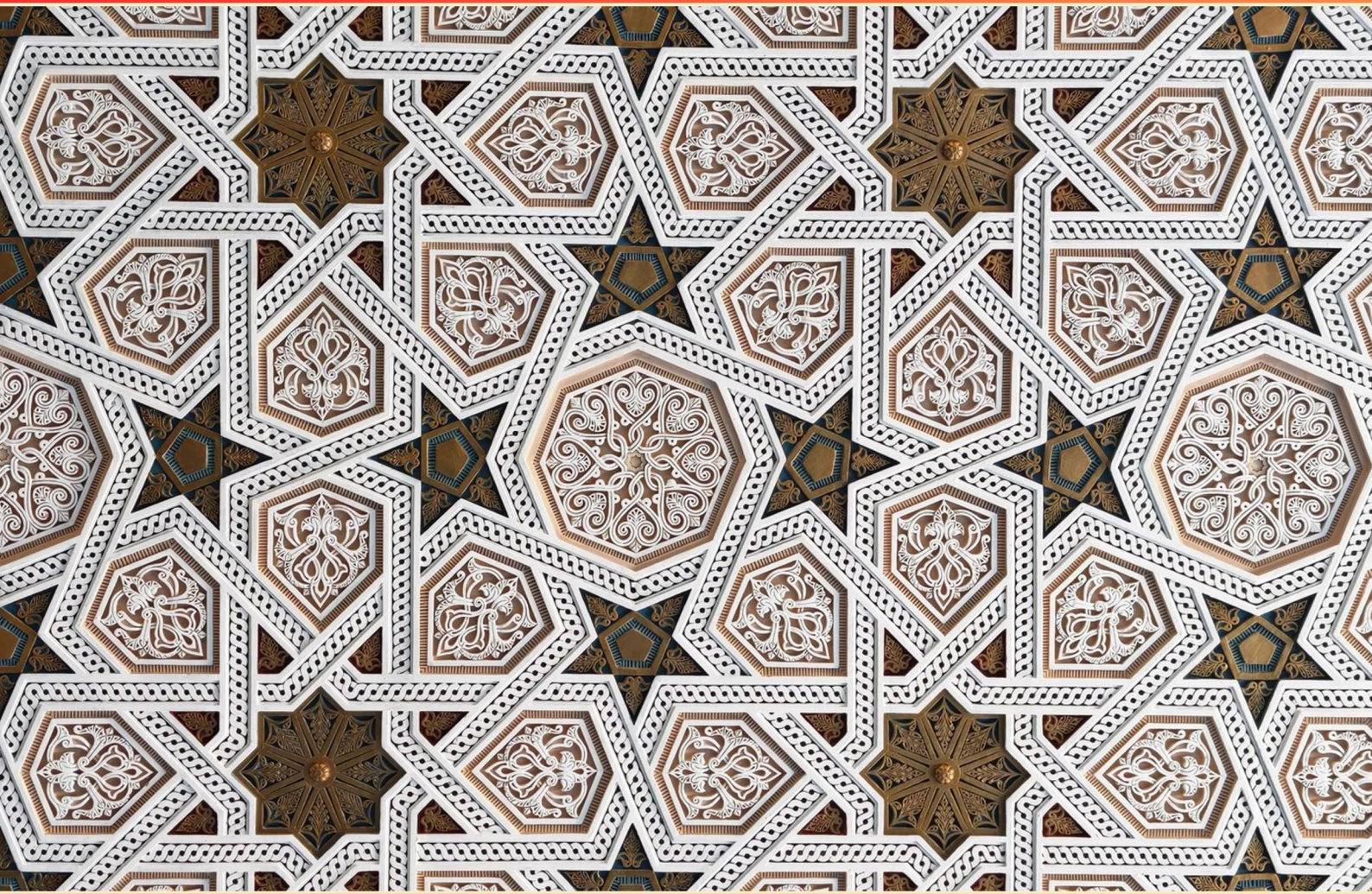


GEOMETRY CBE PRACTICE EXAM (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE

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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. If chords AB and CD intersect at P inside a circle, which equation expresses the power of a point?
 - A. $PA \times PC = PB \times PD$
 - B. $PA + PB = PC + PD$
 - C. $PA \times PB = PC \times PD$
 - D. $PA \times PD = PB \times PC$
2. HL congruence is a criterion that applies to which triangles?
 - A. The two legs
 - B. Hypotenuse and a leg
 - C. The two hypotenuses
 - D. The acute angles
3. Exterior Angle Theorem states that the measure of an exterior angle equals what?
 - A. An exterior angle equals the sum of the two nonadjacent interior angles.
 - B. An exterior angle equals the adjacent interior angle.
 - C. An exterior angle equals the sum of all interior angles.
 - D. An exterior angle equals twice the opposite interior angle.
4. What is the area of a circle with radius r?
 - A. $2\pi r$
 - B. πr^2
 - C. πr
 - D. $2r^2$
5. What are the coordinates of the midpoint of segment AB with A(1,3) and B(5,7)?
 - A. (2,5)
 - B. (3,5)
 - C. (3,4)
 - D. (4,5)

6. If two lines are cut by a transversal and the corresponding angles are congruent, what does that imply?
- A. The lines are parallel.
 - B. The lines are perpendicular.
 - C. The lines are skew.
 - D. Nothing can be concluded.
7. Area of a circle is given by which equation?
- A. $A = \pi r$
 - B. $A = \pi r^2$
 - C. $A = 2\pi r$
 - D. $A = \pi d^2$
8. In a right triangle, cosine of an angle is defined as which ratio?
- A. Adjacent over hypotenuse
 - B. Opposite over adjacent
 - C. Hypotenuse over adjacent
 - D. Opposite over hypotenuse
9. Which angle pair lies outside the two lines on opposite sides of the transversal when the lines are parallel?
- A. Alternate exterior angles
 - B. Alternate interior angles
 - C. Corresponding angles
 - D. Vertical angles
10. Under a dilation with center at the origin and scale factor k , a point (x,y) maps to which coordinates?
- A. $(x/k, y/k)$
 - B. (kx, ky)
 - C. $(x+y, y+x)$
 - D. (kx, y)

Answers

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

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Explanations

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1. If chords AB and CD intersect at P inside a circle, which equation expresses the power of a point?

- A. $PA \times PC = PB \times PD$
- B. $PA + PB = PC + PD$
- C. $PA \times PB = PC \times PD$**
- D. $PA \times PD = PB \times PC$

The power of a point with respect to a circle is being tested. For a point inside the circle, the product of the distances from the point to the endpoints of one chord through the point is the same as the product for any other chord through that point. So, if a line through P meets the circle at A and B, the product $PA \times PB$ equals the circle's power at P. If another line through P meets the circle at C and D, then $PC \times PD$ equals the same power. Therefore $PA \times PB = PC \times PD$. This is the expression that captures the equal power along both chords. The other forms don't reflect this constant product along lines through P.

2. HL congruence is a criterion that applies to which triangles?

- A. The two legs
- B. Hypotenuse and a leg**
- C. The two hypotenuses
- D. The acute angles

HL congruence applies to right triangles. It says that if the hypotenuse of one right triangle is congruent to the hypotenuse of another right triangle and a leg is congruent to the corresponding leg, then the two triangles are congruent. The right angle in each triangle fixes the orientation, so matching the hypotenuse and one leg provides enough information to determine the entire triangle, making all other parts align as well. This is why the correct description is using the hypotenuse and a leg. The other options don't guarantee congruence on their own: just matching two legs or two hypotenuses, or only the acute angles, isn't enough to fix all side lengths and angles.

3. Exterior Angle Theorem states that the measure of an exterior angle equals what?

- A. An exterior angle equals the sum of the two nonadjacent interior angles.**
- B. An exterior angle equals the adjacent interior angle.
- C. An exterior angle equals the sum of all interior angles.
- D. An exterior angle equals twice the opposite interior angle.

The exterior angle of a triangle equals the sum of the measures of the two interior angles not adjacent to it. This works because the exterior angle forms a linear pair with the adjacent interior angle, so together they add to 180 degrees; and the sum of all three interior angles is also 180 degrees. Therefore, the exterior angle must equal the sum of the other two interior angles—the remote interior angles. For example, if the two nonadjacent interior angles measure 30 and 40 degrees, the exterior angle would be 70 degrees. This aligns with the theorem and shows why the statement is correct. The adjacent interior angle alone isn't equal to the exterior angle (they're supplementary), and the exterior angle isn't the sum of all interior angles or twice any interior angle.

4. What is the area of a circle with radius r ?

- A. $2\pi r$
- B. πr^2**
- C. πr
- D. $2r^2$

The area of a circle depends on the square of its radius. If you think of filling the circle with many thin rings from the center out to radius r , each ring at radius x has area roughly its circumference $2\pi x$ times a small thickness dx , so $dA = 2\pi x dx$. Adding up all those rings from 0 to r gives $\int_0^r 2\pi x dx = \pi r^2$. Therefore the area is πr^2 . Why the other forms don't fit: $2\pi r$ is the circumference, not area. πr is missing a factor of r , so it's not area. $2r^2$ has the incorrect scaling and lacks π .

5. What are the coordinates of the midpoint of segment AB with A(1,3) and B(5,7)?

- A. (2,5)
- B. (3,5)**
- C. (3,4)
- D. (4,5)

The midpoint of a segment in the coordinate plane is found by averaging the x -coordinates and the y -coordinates of the endpoints. For A(1,3) and B(5,7), the x -coordinates average to $(1+5)/2 = 3$, and the y -coordinates average to $(3+7)/2 = 5$. So the midpoint is (3,5). You can also see this by noting that x increases by 4 and y increases by 4 from A to B, so halfway along adds 2 to each coordinate: $(1+2, 3+2) = (3,5)$.

6. If two lines are cut by a transversal and the corresponding angles are congruent, what does that imply?

- A. The lines are parallel.**
- B. The lines are perpendicular.
- C. The lines are skew.
- D. Nothing can be concluded.

Corresponding angles are the pair of angles that occupy the same position at each intersection formed by the transversal with the two lines. If those corresponding angles have equal measure, the two lines must run in the same direction and never meet, so they are parallel. This is a standard rule: congruent corresponding angles imply parallel lines, and parallel lines yield congruent corresponding angles. Perpendicular would require a 90-degree angle, which isn't required by the congruence of corresponding angles. Skew lines aren't in the same plane and aren't cut by a single transversal in the usual sense, so that scenario doesn't apply here. Therefore, the correct conclusion is that the lines are parallel.

7. Area of a circle is given by which equation?

- A. $A = \pi r$
- B. $A = \pi r^2$**
- C. $A = 2\pi r$
- D. $A = \pi d^2$

Area depends on the square of the radius, with π linking linear measurements to area. If you double the radius, the area becomes four times as large, showing the r^2 relationship. That makes the correct formula $A = \pi r^2$. The other expressions mix linear and area quantities: πr would be a length, $2\pi r$ is the circumference, and πd^2 would not match how diameter relates to radius (since $d = 2r$, that would give $\pi d^2 = 4\pi r^2$, not πr^2).

8. In a right triangle, cosine of an angle is defined as which ratio?

- A. Adjacent over hypotenuse**
- B. Opposite over adjacent
- C. Hypotenuse over adjacent
- D. Opposite over hypotenuse

Cosine of an angle in a right triangle is the ratio of the length of the side that forms the angle to the hypotenuse. That adjacent leg is the one that touches the angle, while the opposite side lies across from the angle, and the hypotenuse is the longest side opposite the right angle. So $\cos(\text{angle})$ equals adjacent over hypotenuse. The other common ratios are sine (opposite over hypotenuse) and tangent (opposite over adjacent), with secant being hypotenuse over adjacent.

9. Which angle pair lies outside the two lines on opposite sides of the transversal when the lines are parallel?

- A. Alternate exterior angles**
- B. Alternate interior angles
- C. Corresponding angles
- D. Vertical angles

When a transversal crosses two parallel lines, angles are categorized by location (inside vs outside the lines) and by side of the transversal (same vs opposite). The pair described lies outside the two lines (exterior) and on opposite sides of the transversal (alternate). That makes them alternate exterior angles. This stays consistent with the other types: alternate interior angles are inside the lines on opposite sides, corresponding angles are in the same relative position at each intersection (not both exterior), and vertical angles are opposite angles formed at a single intersection.

10. Under a dilation with center at the origin and scale factor k , a point (x,y) maps to which coordinates?

A. $(x/k, y/k)$

B. (kx, ky)

C. $(x+y, y+x)$

D. (kx, y)

When you dilate with the center at the origin, you scale every distance from the origin by the factor k , keeping the direction from the origin the same. That means the position vector (x, y) becomes k times every component, giving (kx, ky) . For example, if $k = 2$, $(3, 4)$ goes to $(6, 8)$; if $k = 1/2$, it goes to $(1.5, 2)$. Negative k would flip the point to the opposite ray and scale its distance. The other possibilities don't keep the same direction and scale both coordinates by the same factor, so they don't represent the dilation about the origin.

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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://geometrycbe.examzify.com>

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

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