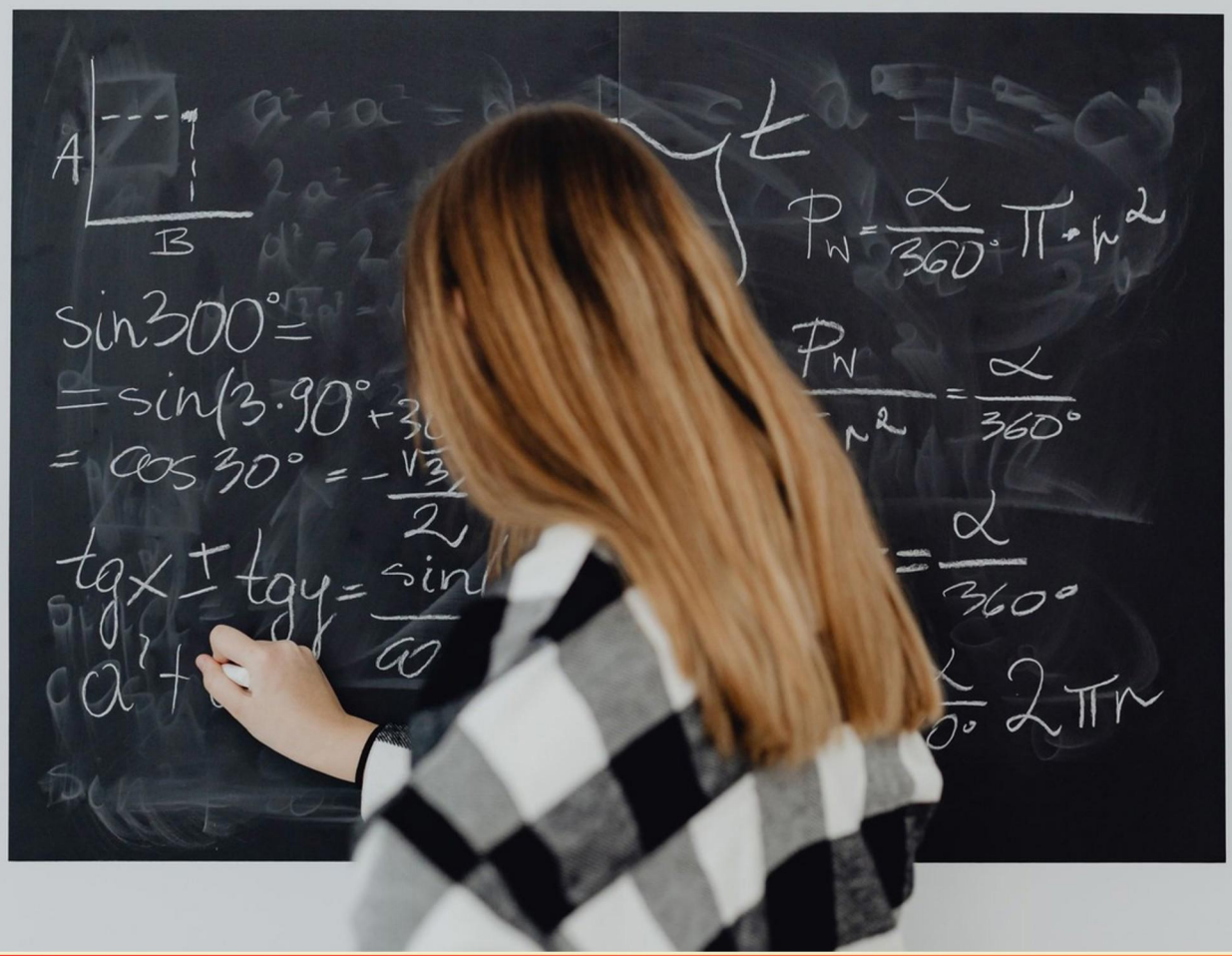
ALGEBRA PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

VISIT US ONLINE FOR THE FULL VERSION STUDY GUIDE

https://algebra.examzify.com

Copyright © 2026 by Examzify - A Kaluba Technologies Inc. product.

ALL RIGHTS RESERVED.

No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.

Notice: Examzify makes every reasonable effort to obtain accurate, complete, and timely information about this product from reliable sources.

SAMPLE

Table of Contents

Copyright 1

Table of Contents 2

Introduction 3

How to Use This Guide 4

Questions 5

Answers 8

Explanations 10

Next Steps 15

SAMPLE

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.

SAMPLE

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!

SAMPLE

Questions

SAMPLE

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

A. Multiplication

B. Division

C. Exponential

D. Root

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

A. 8

B. -8

C. 2

D. 0

3. What is the value of x in the equation 2x + 6 = 14?

A. x = 2

B. x = 3

C. x = 4

D. x = 5

4. What is the sum of the angles in a triangle?

A. 90 degrees

B. 180 degrees

C. 360 degrees

D. 120 degrees

5. What is the result of expanding the expression (x + 2)(x - 3)?

A. $x^2 - x - 6$

B. $x^2 + x - 6$

C. $x^2 - 6x + 6$

D. $x^2 + 6x - 6$

6. What is the expression for 5(x - 2) + 3x simplified?

A. 5x - 10

B. 8x - 10

C. 5x + 10

D. 8x + 10

SAMPLE

7. If f(x) = 3x + 2, what is f(5)?

A. 15

B. 17

C. 18

D. 20

8. In simplified exponential notation, what is a^2 • a^-3 • a?

A. 0

B. 1

C. a^n

D. a

9. What is the solution to the equation 2x + 3 = 11?

A. x = 5

B. x = 4

C. x = 3

D. x = 6

10. If the sum of two numbers is 10 and their difference is 4, what are the numbers?

A. 4 and 6

B. 5 and 5

C. 7 and 3

D. 6 and 4

SAMPLE

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. 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.

2. 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.

3. What is the value of x in the equation 2x + 6 = 14?

A. x = 2

B. x = 3

C. x = 4

D. x = 5

To find the value of x in the equation \(2x + 6 = 14\), we can solve for x by following these steps. First, we want to isolate the term containing x. To do this, we subtract 6 from both sides of the equation: \[2x + 6 - 6 = 14 - 6 \] This simplifies to: \[2x = 8 \] Next, to solve for x, we divide both sides by 2: \[\frac{2x}{2} = \frac{8}{2} \] This simplifies to: \[x = 4 \] Thus, the value of x is 4. The other options provide different numerical values and do not satisfy the equation when substituted back into the original equation. Only the solution x = 4 makes both sides of the equation equal when substituted back into the expression.

SAMPLE

4. What is the sum of the angles in a triangle?

A. 90 degrees

B. 180 degrees

C. 360 degrees

D. 120 degrees

The sum of the angles in a triangle is always 180 degrees, which is why this choice is the correct one. This fundamental property of triangles applies regardless of the type of triangle, be it an acute, obtuse, or right triangle. When you create a triangle and measure each of its internal angles, you will consistently find that when you add them together, they total 180 degrees. This provides a basis for numerous geometric principles and applications, such as determining unknown angles or solving problems involving triangles in various contexts. The other options do not align with this property; for instance, 90 degrees would be the angle measurements of a right triangle's acute angles, which is insufficient for a full triangle. The sum of 360 degrees applies to a full circle, while 120 degrees does not represent the angle sum in any triangle configuration. Recognizing that the angle sum of triangles is 180 degrees is essential for both basic geometry and more advanced mathematical concepts.

5. What is the result of expanding the expression (x + 2)(x - 3)?

A. $x^2 - x - 6$

B. $x^2 + x - 6$

C. $x^2 - 6x + 6$

D. $x^2 + 6x - 6$

To expand the expression (x + 2)(x - 3), we use the distributive property, commonly known as the FOIL method for binomials. This involves multiplying each term in the first binomial by each term in the second binomial. Here's how the expansion works: 1. First, we multiply the first terms: $x * x = x^2$. 2. Next, we multiply the outer terms: $x * (-3) = -3x$. 3. Then, we multiply the inner terms: $2 * x = 2x$. 4. Finally, we multiply the last terms: $2 * (-3) = -6$. Now, we combine all these results: - The first term gives us x^2. - The outer and inner terms combine as follows: $-3x + 2x = -x$. - The last term results in -6. Putting it all together, the final expression is: $x^2 - x - 6$. This matches the expression provided in the answer choice, confirming that this is indeed the correct result of expanding (x + 2)(x - 3).

6. What is the expression for 5(x - 2) + 3x simplified?

A. 5x - 10

B. 8x - 10

C. 5x + 10

D. 8x + 10

To simplify the expression 5(x - 2) + 3x, you first distribute the 5 to both terms inside the parentheses. This results in: $5 * x - 5 * 2$, which gives you 5x - 10. Now, the expression can be rewritten as: 5x - 10 + 3x. Next, you combine the like terms, which are the terms involving x. You have 5x and 3x, which combine to make 8x. Thus, you rewrite the expression as: 8x - 10. The final simplified expression is 8x - 10.

SAMPLE

7. If f(x) = 3x + 2, what is f(5)?

A. 15

B. 17

C. 18

D. 20

To find the value of f(5) for the function f(x) = 3x + 2, you need to substitute 5 in place of x in the equation. Here's how to compute it step-by-step: 1. Start with the function: f(x) = 3x + 2. 2. Substitute 5 for x: f(5) = 3(5) + 2. 3. Multiplying 3 by 5 gives you 15: f(5) = 15 + 2. 4. Finally, add 2 to 15: f(5) = 17. Thus, the value of f(5) is 17, confirming that the correct answer is indeed the choice representing 17. This demonstrates how to evaluate a linear function at a specific point by substituting the input value into the function's formula.

8. In simplified exponential notation, what is a^2 • a^-3 • a?

A. 0

B. 1

C. a^n

D. a

To solve the expression $a^2 \cdot a^{-3} \cdot a$, we use the laws of exponents, particularly the property that states when multiplying like bases, you add the exponents. Start by rewriting the last term a as a^1: $$a^2 \cdot a^{-3} \cdot a^{1}$$ Next, add the exponents together: $$2 + (-3) + 1 = 2 - 3 + 1 = 0$$ Thus, the expression simplifies to: $$a^0$$ According to the exponent rules, any non-zero base raised to the power of 0 equals 1: $$a^0 = 1$$ Therefore, the expression simplifies to 1. This is why the correct answer is that the expression equals 1. The other options do not align with the rules of exponentiation for the given expression.

9. What is the solution to the equation 2x + 3 = 11?

A. x = 5

B. x = 4

C. x = 3

D. x = 6

To solve the equation 2x + 3 = 11, you start by isolating the variable x. First, subtract 3 from both sides of the equation. This results in: 2x + 3 - 3 = 11 - 3, which simplifies to 2x = 8. Next, to solve for x, divide both sides of the equation by 2: 2x / 2 = 8 / 2, which simplifies to x = 4. Therefore, the solution to the equation is x = 4, confirming the correct answer. This process highlights the importance of maintaining balance in the equation while isolating the variable.

SAMPLE

10. If the sum of two numbers is 10 and their difference is 4, what are the numbers?

A. 4 and 6

B. 5 and 5

C. 7 and 3

D. 6 and 4

To determine the correct numbers from the information given—the sum is 10 and the difference is 4—you can set up a system of equations. Let's define the two numbers as \(x \) and \(y \). From the sum, you can express it as: 1. \(x + y = 10 \) From the difference, you have: 2. \(x - y = 4 \) Now, you can solve these equations. Start by rearranging the first equation to express one variable in terms of the other: \(y = 10 - x \) Next, substitute this expression for \(y \) into the second equation: \(x - (10 - x) = 4 \) This simplifies to: \(x - 10 + x = 4 \) Combine like terms: \(2x - 10 = 4 \) Add 10 to both sides: \(2x = 14 \) Now, divide by 2: \(x = 7 \) Now that you know \(x \), substitute back to find \(y \): \(y = 10 - 7 = 3 \) Thus, the numbers are 7 and 3. This

SAMPLE

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!

SAMPLE