analytics: A Practitioner View, IIBA, 2019, p. 83: Data Analysis: The Definitive Guide, Tableau, 4: Guide to Business Data Analytics, IIBA, 2020, p. 415: Introduction to Business Data Analytics: A Practitioner View, IIBA, 2019, p. 8. : Data Analysis: The Definitive Guide, Tableau, . : Guide to Business Data Analytics, IIBA, 2020, p. 41. : Introduction to Business Data Analytics: A Practitioner View, IIBA, 2019, p. 8.

**NEW QUESTION 100**

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