GE Cartography Practice Test (Sample)

Study Guide

Everything you need from our exam experts!

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- **Practice answering questions under realistic conditions,**
- **Improve accuracy and speed,**
- **Review explanations to strengthen weak areas, and**
- **Approach the exam with greater confidence.**

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here’s how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don’t just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There’s no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

Questions

1. **Which projection uses rays originate from the center of the Earth and is tangent to the equator, used for navigation across polar or trans-oceanic routes?**

   A. Orthographic Projection

   B. Gnomonic Projection

   C. Stereographic Projection

   D. Lambert Conformal Projection

2. **Which projection preserves local shapes and angles, making it conformal?**

   A. Equal-area Projection

   B. Cylindrical Projection

   C. Mercator Projection

   D. Azimuthal Projection

3. **Which chart would be used for plotting great-circle routes on a chart?**

   A. Aeronautical Chart

   B. Gnomonic Chart

   C. Chart

   D. Bathymetric Map

4. **Which term is defined as recognizing objects in a photo and judging their significance?**

   A. Terrestrial Photogrammetry

   B. Metric Photogrammetry

   C. Aerial Photogrammetry

   D. Interpretative Photogrammetry

5. **Which map shows land or submarine bottom relief in terms of height above a datum, with contours, hachures and shading?**

   A. Chorographic Map

   B. Hypsometric Map

   C. Bathymetric Map

   D. Chart

6. Which method uses color reproduction through halftone screening and filtering?

- **A. Photostat**
- **B. Oblique Photography**
- **C. Stereoscopic Vision**
- **D. 3 Color Process**

7. Method permitting drawing contour lines by using two overlapping air photos under a stereoscopic instrument.

- **A. Pull-up**
- **B. Stereoscopic Vision**
- **C. Photolithography**
- **D. Oblique Photography**

8. Instrument used for measuring area of a map.

- **A. Photolithography**
- **B. Pull-up**
- **C. Oblique Photography**
- **D. Planimeter**

9. Which color is used to depict relief on maps?

- **A. Green**
- **B. Blue**
- **C. Black**
- **D. Brown**

10. What term refers to a nautical manual?

- **A. Lens**
- **B. Single Lens**
- **C. Multi-Lens**
- **D. Rutter**

Answers

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

Explanations

1. Which projection uses rays originate from the center of the Earth and is tangent to the equator, used for navigation across polar or trans-oceanic routes?

A. Orthographic Projection

B. Gnomonic Projection

C. Stereographic Projection

D. Lambert Conformal Projection

In a gnomonic projection, points on the globe are projected onto a plane tangent to the sphere by rays that emerge from the Earth's center. This specific setup makes every great-circle arc on the globe appear as a straight line on the map. Since ships and aircraft typically follow great-circle routes to travel the shortest distance between two points, this projection is ideal for plotting long-distance paths across oceans or over high latitudes. The trade-off is distortion: as you move away from the tangency point, shapes, areas, and distances become increasingly distorted, so the map is most reliable for planning lines of travel near the center of the projection.

2. Which projection preserves local shapes and angles, making it conformal?

A. Equal-area Projection

B. Cylindrical Projection

C. Mercator Projection

D. Azimuthal Projection

Conformality means preserving angles and the shape of small features at a point. The Mercator projection is designed to be conformal, so at any location the scale is the same in all directions. That makes tiny shapes look like their true shapes locally, even though their overall size is distorted—especially toward the poles where distances get stretched. This angle-preserving property is what makes it ideal for navigation, since bearings map to straight lines. The other choices emphasize different properties: an equal-area projection keeps areas accurate but distorts shapes; an azimuthal projection focuses on preserving directions from a center point and isn't generally shape-preserving everywhere; a cylindrical projection is a broad category, and not all cylindrical maps preserve shape (only specific conformal cases do, with Mercator as the classic example).

3. Which chart would be used for plotting great-circle routes on a chart?

A. Aeronautical Chart

B. Gnomonic Chart

C. Chart

D. Bathymetric Map

Great-circle routes are the shortest paths between two points on a sphere. To visualize them on a map, you want a projection where these routes become straight lines. In the gnomonic projection, any great circle maps to a straight line on the plane, so drawing a straight line between endpoints directly corresponds to the great-circle path on Earth. That makes a gnomonic chart ideal for plotting long-distance routes. Other chart types don't inherently convert great-circle paths into straight lines, so they don't provide the same simplicity for plotting these routes.

4. Which term is defined as recognizing objects in a photo and judging their significance?

A. Terrestrial Photogrammetry

B. Metric Photogrammetry

C. Aerial Photogrammetry

D. Interpretative Photogrammetry

Recognizing objects in a photo and judging their significance is interpretative photogrammetry. This approach focuses on identifying features in imagery and interpreting what they mean within the scene—qualitatively determining their importance, context, or use. It's about understanding what the objects are (roads, buildings, vegetation, land use) and what their presence implies for analysis or planning, rather than measuring exact distances or coordinates. This differs from metric photogrammetry, which is centered on precise measurements from imagery, and from terrestrial or aerial photogrammetry, which emphasize data collection methods (ground-based versus from aircraft) rather than interpretive meaning.

5. Which map shows land or submarine bottom relief in terms of height above a datum, with contours, hachures and shading?

A. Chorographic Map

B. Hypsometric Map

C. Bathymetric Map

D. Chart

Hypsometric maps convey vertical relief by height relative to a fixed datum, usually mean sea level, and use contour lines, hachures, and shading to show how the terrain rises or falls. This approach can depict both land elevations and submarine bottom relief when depths are measured from the same datum, giving a uniform sense of height above that reference level. The contours provide exact elevation values, hachures hint at the direction and steepness of slopes, and shading adds a three-dimensional feel to the terrain, making the relief easy to read at a glance. Other types don't combine these features to represent elevation and depth in the same integrated way: chorographic maps focus on general geographic features without elevation cues; bathymetric maps emphasize underwater depths but aren't framed in terms of height above a datum with the same contour-hachure-shading presentation; and charts are primarily navigational and not designed to show broad relief.

6. Which method uses color reproduction through halftone screening and filtering?

A. Photostat

B. Oblique Photography

C. Stereoscopic Vision

D. 3 Color Process

Color reproduction through halftone screening and filtering works by splitting an image into separate color components, then printing each component with its own halftone dot pattern. The three-color process creates three color separations—usually cyan, magenta, and yellow—produced or captured through color filtering, each printed with its matching halftone screen. When these three color layers are overlaid, the dots blend optically to recreate a full-color image. This approach is distinct from methods that don't involve color separations and halftone printing: a Photostat is a monochrome copy, oblique photography is a perspective capture method, and stereoscopic vision concerns depth perception.

7. Method permitting drawing contour lines by using two overlapping air photos under a stereoscopic instrument.

A. Pull-up

B. Stereoscopic Vision

C. Photolithography

D. Oblique Photography

Viewing two overlapping air photos through a stereoscopic instrument lets you see terrain in three dimensions. The slight differences in position of features between the left and right images create parallax, which your eyes fuse into a single 3D impression. With that 3D effect, a cartographer can trace where elevations rise and fall to produce contour lines. This is the essence of stereoscopic vision (stereoscopy) in photogrammetry. The other options don't involve using a stereo pair to interpret depth for contouring: a single method like pull-up isn't about stereo 3D interpretation, photolithography is a printing process, and oblique photography refers to angled shots without the depth perception provided by two overlapping photos viewed in a stereo instrument.

8. Instrument used for measuring area of a map.

A. Photolithography

B. Pull-up

C. Oblique Photography

D. Planimeter

Measuring the area shown on a map is done with a planimeter. This instrument is built to determine the area of any closed shape by tracing its boundary; as you move the tracing arm around the outline, the device integrates the path and shows the enclosed area on a dial or digital readout. On a map, you align the planimeter with the shape, trace its perimeter, and read the area, converting to map units with the given scale. The other options aren't measuring instruments for this purpose: photolithography is a fabrication process for transferring patterns onto surfaces; pull-up isn't a tool used to measure areas on maps; oblique photography is a type of aerial imagery, not an area-measuring device.

9. Which color is used to depict relief on maps?

A. Green

B. Blue

C. Black

D. Brown

Relief shows the shape and height of the land, and mapmakers use color ramps so you can read terrain at a glance. Blue represents water, green typically marks lower elevations or vegetation, and brown is used to convey higher elevations and the steep, rugged relief of hills and mountains. The brown shading emphasizes elevation changes and contrasts nicely with green and blue, making mountains and plateaus easy to spot. That's why brown is the color most commonly used to depict relief. Green isn't used for high ground, blue signals water, and black is usually reserved for text, boundaries, or contour lines rather than the shading of terrain.

10. What term refers to a nautical manual?

A. Lens

B. Single Lens

C. Multi-Lens

D. Rutter

A nautical manual is called a rutter. In maritime navigation, a rutter is a guidebook that accompanies charts and provides sailing directions, descriptions of coastlines and harbors, notes on tides and currents, hazards, soundings, and recommended routes. Mariners used rutters to plan and pilot voyages along coastlines and through tricky waters. The other terms refer to optical components used in cameras and lenses, not navigational manuals, so they don't fit as a nautical manual.

Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

https://gecartography.examzify.com

We wish you the very best on your exam journey. You've got this!