ESRI ArcGIS Desktop Certification Practice Test (Sample)

Study Guide

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Questions

1. **Which load type allows adding features to a feature class that are point, line, or polygon but are not network feature classes?**

   A. Simple Data Loader

   B. Object Loader

   C. Append w/ Test Mode

   D. Data Loader

2. **What tool in ArcGIS helps users find and select features based on specific criteria?**

   A. Attribute table

   B. Selection tool

   C. Query builder

   D. Identify tool

3. **What is the primary function of a thematic map?**

   A. To show topographic features

   B. To represent statistical data

   C. To assist in navigation

   D. To display historical events

4. **Which command is used to bulk edit attribute data within a geodatabase?**

   A. Edit Features

   B. Calculate Field

   C. Update Attributes

   D. Modify Data

5. **What effect does applying a join in ArcMap have on a layer and a stand-alone table?**

   A. It will create a new output feature class containing the layer and associated data

   B. It will temporarily append the associated data to the layer's attribute table

   C. It will permanently append the associated data to the layer's attribute table

   D. It will create a new output layer containing the layer and associated data

6. Under which circumstances is it appropriate for an ArcGIS user to use Data Driven Pages?

A. When mapping campsite locations along a river

B. When mapping the different soil types within a single region

C. When mapping study areas in a national park

D. When creating a map that displays all the countries of the world

7. Which tools allow the user to create a road that follows the border of a polygon?

A. Trace

B. Constrain Perpendicular

C. Right-Angle

D. Copy Parallel

8. Which Geometry Type should a city planner select to reflect changes in length for new construction on streets?

A. Multipoint

B. Polyline

C. Polygon

D. Multipatch

9. How should a user enter zoning information into a parcel's Attributes window that utilizes a coded value domain?

A. Type in the zoning code

B. Type in the zoning description

C. Select the zoning code from a drop-down list

D. Select the zoning description from a drop-down list

10. An ArcGIS user needs to view map coordinates in nautical miles but is using a projected coordinate system that displays meters. How can the user change the display units?

A. Change the output coordinates in the Environment Settings

B. Change the units used for distance in the Measure tool

C. Change the display units of the feature layer

D. Change the display units of the data frame containing the layer

Answers

1. A
2. B
3. B
4. B
5. A
6. A
7. A
8. B
9. D
10. D

Explanations

1. Which load type allows adding features to a feature class that are point, line, or polygon but are not network feature classes?

A. Simple Data Loader

B. Object Loader

C. Append w/ Test Mode

D. Data Loader

The correct choice is Simple Data Loader. This load type is specifically designed to add simple geographic features—point, line, or polygon—to a feature class. It excels in situations where you want to integrate new data into existing layers without the complexities involved with features that might require additional attributes or network capabilities. The Simple Data Loader facilitates a straightforward and efficient process for importing these features, ensuring that they conform to the target feature class schema. This means that regardless of the source of the data, the Simple Data Loader can handle the addition of these types of features seamlessly, turning the task into a streamlined operation. Considering the context of the other choices, while the Object Loader is used for more complex data management involving feature classes with attached objects, it is not tailored specifically for simple features. The Append w/ Test Mode option is primarily used for appending data but includes validation checks that might complicate situations where straightforward additions are needed. Lastly, the Data Loader generally functions for bulk loading complex structured data which may not specifically emphasize the nature of the features involved, such as simple geometric types.

2. What tool in ArcGIS helps users find and select features based on specific criteria?

A. Attribute table

B. Selection tool

C. Query builder

D. Identify tool

The Selection tool is specifically designed to help users find and select features within a map or dataset based on defined attributes or spatial relationships. This tool allows for queries that can filter and highlight features meeting specific criteria, facilitating the analysis, editing, or visualization of selected data. When using the Selection tool, users have options such as selecting by attributes, which enables them to create complex criteria, and selecting by location, which finds features based on their spatial relation to other features. This makes it an essential part of spatial analysis in ArcGIS, as it provides direct interaction with data layers and enhances the user experience by visually displaying the selected features on the map. Other tools, while useful in their own contexts, do not focus on the selection process in the same manner as the Selection tool. For instance, the Attribute table provides an overview of all features and their associated attributes but does not actively assist in selecting certain features based on user-defined criteria. Similarly, the Query builder assists in creating queries for attribute selection but is not a tool for interacting directly with the map. The Identify tool provides information about specific features but does not allow for bulk selections based on criteria. Thus, the Selection tool stands out as the most appropriate choice for the task of finding and selecting features based

3. What is the primary function of a thematic map?

A. To show topographic features

B. To represent statistical data

C. To assist in navigation

D. To display historical events

A thematic map primarily serves the purpose of representing statistical data or demonstrating specific themes related to the geography of an area. This type of map takes quantities or characteristics and visualizes them through various methods, such as color gradients, proportional symbols, or shading, making patterns and trends easier to identify at a glance. Thematic maps can illustrate a wide range of information, such as population density, economic indicators, environmental factors, and more, providing valuable insights for analysis and decision-making. In contrast, the other options address different types of maps or functions. Topographic maps focus on terrain and elevation, navigation maps are designed to assist users in finding routes and locations, while maps displaying historical events highlight specific occurrences in a temporal context rather than statistical data trends.

4. Which command is used to bulk edit attribute data within a geodatabase?

A. Edit Features

B. Calculate Field

C. Update Attributes

D. Modify Data

The command used to bulk edit attribute data within a geodatabase is "Calculate Field." This tool allows users to perform calculations on a particular field across multiple records in a dataset, which can significantly streamline editing tasks. For example, if you want to update a field's value based on a calculation or replace it entirely based on a function, "Calculate Field" will execute that for all selected features or records at once. This functionality is especially useful for changing attribute values en masse without having to directly edit each entry individually, which can be time-consuming and prone to errors. When you have a significant amount of data to update, utilizing "Calculate Field" can enhance efficiency and maintain data integrity.

5. What effect does applying a join in ArcMap have on a layer and a stand-alone table?

A. It will create a new output feature class containing the layer and associated data

B. It will temporarily append the associated data to the layer's attribute table

C. It will permanently append the associated data to the layer's attribute table

D. It will create a new output layer containing the layer and associated data

Applying a join in ArcMap temporarily combines the attribute data of a layer (such as a shapefile or feature class) with the data from a stand-alone table based on a common field. The correct answer focuses on the nature of this action: it does not create a new output feature class but instead modifies the way the data is viewed during the current session in ArcMap. The correct choice, which acknowledges that the join will create a new output in terms of how data is displayed, aligns with ArcMap's handling of joins. It effectively appends associated data to the layer's attribute table for the duration of the session, allowing users to analyze and visualize combined datasets without altering the original data on disk. The concept of a temporary association is crucial, as it illustrates that while users can interact with this combined view, the underlying data remains unchanged unless the join is exported or specifically saved, which is not implied in the choice provided. The other choices suggest either permanent changes or creating new structures that do not accurately reflect the functionality of joins in ArcMap, which operate by temporarily modifying the view of the data, not altering the underlying datasets or creating new physical files unless additional steps are taken.

6. Under which circumstances is it appropriate for an ArcGIS user to use Data Driven Pages?

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Using Data Driven Pages is particularly advantageous when creating a series of maps that require consistent layout and formatting while displaying different, related features or geographic areas. In the case of mapping campsite locations along a river, Data Driven Pages allows the user to generate individual map pages for each campsite automatically, respecting a standard map layout while shifting the focus to different locations along the river. This is particularly useful when needing to maintain a uniform style and presentation across numerous maps that share the same template but highlight distinct features. In contrast, mapping different soil types within a single region or a single study area in a national park might not require multiple pages since the information can typically be represented effectively on a single map. Similarly, creating a map that showcases all the countries of the world usually involves a single, comprehensive view rather than multiple pages. Therefore, the requirements and benefits of the other scenarios do not align as closely with the capabilities of Data Driven Pages.

7. Which tools allow the user to create a road that follows the border of a polygon?

A. Trace

B. Constrain Perpendicular

C. Right-Angle

D. Copy Parallel

The Trace tool is particularly designed for creating features that follow existing geometry or align with particular shapes. When tasked with creating a road along the border of a polygon, using the Trace tool allows the user to click along the edge of the polygon and effectively mimic its outline. This results in a new polyline that closely follows the selected boundary, capturing the shape and nuances of the polygon. In contrast, the other tools listed serve different purposes. Constrain Perpendicular is used to draw a line that is established at a right angle from another feature, which wouldn't be appropriate for tracing a polygon's edge. The Right-Angle tool similarly facilitates specific angular constraints, which do not enable following the complex curvature or nuances of a polygon's border. Lastly, the Copy Parallel tool is designed to create a parallel line at a specified distance from an existing feature, rather than directly tracing the geometry of the polygon itself. Each of these tools, while valuable in other contexts, does not have the same capability to accurately replicate the shape of a polygon's border as the Trace tool does.

8. Which Geometry Type should a city planner select to reflect changes in length for new construction on streets?

A. Multipoint

B. Polyline

C. Polygon

D. Multipatch

The selection of the Polyline geometry type is appropriate for representing linear features such as streets, roads, or paths in a geographic information system (GIS). When city planners need to reflect changes in length due to new construction on streets, Polylines serve this purpose effectively because they are designed to represent one-dimensional features with length, allowing for changes in geometry that accurately depict the actual configurations of streets. Polylines can easily be modified to accommodate additions, alterations, or re-alignments in street construction, enabling planners to maintain up-to-date and accurate information about the network of streets. The continuous nature of Polylines also makes it possible to depict pathways that may have curves or bends, reflecting their real-world application. In contrast, other geometry types would not serve adequately for this purpose. Multipoint is geared toward representing multiple singular points rather than a line. Polygon is used for area features that encompass a breadth, such as parks or building footprints, making it unsuitable for linear street changes. Multipatch is primarily used for 3D geometries, which again do not fit the requirements for representing changes in street lengths effectively.

9. How should a user enter zoning information into a parcel's Attributes window that utilizes a coded value domain?

A. Type in the zoning code

B. Type in the zoning description

C. Select the zoning code from a drop-down list

D. Select the zoning description from a drop-down list

When entering zoning information into a parcel's Attributes window that utilizes a coded value domain, selecting the zoning description from a drop-down list is the appropriate method. A coded value domain is designed to restrict the values that can be inputted for a certain attribute to a predefined set of valid entries. In this case, the drop-down list provides users with the available zoning descriptions, ensuring that they select a valid entry that corresponds to the zoning codes defined in the database. This approach helps maintain data integrity and consistency throughout the dataset, as users are less likely to make typographical errors or input invalid zoning codes. Using the drop-down list also enhances the user experience by providing clear, descriptive choices, making it easier for users to understand the zoning options available to them without needing to remember specific codes. Thus, the selection process fosters accuracy and minimizes the risk of data entry errors, which is crucial when working with zoning information that may have legal implications.

10. An ArcGIS user needs to view map coordinates in nautical miles but is using a projected coordinate system that displays meters. How can the user change the display units?

A. Change the output coordinates in the Environment Settings

B. Change the units used for distance in the Measure tool

C. Change the display units of the feature layer

D. Change the display units of the data frame containing the layer

The correct answer involves changing the display units of the data frame containing the layer. In ArcGIS, the data frame serves as a context for displaying layers, and it governs how geographical and map coordinate systems are presented. By adjusting the units at the data frame level, the user can specifically change how distances are represented, allowing for the display of nautical miles rather than meters. This process includes accessing the properties of the data frame and navigating to the "General" or "Units" tab where one can specify the desired measurement units. Changing the display units in this way ensures that all measurements and labels associated with the data frame conform to the user's requirement for nautical miles. Adjustments made to other aspects, such as the Environment Settings or the Measure tool, would not directly alter how the map displays its coordinates. Adjusting output coordinates generally affects analysis or exported data, while modifying the Measure tool settings only affects temporary measurements rather than the overall display of map coordinates.