

Colorado Land Surveyor Practice Exam (Sample)

Study Guide



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SAMPLE

Questions

- 1. Why is the concept of adjoining land significant in surveys?**
 - A. It indicates areas available for commercial use**
 - B. It refers to zoning requirements**
 - C. Surveys must consider neighboring property boundaries**
 - D. It defines land use types**
- 2. What is a typical use for a topographic survey?**
 - A. To outline property ownership boundaries**
 - B. To show land contours and existing features**
 - C. To document soil types and conditions**
 - D. To develop city infrastructure plans**
- 3. What is the primary purpose of a surveying project code?**
 - A. A unique identifier for land parcels**
 - B. A reference code used to track and manage survey activities**
 - C. A method for estimating costs in a survey**
 - D. A code for client communication**
- 4. How does a surveyor typically determine property lines?**
 - A. By using aerial photography alone**
 - B. By referencing legal descriptions, prior surveys, and physical markers**
 - C. By relying on the owner's verbal account**
 - D. By using satellite images**
- 5. What does the Public Land Survey System (PLSS) accomplish?**
 - A. It outlines the zoning regulations for urban areas**
 - B. It divides and describes land in the U.S., particularly in rural areas**
 - C. It establishes local government jurisdictions**
 - D. It manages federal land acquisition processes**

- 6. How have GPS units changed the practice of land surveying?**
- A. They make traditional methods obsolete**
 - B. They improve the convenience of measuring distances**
 - C. They focus solely on urban surveying**
 - D. They replace the need for surveying skills**
- 7. What is the primary purpose of a boundary survey?**
- A. To create topographical maps**
 - B. To establish the exact boundary lines of a parcel of land**
 - C. To assess land for environmental hazards**
 - D. To develop survey-related software**
- 8. Which coordinate system is typically used in geodetic surveying?**
- A. Local coordinate system**
 - B. National geodetic survey coordinate system**
 - C. Global positioning system**
 - D. Universal transverse Mercator**
- 9. Which term describes the natural process of forming new land through the addition of soil by water?**
- A. Erration**
 - B. Accretion**
 - C. Alluvium**
 - D. Deposition**
- 10. What is typically required before any aerial photography is undertaken for a land division project?**
- A. Finalized survey results**
 - B. Obtaining necessary permits**
 - C. Securing funding**
 - D. Notification of neighbors**

Answers

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- 1. C**
- 2. B**
- 3. B**
- 4. B**
- 5. B**
- 6. B**
- 7. B**
- 8. B**
- 9. B**
- 10. B**

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Explanations

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1. Why is the concept of adjoining land significant in surveys?

- A. It indicates areas available for commercial use**
- B. It refers to zoning requirements**
- C. Surveys must consider neighboring property boundaries**
- D. It defines land use types**

The significance of adjoining land in surveys lies in the necessity to accurately assess and define property boundaries. This is crucial because the determination of where one property ends and another begins directly impacts legal ownership, potential disputes, and the application of local land use regulations. When conducting a survey, surveyors must consider not only the land being surveyed but also the boundaries of neighboring properties to ensure precision and legality in the delineation of land parcels. By taking into account the adjoining land, surveyors can confirm that they are respecting all legal boundaries and easements, which protects property owners from encroachments and misunderstandings regarding property lines.

2. What is a typical use for a topographic survey?

- A. To outline property ownership boundaries**
- B. To show land contours and existing features**
- C. To document soil types and conditions**
- D. To develop city infrastructure plans**

A topographic survey is specifically designed to provide detailed information about the terrain of a piece of land. It illustrates the contours, elevations, and existing physical features such as trees, buildings, roads, and bodies of water. This information is essential for various applications, including construction, land development, and land use planning. The contours depicted in a topographic survey are crucial for understanding how water will flow over the land, which affects drainage plans and can influence project design. By displaying the relationship between various land features and elevations, a topographic survey aids engineers, architects, and land planners in making informed decisions about how to utilize the land effectively. While outlining property ownership boundaries, documenting soil types, and developing city infrastructure plans are all important tasks within land surveying and planning, they do not specifically define the primary function of a topographic survey. Topographic surveys focus instead on capturing the three-dimensional shape of the land and its features.

3. What is the primary purpose of a surveying project code?

- A. A unique identifier for land parcels
- B. A reference code used to track and manage survey activities**
- C. A method for estimating costs in a survey
- D. A code for client communication

The primary purpose of a surveying project code is to serve as a reference code used to track and manage survey activities. In surveying, project codes provide a systematic way to categorize and organize multiple survey tasks, making it easier for surveyors to manage data, resources, and timelines associated with each project. This structure ensures that all activities related to a specific survey can be easily identified and accessed, facilitating better project management and effectiveness in reporting findings. Using a designated project code can streamline communication amongst team members and increase overall accountability and efficiency. While other factors like unique identifiers for land parcels and methods for estimating costs are important elements of surveying, they do not encompass the primary function of a project code, which is specifically geared towards tracking and managing the suite of activities involved in a project.

4. How does a surveyor typically determine property lines?

- A. By using aerial photography alone
- B. By referencing legal descriptions, prior surveys, and physical markers**
- C. By relying on the owner's verbal account
- D. By using satellite images

A surveyor typically determines property lines by referencing legal descriptions, prior surveys, and physical markers. Legal descriptions include metes and bounds or lot and block descriptions that delineate borders and are essential for accurately identifying property boundaries based on historical records. Prior surveys provide valuable information and context from previously established boundaries, which helps ensure consistency in measurements and locations over time. Physical markers, such as stakes, pins, and monuments, serve as tangible references on the ground that indicate where property lines are situated. These markers are often used in conjunction with recorded surveys and legal documents to confirm the boundaries. This comprehensive approach ensures a high degree of accuracy and adherence to legal standards in land surveying. In contrast, solely relying on aerial photography or satellite images may provide a broad overview of the land, but these methods do not offer the necessary precision required to establish legally binding property lines. Verbal accounts from property owners can be unreliable and subjective, lacking the necessary legal backing and evidence to support boundary claims.

5. What does the Public Land Survey System (PLSS) accomplish?

- A. It outlines the zoning regulations for urban areas**
- B. It divides and describes land in the U.S., particularly in rural areas**
- C. It establishes local government jurisdictions**
- D. It manages federal land acquisition processes**

The Public Land Survey System (PLSS) is designed primarily to organize and divide land into measurable, identifiable parcels, particularly in rural areas. By implementing a systematic approach to land division, the PLSS allows for the accurate identification and description of land ownership and boundaries across the United States. This system consists of townships and ranges, creating a grid-like structure that simplifies the description of land parcels. This is crucial for numerous applications, including land sales, ownership claims, and legal disputes. The PLSS helps reduce confusion over land descriptions by providing a standardized method for land surveying, enabling easier reference to specific locations for various stakeholders, including landowners, real estate professionals, and government agencies. The other options address different aspects related to land use and management but do not capture the primary functionality of the PLSS. For instance, zoning regulations are typically managed at the local government level, while local government jurisdictions focus on governance rather than land measurement. Federal land acquisition processes, while significant, pertain to the management of land rather than its initial division and description, which is the core purpose of the PLSS.

6. How have GPS units changed the practice of land surveying?

- A. They make traditional methods obsolete**
- B. They improve the convenience of measuring distances**
- C. They focus solely on urban surveying**
- D. They replace the need for surveying skills**

The integration of GPS technology into land surveying has significantly improved the convenience of measuring distances. GPS units provide precise positioning and allow surveyors to quickly and accurately establish control points over vast distances. This enhances efficiency compared to traditional methods that rely on physical sighting and manual measurements, which can be time-consuming and susceptible to human error. Surveyors can now gather data much more efficiently, and the GPS units can operate under various conditions where traditional methods may struggle. This convenience not only expedites the surveying process but also increases accuracy, enabling land surveyors to produce more reliable and detailed maps and site plans. While GPS technology greatly enhances the surveying process, it does not render traditional methods obsolete, nor does it replace the need for foundational surveying skills. Knowledge of conventional surveying principles is still vital for interpreting GPS data accurately and overcoming any potential limitations of the technology. Additionally, GPS applications extend beyond urban contexts, as they are applicable in rural and remote areas, ensuring their versatility across different surveying environments.

7. What is the primary purpose of a boundary survey?

- A. To create topographical maps
- B. To establish the exact boundary lines of a parcel of land**
- C. To assess land for environmental hazards
- D. To develop survey-related software

The primary purpose of a boundary survey is to establish the exact boundary lines of a parcel of land. This involves determining and marking the specific boundaries that delineate one piece of land from another, which is essential for property ownership and management. Boundary surveys are critical in resolving disputes between adjoining landowners, ensuring that property lines are accurately represented and legally recognized. This is particularly important for legal documentation, tax assessments, and development planning. In contrast, creating topographical maps focuses on illustrating the terrain and natural features of land rather than defining boundaries. Assessing land for environmental hazards involves evaluating potential risks, which differs from establishing boundary lines. Developing survey-related software pertains to technological advancements in surveying rather than the direct measurement and marking of property lines. Thus, the focus on defining boundary lines clearly distinguishes the purpose of a boundary survey from other surveying functions.

8. Which coordinate system is typically used in geodetic surveying?

- A. Local coordinate system
- B. National geodetic survey coordinate system**
- C. Global positioning system
- D. Universal transverse Mercator

The national geodetic survey coordinate system is specifically designed to provide a framework for geodetic measurements and map-making throughout a country. This system is based on accurate measurements of the Earth's surface and provides a consistent set of reference points used for a variety of applications, including engineering, construction, and land-use planning. The use of a national geodetic system ensures that the data is standardized across different regions and can be accurately relied upon by surveyors and engineers when conducting their work. In contrast, a local coordinate system may vary from one area to another and lacks the standardized reliability of a national system. The global positioning system, while useful for determining position, operates based on satellite signals and does not provide the grid and reference framework necessary for detailed geodetic surveying. Likewise, the Universal Transverse Mercator coordinate system is widely used for mapping and navigation, but it does not encompass the broader scope and specific reference framework provided by a national geodetic survey system, making it less suitable for comprehensive geodetic surveying purposes.

9. Which term describes the natural process of forming new land through the addition of soil by water?

A. Erration

B. Accretion

C. Alluvium

D. Deposition

The term that describes the natural process of forming new land through the addition of soil by water is called accretion. This process occurs when sediment, such as soil or sand, is gradually deposited by moving water, such as rivers, lakes, or oceans, leading to the expansion of land. Over time, as more material accumulates, new land masses can form, contributing to the geographical and ecological development of an area. Understanding the concept of accretion is important in land surveying and property law, as it relates to the rights of landowners regarding new land that may form adjacent to their property through natural processes. The other terms mentioned serve different meanings in the context of geology and land formation. Erration is not a recognized term related to land formation processes. Alluvium refers specifically to the sediment that is deposited by flowing water and is involved in the process of accretion, but it does not describe the process itself. Deposition refers to the process of sediment being laid down or deposited in a new location, which can contribute to accretion but is not synonymous with the term describing the overall phenomenon of land formation from waterborne soil additions.

10. What is typically required before any aerial photography is undertaken for a land division project?

A. Finalized survey results

B. Obtaining necessary permits

C. Securing funding

D. Notification of neighbors

Before any aerial photography is conducted for a land division project, obtaining necessary permits is crucial because aerial photography often involves airspace regulations and land use considerations. Proper permits ensure compliance with federal, state, and local laws, which may require permission from aviation authorities and landowners. Ensuring that all legal requirements are met protects the project from potential legal ramifications and helps avoid conflicts during the data collection process. This step is fundamental to guaranteeing that the aerial photography is conducted legally and correctly, allowing for accurate and usable results in the context of the project.