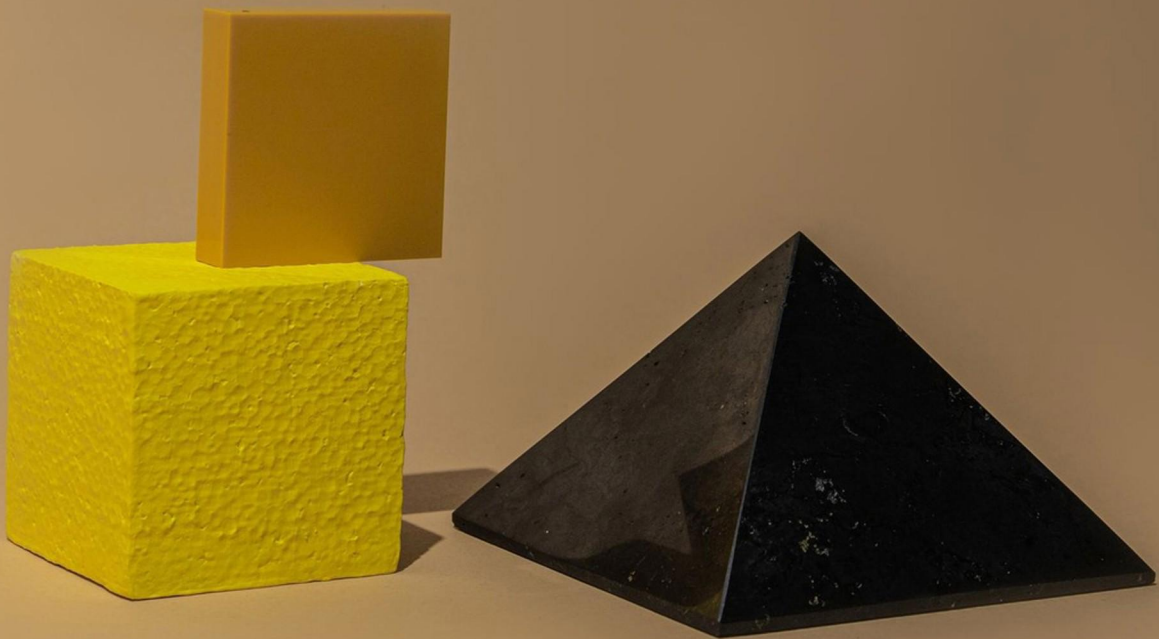


COMMON CORE GEOMETRY PRACTICE TEST (SAMPLE)

STUDY GUIDE



Prepare with structure. Pass with confidence



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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

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1. What is a right angle?

- A. An angle that measures 45 degrees
- B. An angle that measures exactly 90 degrees
- C. An angle that measures 180 degrees
- D. An angle that measures 360 degrees

2. What are angles that are opposite each other when two lines intersect and are always congruent?

- A. Complementary angles
- B. Vertical angles
- C. Adjacent angles
- D. Supplementary angles

3. What is a line, segment, or ray that intersects a circle at two points called?

- A. Secant
- B. Tangent
- C. Chord
- D. Radius

4. Which of the following is a straight one-dimensional figure that has two endpoints?

- A. Ray
- B. Line Segment
- C. Line
- D. Polygon

5. How do you calculate the slope of a line between two points?

- A. Slope = $(x_2 - x_1) / (y_2 - y_1)$
- B. Slope = $(y_2 - y_1) + (x_2 - x_1)$
- C. Slope = $(y_2 - y_1) / (x_2 - x_1)$
- D. Slope = $(x_1 - x_2) / (y_1 - y_2)$

6. What is the nature of the angles in a triangle?

- A. The sum of angles is 360 degrees
- B. The sum of angles is 90 degrees
- C. The sum of angles is 180 degrees
- D. The angles can be any value

7. What is the name of the side opposite the right angle in a right triangle?

- A. Leg
- B. Base
- C. Hypotenuse
- D. Altitude

8. Which property best describes the angles in a rectangle?

- A. All angles are obtuse
- B. All angles are right angles
- C. Adjacent angles are supplementary
- D. Opposite angles are equal

9. What is a polygon with six sides called?

- A. Pentagon
- B. Hexagon
- C. Octagon
- D. Quadrilateral

10. What are supplementary angles?

- A. Two angles that are equal
- B. Two angles that add up to 180 degrees
- C. Two angles that are adjacent
- D. Two angles that form a straight line

Answers

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

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Explanations

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1. What is a right angle?

- A. An angle that measures 45 degrees
- B. An angle that measures exactly 90 degrees**
- C. An angle that measures 180 degrees
- D. An angle that measures 360 degrees

A right angle is defined as an angle that measures exactly 90 degrees. This measurement is crucial in various geometric concepts and constructions, as it represents a quarter of a full rotation and is fundamental in defining perpendicular lines. In many real-world applications, right angles are commonly found in architecture and engineering, where precise measurements are vital for stability and design. This specific degree measurement distinguishes a right angle from other types of angles, such as acute angles, which are less than 90 degrees, or obtuse angles, which measure more than 90 degrees but less than 180 degrees. Understanding the definition and properties of right angles is essential for solving many problems in geometry and for constructing geometric figures accurately.

2. What are angles that are opposite each other when two lines intersect and are always congruent?

- A. Complementary angles
- B. Vertical angles**
- C. Adjacent angles
- D. Supplementary angles

Vertical angles are formed when two lines intersect, creating pairs of angles that are opposite each other. By definition, vertical angles are always congruent, meaning they have the same measure. This congruence arises from the fact that when the intersecting lines create two pairs of angles, each pair of vertical angles shares a common vertex and is formed by the same two lines. For example, if two lines intersect and create angles of 30 degrees and 150 degrees at one intersection, the angles opposite (the vertical angles) will also be 30 degrees and 150 degrees respectively, confirming that they are congruent. This property is key in various geometric proofs and problems. The other types of angles mentioned have distinct characteristics: complementary angles are two angles that add up to 90 degrees, adjacent angles share a common arm and vertex but do not necessarily have to be congruent, and supplementary angles add up to 180 degrees. Thus, the unique property of vertical angles being always congruent sets them apart as the correct choice in this context.

3. What is a line, segment, or ray that intersects a circle at two points called?

- A. Secant**
- B. Tangent
- C. Chord
- D. Radius

A line, segment, or ray that intersects a circle at two distinct points is referred to as a secant. This characteristic of a secant is fundamental in geometry because it demonstrates how secants can create segments within the circle. When a secant intersects the circumference of a circle, it allows for the definition of various geometric properties, such as arc lengths and angles formed by the intersecting points. In contrast, other terms like tangent represent a different relationship with the circle, specifically touching it at just one point, while a chord is a segment whose endpoints lie on the circle, thus being a subset of secants. Similarly, a radius refers to a line segment that connects the center of the circle to a point on its circumference. Understanding the definition and properties of a secant is vital for solving many geometric problems and analyzing circles effectively.

4. Which of the following is a straight one-dimensional figure that has two endpoints?

A. Ray

B. Line Segment

C. Line

D. Polygon

In geometry, a straight one-dimensional figure that has two endpoints is defined as a line segment. A line segment is the portion of a line that connects two points, known as the endpoints. It is finite in length, as it begins at one endpoint and ends at the other, making it distinct from the other types of figures listed in the choices. A ray, while also a one-dimensional figure, starts at a single endpoint and extends infinitely in one direction, lacking a second endpoint. A line, on the other hand, extends infinitely in both directions and therefore does not have endpoints at all. A polygon is a two-dimensional shape formed by a closed chain of line segments, and it cannot be described as having only two endpoints since it consists of multiple segments and vertices. Thus, the unique characteristics of the line segment make it the correct choice in this context.

5. How do you calculate the slope of a line between two points?

A. Slope = $(x_2 - x_1) / (y_2 - y_1)$

B. Slope = $(y_2 - y_1) + (x_2 - x_1)$

C. Slope = $(y_2 - y_1) / (x_2 - x_1)$

D. Slope = $(x_1 - x_2) / (y_1 - y_2)$

To calculate the slope of a line between two points, you need to understand that the slope represents the rate of change in the vertical direction (the rise) compared to the horizontal direction (the run). The correct formula for slope is derived from the coordinates of the two points on the line, which we can denote as (x_1, y_1) and (x_2, y_2) . Using the coordinates, the rise is calculated as the difference in the y-coordinates $(y_2 - y_1)$, indicating how far up or down the line goes. The run is calculated as the difference in the x-coordinates $(x_2 - x_1)$, indicating how far left or right the line extends. Therefore, the slope is defined as the change in y over the change in x, which is given by the formula: $\text{slope} = \frac{\text{rise}}{\text{run}} = \frac{y_2 - y_1}{x_2 - x_1}$. This formula captures the essence of how steep the line is, showing the ratio of vertical change to horizontal change between the two points. In this context, understanding that a positive slope indicates an upward trend, while a negative slope indicates a downward trend is

6. What is the nature of the angles in a triangle?

A. The sum of angles is 360 degrees

B. The sum of angles is 90 degrees

C. The sum of angles is 180 degrees

D. The angles can be any value

In any triangle, the sum of the interior angles is always 180 degrees. This fundamental property of triangles is a cornerstone of Euclidean geometry and applies to all types of triangles, regardless of their classification as scalene, isosceles, or equilateral. This can be understood through various methods, such as drawing parallel lines and using alternate interior angles or by dividing a triangle into smaller triangles to show that the angles always add up to 180 degrees. Recognizing that the sum is constant at 180 degrees helps in solving many problems related to triangles, such as angle calculations and establishing triangle congruencies. This rule is fundamental and remains true in any triangle drawn in a flat geometric plane.

7. What is the name of the side opposite the right angle in a right triangle?

- A. Leg
- B. Base
- C. Hypotenuse**
- D. Altitude

In a right triangle, the side opposite the right angle is called the hypotenuse. This is a fundamental concept in geometry. The hypotenuse is not only the longest side of the triangle, but it also has a special relationship to the other two sides, known as the legs. According to the Pythagorean theorem, the sum of the squares of the lengths of the legs is equal to the square of the length of the hypotenuse. This relationship is crucial for solving various problems in geometry and trigonometry involving right triangles. The other terms, such as "leg," refer specifically to the two sides that form the right angle. The "base" can sometimes refer to one of the legs when a triangle is oriented in a particular way, but it is not a general term that applies specifically to right triangles. The "altitude" is the perpendicular distance from a vertex to the line containing the opposite side, which does not describe a side of the triangle itself. Thus, hypotenuse is the most accurate and fitting term for the longest side opposite the right angle in a right triangle.

8. Which property best describes the angles in a rectangle?

- A. All angles are obtuse
- B. All angles are right angles**
- C. Adjacent angles are supplementary
- D. Opposite angles are equal

The characteristic that best describes the angles in a rectangle is that all angles are right angles. In geometry, a rectangle is defined as a quadrilateral with four right angles, making each angle exactly 90 degrees. This property is fundamental to the definition of a rectangle and distinguishes it from other quadrilaterals. While it is true that adjacent angles in a rectangle are supplementary (adding up to 180 degrees) and opposite angles are equal, these properties do not uniquely define a rectangle as effectively as stating that all angles are right angles. Therefore, the defining nature of right angles is what makes option B the most accurate description of the angles within a rectangle.

9. What is a polygon with six sides called?

- A. Pentagon
- B. Hexagon**
- C. Octagon
- D. Quadrilateral

A polygon with six sides is called a hexagon. The term "hexagon" is derived from the Greek words "hex," meaning six, and "gonia," meaning angle. Therefore, a hexagon has six interior angles and six sides. In geometry, polygons are categorized based on the number of their sides, and each type has a specific name. For example, a polygon with five sides is referred to as a pentagon, while one with eight sides is called an octagon. A quadrilateral, on the other hand, is a polygon with four sides. Understanding these definitions is crucial in classifying polygons and discussing their properties, such as the sum of their interior angles, which differs based on the number of sides. In a hexagon, the sum of the interior angles equals 720 degrees.

10. What are supplementary angles?

- A. Two angles that are equal
- B. Two angles that add up to 180 degrees**
- C. Two angles that are adjacent
- D. Two angles that form a straight line

Supplementary angles are defined as two angles whose measures add up to 180 degrees. This relationship can be visualized by considering that if you have two angles, when you place them together, they will complete a straight angle, which is 180 degrees. This concept is fundamental in geometry as it helps understand various configurations and properties of angles in different shapes. For example, if one angle measures 110 degrees, the other angle must be 70 degrees for them to be supplementary, since $110 + 70$ equals 180. Understanding supplementary angles is particularly useful when solving problems related to parallel lines and transversals, where angles formed by these intersections exhibit this supplementary nature. The other definitions provided do not correctly represent supplementary angles. Two angles that are equal refer to congruent angles, adjacent angles are those that share a common vertex and side but do not need to sum to any specific measure, and angles that form a straight line are specifically the situation of supplementary angles but do not encompass the broader definition that two angles just need to add to 180 degrees without being adjacent or forming a line.

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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://commoncoregeometry.examzify.com>

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

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