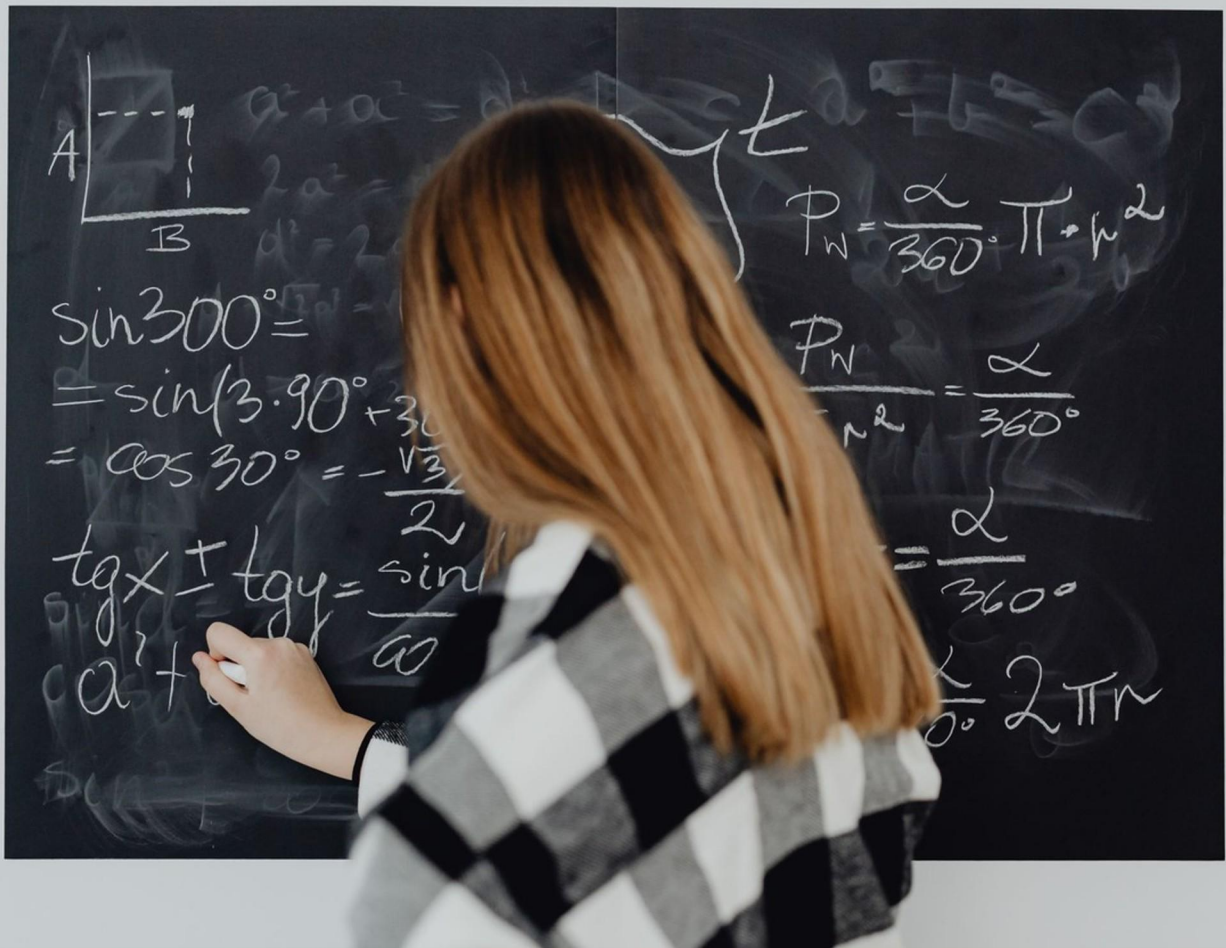


ALGEBRA PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE

<https://algebra.examzify.com>



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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. In the expression $4x - 3$, what is the constant term?

- A. -4
- B. -3
- C. 4
- D. 0

2. Which of the following represents the operation performed in 3^{-2} ?

- A. Multiplication
- B. Division
- C. Exponential
- D. Root

3. What is the product of -3 and -7?

- A. -21
- B. 21
- C. 10
- D. -10

4. If $3^{-2} = 1/x$, what is the value of x ?

- A. 9
- B. 3
- C. $1/3$
- D. $1/9$

5. What is the value of 10% of \$200?

- A. \$10
- B. \$15
- C. \$20
- D. \$25

6. What is the difference between the daytime high temperatures and nighttime low temperatures on the Moon, if the high is 130°C and the low is -110°C ?
- A. 240°C
 - B. 110°C
 - C. 130°C
 - D. 20°C
7. If the function $g(x) = 2x^2 - 3$, what is $g(-1)$?
- A. 2
 - B. 3
 - C. 5
 - D. -1
8. What is the value of the expression $(y)(z)$ for $y = -4$ and $z = -2$?
- A. 8
 - B. -8
 - C. 2
 - D. 0
9. What is the exponent needed to obtain 16 from a base of 2?
- A. 2
 - B. 4
 - C. 8
 - D. 3
10. What is the y-intercept of the line represented by $y = -x + 5$?
- A. 0
 - B. 1
 - C. 3
 - D. 5

Answers

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

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Explanations

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1. In the expression $4x - 3$, what is the constant term?

- A. -4
- B. -3**
- C. 4
- D. 0

In the expression $4x - 3$, the constant term is identified as the value that does not contain any variable, meaning it does not depend on the value of x . Here, the expression is made up of two parts: the term $4x$, which is a variable term since it includes the variable x and is dependent on its value, and the term -3 , which is a constant because it stands alone. Therefore, the constant term in the expression is indeed -3 , as it is the only part of the expression that remains unchanged regardless of the value of x . Hence, the correct identification of the constant term as -3 clarifies its role in the expression, separating it from the variable terms.

2. Which of the following represents the operation performed in 3^{-2} ?

- A. Multiplication
- B. Division
- C. Exponential**
- D. Root

The expression 3^{-2} indicates an operation involving exponentiation, specifically raising a base to a negative exponent. When you have a negative exponent, it reflects the concept of reciprocation. Thus, 3^{-2} is equivalent to $\frac{1}{3^2}$, which further simplifies to $\frac{1}{9}$. The correct choice is represented by the term exponential, as raising numbers (or bases) to a power is a fundamental concept in exponential operations. In this case, you are exponentially decreasing the value of 3 by squaring it and then taking the reciprocal due to the negative sign. Other options such as multiplication, division, and root do not accurately describe the operation involved in 3^{-2} . While division can appear as a result of the operation, it is not the primary operation being performed. Similarly, the concepts of multiplication and root do not apply directly to this expression, as they imply different mathematical operations. Understanding negative exponents is essential for grasping a broader range of mathematical concepts, especially in algebra.

3. What is the product of -3 and -7 ?

- A. -21
- B. 21**
- C. 10
- D. -10

To find the product of -3 and -7 , you multiply the two numbers together. When you multiply two negative numbers, the result is always positive. This is based on the rules of multiplication in mathematics, where the product of two negative integers yields a positive integer. In this case: - Multiply 3 and 7, which gives you 21. - Since both numbers being multiplied are negative, the product becomes positive. Thus, the product of -3 and -7 is 21. This is why the correct answer is the positive number 21, as it adheres to the rule that states that multiplying two negatives results in a positive value.

4. If $3^{-2} = 1/x$, what is the value of x ?

- A. 9
- B. 3
- C. $1/3$
- D. $1/9$

To solve the equation $3^{-2} = \frac{1}{x}$, we first need to evaluate 3^{-2} . The negative exponent indicates that we are dealing with the reciprocal of 3^2 . Thus, we can rewrite 3^{-2} as: $3^{-2} = \frac{1}{3^2}$. Calculating 3^2 gives us 9 . Therefore, 3^{-2} can be expressed as: $3^{-2} = \frac{1}{9}$. Now we have the equation: $\frac{1}{9} = \frac{1}{x}$. This indicates that x must equal 9 since both fractions are equal to each other in their reciprocal forms. To isolate x , we can cross-multiply or simply recognize that for the two fractions to be equal, the denominators must be the same. Thus, we deduce: $x = 9$. This aligns with the calculation showing that when we apply the property of exponents correctly, the

5. What is the value of 10% of \$200?

- A. \$10
- B. \$15
- C. \$20
- D. \$25

To determine the value of 10% of \$200, we start by understanding what a percentage represents. The term "percent" means "per hundred." Therefore, 10% can be expressed as a fraction: 10% is equal to $\frac{10}{100}$, which simplifies to 0.10 . Next, we calculate 10% of \$200 by multiplying \$200 by 0.10 : $200 \times 0.10 = 20$. Thus, the value of 10% of \$200 is \$20. When aligning this with the choices provided, it becomes clear that the correct answer is indeed \$20, as this matches the calculation we performed. The other values do not represent 10% of \$200, as we established through our calculations, confirming that the \$20 reflects the derived percentage accurately.

6. What is the difference between the daytime high temperatures and nighttime low temperatures on the Moon, if the high is 130°C and the low is -110°C ?

- A. 240°C
- B. 110°C
- C. 130°C
- D. 20°C

To calculate the difference between the daytime high temperature and nighttime low temperature on the Moon, you subtract the low temperature from the high temperature. In this case, you have a daytime high of 130°C and a nighttime low of -110°C . The calculation can be expressed as follows: Difference = High temperature - Low temperature. Difference = $130^{\circ}\text{C} - (-110^{\circ}\text{C})$. Difference = $130^{\circ}\text{C} + 110^{\circ}\text{C}$. Difference = 240°C . This shows that the temperature difference between the extreme high and the extreme low is indeed 240°C . Understanding this concept helps in grasping how to handle temperatures expressed in both positive and negative forms. It's crucial to remember that subtracting a negative number is equivalent to adding the absolute value of that number, which leads to the correct calculation of the temperature difference.

7. If the function $g(x) = 2x^2 - 3$, what is $g(-1)$?

- A. 2
- B. 3
- C. 5**
- D. -1

To find $g(-1)$ for the function $g(x) = 2x^2 - 3$, we need to substitute -1 for x in the function. Start by calculating -1 squared: $(-1)^2 = 1$. Next, multiply this result by 2: $2 * 1 = 2$. Now, subtract 3 from this result: $2 - 3 = -1$. Therefore, $g(-1)$ equals -1 . Since the calculated result does not match the selected answer, we can clarify that the correct computation shows that $g(-1)$ evaluates to -1 .

8. What is the value of the expression $(y)(z)$ for $y = -4$ and $z = -2$?

- A. 8**
- B. -8
- C. 2
- D. 0

To find the value of the expression $(y)(z)$, we substitute the given values for (y) and (z) . Here, $(y = -4)$ and $(z = -2)$. Now, we multiply the two values: $(y)(z) = (-4)(-2)$. When multiplying two negative numbers, the result is positive. Therefore: $(-4)(-2) = 8$. This shows that the value of the expression $(y)(z)$ is indeed 8. The understanding of the rule that multiplying negative numbers yields a positive product is key to arriving at the correct result.

9. What is the exponent needed to obtain 16 from a base of 2?

- A. 2
- B. 4**
- C. 8
- D. 3

To find the exponent needed to obtain 16 from a base of 2, we can express 16 as a power of 2. Specifically, 16 can be rewritten as (2^4) . This means that when the base (2) is raised to the exponent (4), it equals 16: $2^4 = 2 * 2 * 2 * 2 = 16$. Thus, the correct answer is that the exponent needed is 4. This illustrates the concept of exponents, where the base is multiplied by itself a certain number of times, dictated by the exponent itself. The other choices do not yield 16 when 2 is raised to those powers: $- 2$ raised to the power of 2 equals 4. $- 2$ raised to the power of 3 equals 8. $- 2$ raised to the power of 8 equals 256. This further confirms that the only exponent that correctly results in 16 is 4.

10. What is the y-intercept of the line represented by $y = -x + 5$?

- A. 0
- B. 1
- C. 3
- D. 5**

To determine the y-intercept of the line represented by the equation $y = -x + 5$, we need to understand what the y-intercept signifies. The y-intercept is the point where the line crosses the y-axis, which occurs when the value of x is zero. In the given equation, if we set $x = 0$: $y = -0 + 5$ $y = 5$. Thus, when x is 0, y equals 5. This means that the line crosses the y-axis at the point $(0, 5)$. Therefore, the y-intercept of this line is 5, confirming that the correct answer is indeed 5. Understanding the equation in this way illustrates how linear equations can be analyzed to find specific points on the graph, such as the y-intercept, simply by substituting the appropriate values for x .

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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://algebra.examzify.com>

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

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