Week 1

1. Which of the following options describes data analysis? **1 / 1 point**

- ○ The various elements that interact with one another in order to provide, manage, store, organize, analyze, and share data
- ◉ The collection, transformation, and organization of data in order to draw conclusions, make predictions, and drive informed decision-making
- ○ Creating new ways of modeling and understanding the unknown by using raw data
- ○ Using facts to guide business strategy

✓ **Correct**
Data analysis is the collection, transformation, and organization of data in order to draw conclusions, make predictions, and drive informed decision-making.

2. In data analytics, what term describes a collection of elements that interact with one another?

- ◉ A data ecosystem
- ☐ A modeling system
- ○ A database
- ○ The cloud environment

✓ **Correct**
Data ecosystems are made up of elements that interact to produce, manage, store, organize, analyze, and share data.

3. Fill in the blank: Data _____ involves creating new ways of modeling and understanding the unknown by using raw data.

- ○ design
- ○ engineering
- ◉ science
- ○ analysis

✓ **Correct**
Data science involves creating new ways of modeling and understanding the unknown by using raw data.

4. Select the best description of gut instinct.

- ○ Manipulating data to match your intuition
- ☐ Using your innate ability to analyze results
- ◉ An intuitive understanding of something with little or no explanation
- ○ Choosing facts that complement your personal experiences

✓ **Correct**
Gut instinct is an intuitive understanding of something with little or no explanation.

5. A company defines a problem it wants to solve. Then, a data analyst gathers relevant data, analyzes it, and uses it to draw conclusions. The analyst shares their analysis with subject-matter experts, who validate the findings. Finally, a plan is put into action. What does this scenario describe?

- [ ] Customer service
- [ ] Data science
- [x] Data-driven decision-making
- [ ] Identification of trends

Correct
This company has put data at the heart of its business strategy in order to achieve data-driven decision-making.

6. To get the most out of data-driven decision-making, it's important to include insights from people very familiar with the business problem. Identify what these people are called.

- [ ] Competitors
- [ ] Stakeholders
- [x] Subject-matter experts
- [ ] Customers

Correct
Subject-matter experts are very familiar with the business problem and can look at the results of data analysis to validate the choices being made.

7. A data analyst finishes analyzing data for a marketing project. The results are clear, so they present findings and recommendations to the client. What should they have done before that presentation?

- [ ] Surveyed customers about results, conclusions, and recommendations
- [ ] Created a model based on the results of the analysis
- [ ] Archived the datasets in order to keep them secure
- [x] Shared the results with subject-matter experts from the marketing team for their input

Correct
Including insights from people who are familiar with the business problem is an example of data-driven decision-making.

8. You read an interesting article about data analytics in a magazine and want to share some ideas from the article in the discussion forum. In your post, you include the author and a link to the original article. This would be an inappropriate use of the forum.

- [ ] True
- [x] False

Correct
Sharing informative articles is an appropriate use of the forum as long as you give credit to the original author. Also, posts should be relevant to data analytics and checked for typos and grammatical errors.

Week 2

1. Seeking out new challenges and experiences in order to learn is an example of which analytical skill?

   - ○ Understanding context
   - ○ Having a technical mindset
   - ◉ Curiosity
   - ○ Data strategy

   Correct
   Curious people seek out new challenges, which leads to knowledge.

2. Identifying the motivation behind data collection and gathering additional information are examples of which analytical skill?

   - ○ Data design
   - ◉ Understanding context
   - ○ Data strategy
   - ○ A technical mindset

   Correct
   Identifying the motivation behind data collection and gathering additional information are examples of understanding context. Context is the condition in which something exists.

3. A data analyst works for an appliance manufacturer. Last year, the company's profits were down. Lower profits can be a result of fewer people buying appliances, higher costs to make appliances, or a combination of both. The analyst recognizes that those are big issues to solve, so they break down the problems into smaller pieces to analyze them in an orderly way. Which analytical skill are they using?

   - ○ Data strategy
   - ○ Curiosity
   - ◉ A technical mindset
   - ○ Understanding context

   Correct
   They are using a technical mindset, which involves the ability to break things down into smaller steps or pieces and work with them in an orderly and logical way.

4. Which analytical skill involves managing the people, processes, and tools used in data analysis?

- ○ Data design
- ○ Understanding context
- ○ Curiosity
- ◉ Data strategy

Correct
Data strategy involves managing the people, processes, and tools used in data analysis.

5. The manager at a music shop notices that more trombones are repaired on the days when Alex and Jasmine work the same shift. After some investigation, the manager discovers that Alex is excellent at fixing slides, and Jasmine is great at shaping mouthpieces. Working together, Alex and Jasmine repair trombones faster. The manager is happy to have discovered this relationship and decides to always schedule Alex and Jasmine for the same shifts. In this scenario, the manager used which quality of analytical thinking?

- ○ Problem-orientation
- ○ Visualization
- ◉ Correlation
- ○ Big-picture thinking

Correct
The manager used correlation, which involves being able to identify a relationship between two or more pieces of data.

6. What method involves asking numerous questions in order to get to the root cause of a problem?

- ○ Strategizing
- ○ Inquiry
- ◉ The five whys
- ○ Curiosity

Correct
The five whys involves asking numerous questions in order to get to the root cause of a problem?

7. Gap analysis is a method for examining and evaluating how a process works currently in order to get where you want to be in the future.

- ◉ True
- ○ False

Correct
Gap analysis is a method for examining and evaluating how a process works currently in order to get where you want to be in the future.

8. A company is receiving negative comments on social media about their products. To solve this problem, a data analyst uses each of their five analytical skills: curiosity, understanding context, having a technical mindset, data design, and data strategy. This makes it possible for the analyst to use facts to guide business strategy and figure out how to improve customer satisfaction. What is this an example of?

- (●) Data-driven decision-making
- ( ) Data science
- ( ) Data visualization
- ( ) Gap analysis

Correct
Data-driven decision-making involves using facts to guide business strategy. The five essential analytical skills are a key part of data-driven decision-making.

Week 3

1. In which stage of the data life cycle does a business decide what kind of data it needs, how the data will be managed, and who will be responsible for it?

- ( ) Analyze
- ( ) Capture
- (●) Plan
- ( ) Manage

Correct
During planning, a business decides what kind of data it needs, how it will be managed throughout its life cycle, who will be responsible for it, and the optimal outcomes.

2. A data analyst is working at a small tech startup. They've just completed an analysis project, which involved private company information about a new product launch. In order to keep the information safe, the analyst uses secure data-erasure software for the digital files and a shredder for the paper files. Which stage of the data life cycle does this describe?

- ( ) Plan
- (●) Manage
- ( ) Archive
- ( ) Destroy

Incorrect
Review the video on the data life cycle for a refresher.

3. In the analyze stage of the data life cycle, what might a data analyst do? Select all that apply.

- [x] Create a report from the data

Correct
In the analyze stage of the data life cycle, a data analyst might use formulas to perform calculations, create a report from the data, or use spreadsheets to aggregate data.

- [x] Use a formula to perform calculations

Correct
In the analyze stage of the data life cycle, a data analyst might use formulas to perform calculations, create a report from the data, or use spreadsheets to aggregate data.

- [x] Use spreadsheets to aggregate data

Correct
In the analyze stage of the data life cycle, a data analyst might use formulas to perform calculations, create a report from the data, or use spreadsheets to aggregate data.

- [ ] Choose the format of spreadsheet headings

4. Fill in the blank: The data life cycle has six stages, whereas data analysis has six _____.

- ○ key questions
- ○ data types
- ◉ process steps
- ○ data analytics tools

Correct
Although both the data life cycle and the data analysis process have six elements, the life cycle involves stages and analysis involves process steps.

5. A company takes insights provided by its data analytics team, validates them, and finalizes a strategy. They then implement a plan to solve the original business problem. This describes which step of the data analysis process?

- ○ Process
- ○ Share
- ○ Analyze
- ◉ Act

Correct
The act phase is when insights are put into action.

6. What is the main difference between a formula and a function?

- ○ A formula begins with an equal sign (=); a function begins with an asterisk (*).
- ○ A formula is used to add or subtract; a function is used to multiply or divide.
- ○ A formula can be used multiple times in a spreadsheet; a function can only be used once.
- ◉ A formula is a set of instructions used to perform a specified calculation; a function is a preset command that automatically performs a specified process.

Correct
A formula is a set of instructions used to perform a specified calculation; a function is a preset command that automatically performs a specified process.

7. Fill in the blank: A query is used to _____ information from a database. Select all that apply.

- ☑ retrieve

Correct
A query enables data analysts to request, retrieve, and update information from a database.

- ☐ request
- ☑ update

Correct
A query enables data analysts to request, retrieve, and update information from a database.

- ☐ visualize

You didn't select all the correct answers

8. Fill in the blank: Structured query language (SQL) enables data analysts to _____ the information in a database. Select all that apply.

- ☑ update

Correct
A query enables data analysts to request, retrieve, and update information from a database.

- ☑ request

Correct
A query enables data analysts to request, retrieve, and update information from a database.

- ☐ visualize
- ☐ retrieve

You didn't select all the correct answers

Week 4

1. The column attributes for rank, name, population, and county are located in which row of the following spreadsheet?

	A	B	C	D
1	**Rank**	**Name**	**Population**	**County**
2	1	Charlotte	885,708	Mecklenburg
3	2	Raleigh	474,069	Wake (seat), Durham
4	3	Greensboro	296,710	Guilford
5	4	Durham	278,993	Durham (seat), Wake, Orange
6	5	Winston-Salem	247,945	Forsyth
7	6	Fayetteville	211,657	Cumberland
8	7	Cary	170,282	Wake, Chatham
9	8	Wilmington	123,784	New Hanover
10	9	High Point	112,791	Guilford, Randolph, Davidson, Forsyth
11	10	Concord	96,341	Cabarrus

- ○ 10
- ○ 2
- ○ 11
- ◉ 1

Correct

The column attributes for rank, name, population, and county are located in row 1. An attribute is a characteristic or quality of data used to label a column in a table.

2. Fill in the blank: In row 8 of the following spreadsheet, you can find the _____ of Cary. **1 / 1 point**

	A	B	C	D
1	**Rank**	**Name**	**Population**	**County**
2	1	Charlotte	885,708	Mecklenburg
3	2	Raleigh	474,069	Wake (seat), Durham
4	3	Greensboro	296,710	Guilford
5	4	Durham	278,993	Durham (seat), Wake, Orange
6	5	Winston-Salem	247,945	Forsyth
7	6	Fayetteville	211,657	Cumberland
8	7	Cary	170,282	Wake, Chatham
9	8	Wilmington	123,784	New Hanover
10	9	High Point	112,791	Guilford, Randolph, Davidson, Forsyth
11	10	Concord	96,341	Cabarrus

- (●) observation
- ( ) attribute
- ( ) format
- ( ) criteria

Correct
The observation of Cary is in row 8. An observation is all of the attributes for something contained in a row of a data table.

3. In the following spreadsheet, what feature was used to alphabetize the city names in column B?

	A	B	C	D
1	**Rank**	**Name**	**Population**	**County**
2	7	Cary	170,282	Wake, Chatham
3	1	Charlotte	885,708	Mecklenburg
4	10	Concord	96,341	Cabarrus
5	4	Durham	278,993	Durham (seat), Wake, Orange
6	6	Fayetteville	211,657	Cumberland
7	3	Greensboro	296,710	Guilford
8	9	High Point	112,791	Guilford, Randolph, Davidson, Forsyth
9	2	Raleigh	474,069	Wake (seat), Durham
10	8	Wilmington	123,784	New Hanover
11	5	Winston-Salem	247,945	Forsyth

- ( ) Randomize range
- (●) Sort range
- ( ) Organize range
- ( ) Name range

Correct
Sort range was used to alphabetize the city names in column B. Sorting a range of data from A to Z helps data analysts organize and find data more quickly.

4. To find the average population of the cities in this spreadsheet, you type =AVERAGE. What is the proper way to type the range that will complete your function?

	A	B	C	D
1	**Rank**	**Name**	**Population**	**County**
2	1	Charlotte	885,708	Mecklenburg
3	2	Raleigh	474,069	Wake (seat), Durham
4	3	Greensboro	296,710	Guilford
5	4	Durham	278,993	Durham (seat), Wake, Orange
6	5	Winston-Salem	247,945	Forsyth
7	6	Fayetteville	211,657	Cumberland
8	7	Cary	170,282	Wake, Chatham
9	8	Wilmington	123,784	New Hanover
10	9	High Point	112,791	Guilford, Randolph, Davidson, Forsyth
11	10	Concord	96,341	Cabarrus

- ○ C2-C11
- ◉ C2:C11
- ○ C2*C11
- ○ C2,C11

Correct
The range is C2:C11. The full AVERAGE function syntax is =AVERAGE(C2:C11). AVERAGE returns an average of values from a selected range. C2:C11 is the specified range.

5. You are working with a database table named *employee* that contains data about employees. You want to review all the columns in the table.

You write the SQL query below. Add a FROM clause that will retrieve the data from the *employee* table.

```
1  SELECT
2  *
3  FROM employee
4
```

Run

Reset

What employee has the job title of Sales Manager?

- ○ Michael Mitchell
- ◉ Nancy Edwards
- ○ Margaret Park
- ○ Andrew Adams

Correct
The clause `FROM employee` will retrieve the data from the *employee* table. The complete query is `SELECT * FROM employee`. The FROM clause specifies which database table to select data from. The employee Nancy Edwards has the job title of Sales Manager.

6. You are working with a database table that contains invoice data. The *customer_id* column lists the ID number for each customer. You are interested in invoice data for the customer with ID number 54.

   You write the SQL query below. Add a WHERE clause that will return only data about the customer with ID number 54.

```
1  SELECT
2  *
3  FROM
4  invoice
5  WHERE customer_id =54
```

Run

Reset

After you run your query, use the slider to view all the data presented.

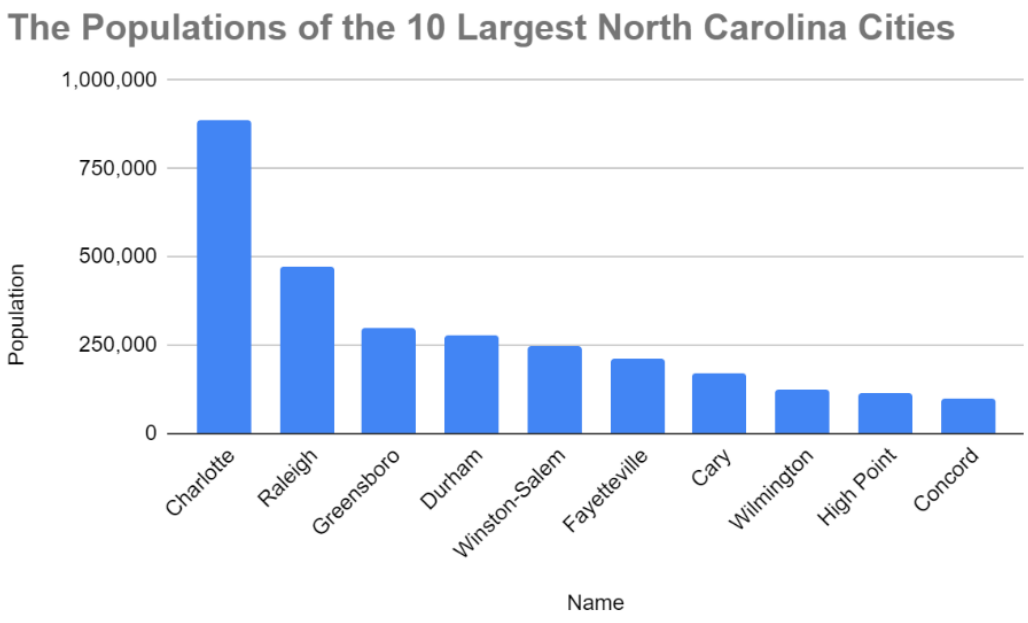
What is the billing address for the customer with ID number 54?

- ○ 1033 N Park Ave
- ○ 230 Elgin St
- ○ 801 W 4th St
- ◉ 110 Raeburn Pl

Correct

The clause `WHERE customer_id = 54` will return only data about the customer with ID number 54. The complete query is `SELECT * FROM invoice WHERE customer_id = 54`. The WHERE clause filters results that meet certain conditions. The WHERE clause includes the name of the column, an equals sign, and the value(s) in the column to include. The billing address for the customer with ID number 54 is 110 Raeburn Pl.

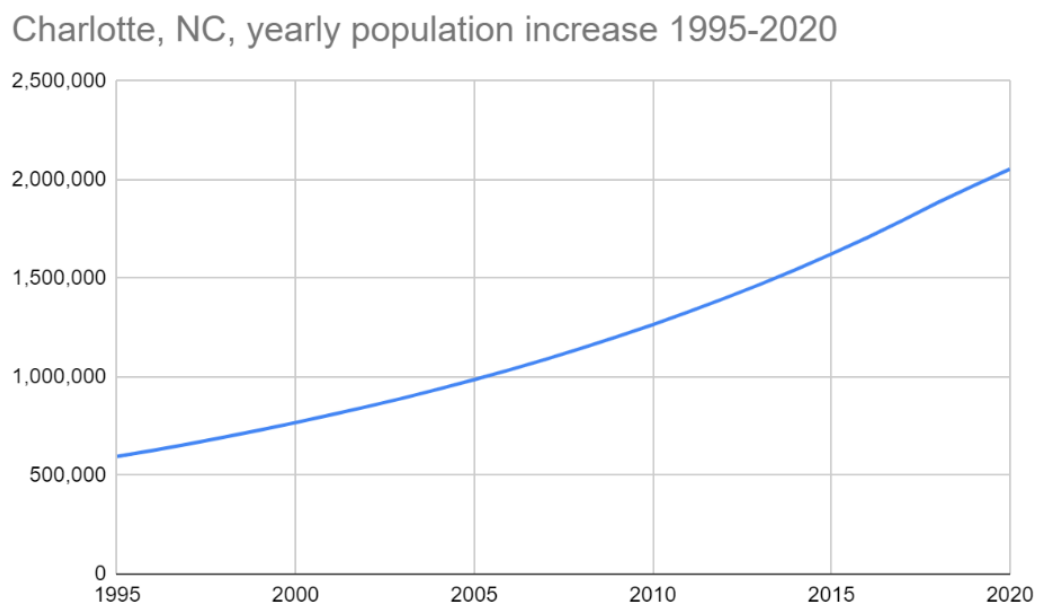
7. A data analyst creates the following visualization to clearly demonstrate how much more populous Charlotte is than the next-largest North Carolina city, Raleigh. What type of chart is it?



- (●) A column, or bar, chart
- ( ) A pie chart
- ( ) A scatter chart
- ( ) A line chart

Correct
The chart is a column chart. A column chart is effective at demonstrating the differences between several items in a specific range of values.

8. A data analyst wants to demonstrate how the population in Charlotte has increased over time. They create this data visualization. This is an example of an area chart.



- ( ) True
- (●) False

Correct
This is a line chart. Line charts are effective for illustrating trends and patterns, such as how population changes over time.

Week 5

1. An online gardening magazine wants to understand why its subscriber numbers have been increasing. A data analyst discovers that significantly more people subscribe when the magazine has its annual 50%-off sale. This is an example of what?

   - ○ Analyzing social media engagement
   - ○ Analyzing the number of customers by calculating daily foot traffic
   - ○ Analyzing consumer preferences using artificial intelligence
   - ◉ Analyzing customer buying behaviors

   Correct
   Data analysts help companies learn from historical data in order to make predictions. A sale's affect on subscription purchases is an example of customer buying behavior analysis.

2. A doctor's office has discovered that patients are waiting 20 minutes longer for their appointments than in past years. A data analyst could help solve this problem by analyzing how many doctors and nurses are on staff at a given time compared to the number of patients with appointments.

   - ◉ True
   - ○ False

   Correct
   Analyzing staffing and patient numbers would likely provide useful insights about why patients are waiting longer for their appointment times and to help solve this problem.

3. Describe the difference between a question and a problem in data analytics.

   - ○ A question is uncertain, whereas a problem is clearly specified.
   - ○ A question can have many answers, whereas a problem only has one solution.
   - ◉ A question is designed to discover information, whereas a problem is an obstacle or complication that needs to be solved.
   - ○ A question is a topic to investigate, whereas a problem is a subject to investigate.

   Correct
   A question is designed to discover information, whereas a problem is an obstacle or complication to be solved. These two things are the foundation of business tasks.

4. What is a question or problem that a data analyst answers for a business?

- [x] Mission statement

This should not be selected
Review the video on the power of data in business for a refresher.

- [ ] Complaint
- [ ] Hypothesis
- [x] Business task

Correct
A business task is a question or problem that a data analyst answers for a business.

5. Data-driven decision-making is using facts to guide business strategy. The benefits include which of the following? Select all that apply.

- [ ] Making the most of intuition and gut instinct
- [x] Combining observation with objective data

Correct
Data-driven decision-making enables companies to use data analytics to find the best possible solution to a problem, complement observation with objective data, and get a complete picture of a problem and its causes.

- [ ] Getting a complete picture of a problem and its causes
- [x] Using data analytics to find the best possible solution to a problem

Correct
Data-driven decision-making enables companies to use data analytics to find the best possible solution to a problem, complement observation with objective data, and get a complete picture of a problem and its causes.

You didn't select all the correct answers

6. It's possible for conclusions drawn from data analysis to be both true and unfair.

- (•) True
- ( ) False

Correct
Sometimes, a conclusion may be true, but it's unfair because it doesn't represent all groups or it ignores social context and other systemic factors.

7. A data analyst is analyzing fruit and vegetable sales at a grocery store. They're able to find data on everything except red onions. What's the best course of action?

- ○ Use the data on white onions instead, as they're both onion varieties.
- ◉ Ask a teammate for help finding data on red onions.
- ○ Exclude red onions from the analysis.
- ○ Exclude all onion varieties from the analysis.

Correct
If a data analyst were to analyze all fruits and vegetables except for onions, the outcomes would not be fair because the data is not representative of all fruits and vegetables sold in grocery stores.

8. A large hotel chain sees about 500 customers per week. A data analyst working there is gathering data through customer satisfaction surveys. They are anxious to begin analysis, so they start analyzing the data as soon as they receive 50 survey responses. This is an example of what? Select all that apply.

- ☐ Failing to collect data anonymously
- ☑ Failing to include diverse perspectives in data collection

Correct
This is an example of failing to include diverse perspectives and failing to have a large enough sample size. The first 50 survey responses are unlikely to represent the general population and may produce biased results.

- ☐ Failing to reward customers for participating in the survey
- ☑ Failing to have a large enough sample size

Correct
This is an example of failing to include diverse perspectives and failing to have a large enough sample size. The first 50 survey responses are unlikely to represent the general population and may produce biased results.

Course Challenge

1. **Scenario 1, question 1-5**

   You've just started a new job as a data analyst. You're working for a midsized pharmacy chain with 38 stores in the American Southwest. Your supervisor shares a new data analysis project with you.

   She explains that the pharmacy is considering discontinuing a bubble bath product called Splashtastic. Your supervisor wants you to analyze sales data and determine what percentage of each store's total daily sales come from that product. Then, you'll present your findings to leadership.

   You know that it's important to follow each step of the data analysis process: ask, prepare, process, analyze, share, and act. So, you begin by defining the problem and making sure you fully understand stakeholder expectations.

   One of the questions you ask is where to find the dataset you'll be working with. Your supervisor explains that the company database has all the information you need.

   Next, you continue to the prepare step. You access the database and write a query to retrieve data about Splashtastic. You notice that there are only 38 rows of data, representing the company's 38 stores. In addition, your dataset contains five columns: Store Number, Average Daily Customers, Average Daily Splashtastic Sales (Units), Average Daily Splashtastic Sales (Dollars), and Average Total Daily Sales (All Products).

   Considering the size of your dataset, what's the best way to proceed with the process and analyze steps?

   - (●) Download the data, then use a spreadsheet to process and analyze it.
   - ( ) Use SQL to process and analyze the data.
   - ( ) Continue using the company database to process and analyze the data.
   - ( ) Upload the data, then process and analyze it using Tableau.

   Correct
   Spreadsheets work well for processing and analyzing a small dataset, such as the one you're using.

2. **Scenario 1 continued**

   You've downloaded the data from your company database and imported it into a spreadsheet. To use the dataset for this scenario, click the link below and select "Use Template."

   Course Challenge - Scenario 1

   OR

   If you don't have a Google account, you can download the template directly from the attachment below.

   Course Challenge Dataset - Scenario 1 - Scenario 1_ Pharmacy Data - Part 1
   CSV File

Now, it's time to process the data. As you know, this step involves finding and eliminating errors and inaccuracies that can get in the way of your results. **While cleaning the data, you notice that information about Splashtastic is missing in one of the rows. You are unsure of how to proceed, so the best course of action is to ask your supervisor for guidance.**

- (●) True
- ( ) False

Correct
The best course of action is to ask your supervisor for guidance. Asking questions helps you learn and avoid mistakes.

3. **Scenario 1 continued**

Once you've found the missing information, you analyze your dataset.

During analysis, you create a new column F. At the top of the column, you add: Average Percentage of Total Sales - Splashtastic. What is this column label called?

- ( ) A headline
- ( ) A title
- ( ) A reference
- (●) An attribute

Correct
An attribute is a characteristic or quality of data used to label a column.

4. **Scenario 1 continued**

Next, you determine the average total daily sales over the past 12 months at all stores, The range that contains these sales is E2:E39. To do this, you use a function. **Fill in the blank to complete the function correctly: =_____ (E2:E39).**

- ( ) SUM
- ( ) TOTAL
- (●) AVERAGE
- ( ) SALES

Correct
The function begins with an equal sign (=), then the word AVERAGE. The range is all of column E, represented by E:E.

5. **Scenario 1 continued**

You've reached the share phase of the data analysis process. It involves which of the following? Select all that apply.

- [ ] Stop selling Splashtastic because it doesn't represent a large percentage of total sales.
- [x] Create a data visualization to highlight the Splashtastic sales insights you've discovered.

Correct
The share phase involves creating data visualizations, preparing your presentation, and communicating your findings to stakeholders.

- [x] Present your findings about Splashtastic to stakeholders.

Correct
The share phase involves creating data visualizations, preparing your presentation, and communicating your findings to stakeholders.

- [x] Prepare a slideshow about Splashtastic's sales and practice your presentation.

Correct
The share phase involves creating data visualizations, preparing your presentation, and communicating your findings to stakeholders.

6. **Scenario 2, questions 6-10**

You've been working for the nonprofit National Dental Society (NDS) as a junior data analyst for about two months. The mission of the NDS is to help its members advance the oral health of their patients. NDS members include dentists, hygienists, and dental office support staff.

The NDS is passionate about patient health. Part of this involves automatically scheduling follow-up appointments after crown replacement, emergency dental surgery, and extraction procedures. NDS believes the follow-up is an important step to ensure patient recovery and minimize infection.

Unfortunately, many patients don't show up for these appointments, so the NDS wants to create a campaign to help its members learn how to encourage their patients to take follow-up appointments seriously. If successful, this will help the NDS achieve its mission of advancing the oral health of all patients.

Your supervisor has just sent you an email saying that you're doing very well on the team, and he wants to give you some additional responsibility. He describes the issue of many missed follow-up appointments. You are tasked with analyzing data about this problem and presenting your findings using data visualizations.

An NDS member with three dental offices in Colorado offers to share its data on missed appointments. So, your supervisor uses a database query to access the dataset from the dental group. The query instructs the database to retrieve all patient information from the member's three dental offices, located in zip code 81137.

The table is dental_data_table, and the column name is zip_code. You write the following query, but get an error. What statement will correct the problem?

```
SELECT *
FROM dental_data_table
WHERE zip code = 81137
```

- (●) WHERE zip_code = 81137
- ( ) WHERE 81137
- ( ) zip_code = 81137
- ( ) WHERE_zip code = 81137

Correct
The correct syntax is WHERE zip_code = 81137. WHERE indicates where to look for information. The column name is zip_code. And the database is being asked to return only records matching zip code 81137.

7. **Scenario 2 continued**

   The dataset your supervisor retrieved and imported into a spreadsheet includes a list of patients, their demographic information, dental procedure types, and whether they attended their follow-up appointment. To use the dataset for this scenario, click the link below and select "Use Template."

   Link to template: Course Challenge - Scenario 2

   OR

   If you don't have a Google account, you can download the template directly from the attachment below.

   Course Challenge Dataset - Scenario 2
   CSV File

8. **Scenario 2 continued**

   As you're reviewing the dataset, you notice that there are a disproportionate number of senior citizens. So, you investigate further and find out that this zip code represents a rural community in Colorado with about 800 residents. In addition, there's a large assisted-living facility in the area. Nearly 300 of the residents in the 81137 zip code live in the facility.

   You recognize that's a sizable number, so you want to find out if age has an effect on a patient's likelihood to attend a follow-up dental appointment. You analyze the data, and your analysis reveals that older people tend to miss follow-ups more than younger people.

   So, you do some research online and discover that people over the age 60 are 50% more likely to miss dentist appointments. Sometimes this is because they're on a fixed income. Also, many senior citizens lack transportation to get to and from appointments.

   With this new knowledge, you write an email to your supervisor expressing your concerns about the dataset. He agrees with your concerns, but he's also impressed with what you've learned and thinks your findings could be very important to the project. He asks you to change the business task. Now, the NDS campaign will be about educating dental offices on the challenges faced by senior citizens and finding ways to help them access quality dental care.

Fill in the blank: Changing the business task involves defining a new _____.

- ○ gap analysis plan
- ○ graphical representation of the data
- ○ data-cleaning strategy
- ◉ question or problem to be solved

Correct
A business task is the question or problem data analysis answers for a business.

9. Scenario 2 continued

You continue with your analysis. In the end, your findings support what you discovered during your online research: As people get older, they're less likely to attend follow-up dental visits.

But you're not done yet. You know that data should be combined with human insights in order to lead to true data-driven decision-making. So, your next step is to share this information with people who are familiar with the problem. They'll help verify the results of your data analysis.

The people who are familiar with a problem and help verify the results of data analysis include customers and competitors.

- ○ True
- ◉ False

Correct
Subject-matter experts look at the results of data analysis to identify any inconsistencies, make sense of the gray areas, and eventually validate the choices being made.

10. Scenario 2 continued

The subject-matter experts are impressed by your analysis. The team agrees to move to the next step: data visualization. You know it's important that stakeholders at NDS can quickly and easily understand that older people are less likely to attend important follow-up dental appointments. This will help them create an effective campaign for members.

It's time to create your presentation to stakeholders. It will include a data visualization that demonstrates the trend of people being less likely to attend follow-up appointments as they get older. **Which type of chart will be most effective?**

- ○ A doughnut chart
- ○ A table
- ○ A pie chart
- ◉ A line chart

Correct
A line chart is effective for tracking trends over time, such as people attending fewer follow-up appointments as they get older.