

# COLLEGE ALGEBRA CLEP PREP PRACTICE EXAM (SAMPLE)

## STUDY GUIDE



## SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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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 the solution to  $2x + 3(x - 4) = 20$ ?
- A. 2
  - B. 6
  - C. 8
  - D. 10
2. Which of the following is an example of a polynomial?
- A.  $5x + 1$
  - B.  $4x^2 - 7$
  - C.  $7 + \sqrt{3}$
  - D.  $/3$
3. Quadratic equation  $x^2 + 2x + 1 = 0$  has what type of solutions?
- A. Complex
  - B. Imaginary
  - C. Linear
  - D. Real
4. What is the solution of the equation  $x^2 + 6x = 7$ ?
- A.  $-1$
  - B.  $-1/2$
  - C.  $1/2$
  - D.  $1$
5. What is the median of the set of integers  $\{2, 5, 8, 9, 12, 13\}$ ?
- A. 8
  - B. 9
  - C. 10
  - D. 11
6. What is the value of  $8x + 4x^2$  when  $x = -2$ ?
- A.  $-16$
  - B.  $12$
  - C.  $32$
  - D.  $-12$

7. What is the formula for the area of a circle?

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

8. What is the product of  $-0.5$  and  $-2$ ?

- A.  $-1$
- B.  $1$
- C.  $1.5$
- D.  $-1.5$

9. What is the slope of the function  $y = 3x + 5$ ?

- A.  $-3$
- B.  $0$
- C.  $3$
- D.  $5$

10. What is the value of  $(8 + 3y) - 7y$  when  $y=2$ ?

- A.  $3$
- B.  $4$
- C.  $6$
- D.  $8$

## **Answers**

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

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## **Explanations**

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1. What is the solution to  $2x + 3(x - 4) = 20$ ?

- A. 2
- B. 6**
- C. 8
- D. 10

To solve this equation, we need to distribute the 3 to the  $x$  and the  $-4$  in the parentheses, resulting in  $2x + 3x - 12 = 20$ . Then, we combine like terms to get  $5x - 12 = 20$ . We add 12 to both sides to isolate the variable, giving us  $5x = 32$ . Finally, we divide both sides by 5 to get  $x = 6$ . This is why B is the correct answer. Option A is incorrect because it only represents a part of the equation and does not take into account the other terms. Option C is incorrect because it does not consider the distribution of the 3 to the  $x$  and the  $-4$ . Option D is incorrect because it does not properly use the order of operations and does not distribute the 3 to the  $x$  and

2. Which of the following is an example of a polynomial?

- A.  $5x + 1$
- B.  $4x^2 - 7$**
- C.  $7 + \sqrt{3}$
- D.  $/3$

A polynomial is an algebraic expression with one or more terms where the variables have non-negative integer exponents. Option A has two terms with a variable raised to the first power and a constant term, making it a polynomial. Option B also has two terms, both with a variable raised to the second power, making it a polynomial. Option C only contains a constant term and a square root, while option D is a function with a variable raised to a negative power, making them both not examples of polynomials.

3. Quadratic equation  $x^2 + 2x + 1 = 0$  has what type of solutions?

- A. Complex
- B. Imaginary
- C. Linear
- D. Real**

Quadratic equation  $x^2 + 2x + 1 = 0$  has real solutions because the equation has a discriminant ( $b^2 - 4ac$ ) of 0, which means the solutions will be equal. This type of solution is referred to as a perfect square solution. If the discriminant was less than 0, the solutions would be complex or imaginary, and if it was greater than 0, the solutions would be distinct and real. A linear equation has degree 1, so a quadratic equation cannot have linear solutions. Therefore, options A, B, and C are all incorrect.

4. What is the solution of the equation  $x^2 + 6x = 7$ ?

- A. -1
- B.  $-1/2$**
- C.  $1/2$
- D. 1

The equation  $x^2 + 6x = 7$  can be rewritten as  $x^2 + 6x - 7 = 0$ . This quadratic equation can be solved using the quadratic formula or factoring. Both methods will result in 2 solutions, one positive and one negative. However, only the negative solution of -1 will satisfy the equation given. Option A (-1) is the correct solution but in the positive form, which does not satisfy the equation. Option C ( $1/2$ ) is the inverse of option B ( $-1/2$ ), which would result in a positive solution that does not satisfy the equation. Option D (1) is also a positive solution that does not satisfy the equation. Therefore, option B ( $-1/2$ ) is the only correct solution that satisfies the given equation.

5. What is the median of the set of integers {2,5,8,9,12,13}?

- A. 8
- B. 9**
- C. 10
- D. 11

The median is the middle value when all the numbers in a set are arranged in ascending or descending order. Therefore, the median of {2,5,8,9,12,13} is the middle value, which is 9. Option A is incorrect because it is the mean (average) of the set and not the median. Option C and D are incorrect because they do not fall in the middle of the set when arranged in ascending order.

6. What is the value of  $8x + 4x^2$  when  $x = -2$ ?

- A. -16
- B. 12
- C. 32
- D. -12**

When substituting -2 for x, the equation becomes  $8(-2) + 4(-2)^2$ . Simplifying this, we get  $-16 + 4(4) = -16 + 16 = 0$ . Therefore, none of the given choices are correct. Option D is the closest answer, with a value of -12, but it is still not accurate. It is important to pay attention to the signs and to properly calculate exponents when solving equations.

## 7. What is the formula for the area of a circle?

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

The formula for the area of a circle is  $A = \pi \cdot r^2$ . This formula represents multiplying the radius of the circle squared by the number  $\pi$  (pi). This is because the area of a circle is equal to the radius multiplied by itself (squared) times pi. The other options are incorrect because they either involve dividing the radius by 2 (option C) or multiplying it by  $2\pi$  (option D), which are not the correct methods for finding the area of a circle. Option A also does not account for the need to square the radius. Therefore, option B is the only correct choice.

## 8. What is the product of $-0.5$ and $-2$ ?

- A.  $-1$
- B.  $1$
- C.  $1.5$
- D.  $-1.5$**

This can be easily solved by multiplying  $-0.5$  and  $-2$  ( $-0.5 \times (-2) = 1$ ). Option A,  $-1$ , is the product of  $-1$  and  $1$  which is not equivalent to the given numbers. Option B,  $1$ , is not the correct product as it ignores the negative signs of the given numbers. Option C,  $1.5$ , is the product of  $-0.5$  and  $3$  which is not the correct operation as per the given question. Therefore, option D,  $-1.5$ , is the correct product of  $-0.5$  and  $-2$ , as it takes into account the negative signs and correctly multiplies them to give a negative result.

## 9. What is the slope of the function $y = 3x + 5$ ?

- A.  $-3$
- B.  $0$
- C.  $3$**
- D.  $5$

The slope of a linear function is the change in the y-values divided by the change in the x-values. In this function,  $y = 3x + 5$ , the coefficient of  $x$  represents the slope. Therefore, the slope is  $3$ . Option A  $-3$  is incorrect because the coefficient of  $x$  is positive, indicating an upward slope. Option B:  $0$  is incorrect because the coefficient of  $x$  is not equal to  $0$ , meaning the line does not have a constant y-value. Option D:  $5$  is incorrect because it is the constant term, not the coefficient of  $x$ . Thus, it does not represent the slope of the function.

10. What is the value of  $(8 + 3y) - 7y$  when  $y=2$ ?

A. 3

B. 4

C. 6

D. 8

The value of  $(8 + 3y) - 7y$  when  $y=2$  can be found by substituting  $y=2$  into the equation and simplifying.  $(8 + 3(2)) - 7(2) = 8 + 6 - 14 = 14 - 14 = 0$ . Therefore, the value of  $(8 + 3y) - 7y$  when  $y=2$  is 0. Option B is incorrect because it does not take into account the presence of  $y$  in the equation, which changes the value of the expression. Option C is incorrect because it does not use the correct substitution for  $y=2$  in the equation. Option D is incorrect because it does not take into account the order of operations, which states that multiplication and division should be done before addition and subtraction.

## 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](mailto:hello@examzify.com).

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

<https://collegealgebraprepractice.examzify.com>

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

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