

Assessment and Learning in Knowledge Spaces (ALEKS) Basic Math Placement Practice Test (Sample)

Study Guide



Everything you need from our exam experts!

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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. How should you approach solving problems like $5 - 2(1/3)$?
 - A. Perform operations from left to right
 - B. Rewrite the whole numbers and separate terms
 - C. Multiply 2 by 1 and subtract
 - D. Set up the problem as a fraction

2. How do you simplify the expression $3(x + 4)$?
 - A. $3x + 4$
 - B. $3x + 7$
 - C. $3x + 12$
 - D. $3x + 16$

3. What is the next prime number after 7?
 - A. 9
 - B. 10
 - C. 11
 - D. 13

4. If $3x = 12$, what is the value of x ?
 - A. 2
 - B. 3
 - C. 4
 - D. 5

5. What is the greatest common factor (GCF) of 18 and 24?
 - A. 4
 - B. 6
 - C. 12
 - D. 18

6. What is the formula for calculating simple interest?
 - A. $I = P + rt$
 - B. $I = Prt$
 - C. $I = r + t$
 - D. $I = P - r$

7. At what angle measure is a right angle?
- A. 90 degrees
 - B. 45 degrees
 - C. 180 degrees
 - D. 360 degrees
8. What is the absolute value of -7?
- A. -7
 - B. 0
 - C. 7
 - D. 14
9. How can you check if a solution is correct for the equation $4x - 12 = 0$?
- A. Substitute x back into the equation
 - B. Multiply the equation by 4
 - C. Add 12 to both sides
 - D. Subtract 4 from both sides
10. If $(\frac{7}{2})^{-2}$ can be rewritten as $(\frac{2}{7})^2$, which of the following represents squaring the fraction?
- A. $(2^2)/(7^2)$
 - B. $2+7$
 - C. $(2-7)^2$
 - D. $(2 \times 7)^2$

Answers

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

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Explanations

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1. How should you approach solving problems like $5 - 2(1/3)$?

- A. Perform operations from left to right
- B. Rewrite the whole numbers and separate terms**
- C. Multiply 2 by 1 and subtract
- D. Set up the problem as a fraction

The correct approach to solving the expression $(5 - 2(1/3))$ involves understanding how to properly handle the order of operations, and choosing to rewrite the whole numbers and separate terms can be helpful in this context. This method allows you to clarify each component of the problem, making it easier to visualize and correct any potential mistakes as you perform subsequent calculations. By separating the terms, you can clearly identify the distinct parts of the expression: the whole number (5) , the multiplication $(2 \times \frac{1}{3})$, and the subtraction that combines them. This organization helps you maintain accuracy throughout the operations. Once you have rewritten the expression in a clearer form, you can follow the order of operations, where multiplication occurs before subtraction. You would calculate $(2 \times \frac{1}{3} = \frac{2}{3})$ first, and then proceed with the subtraction from (5) . This structured approach prevents confusion and ensures you correctly apply mathematical principles. In this scenario, effectively managing how the terms are represented and understood is paramount to solving the problem correctly.

2. How do you simplify the expression $3(x + 4)$?

- A. $3x + 4$
- B. $3x + 7$
- C. $3x + 12$**
- D. $3x + 16$

To simplify the expression $3(x + 4)$, you need to apply the distributive property, which states that $a(b + c) = ab + ac$. In this context, you distribute the 3 to both terms inside the parentheses. First, you take the term x inside the parentheses and multiply it by 3, which gives you $3x$. Next, you take the constant 4 and also multiply it by 3, resulting in 12. Putting it all together, the expression simplifies to $3x + 12$. This is why the correct simplification of $3(x + 4)$ leads to the result $3x + 12$.

3. What is the next prime number after 7?

- A. 9
- B. 10
- C. 11**
- D. 13

To determine the next prime number after 7, we first need to understand the definition of a prime number. A prime number is greater than 1 and has no positive divisors other than 1 and itself. Starting from the first prime number following 7, we check the integers in succession: - The number 8 is not prime because it can be divided by 1, 2, 4, and 8. - The number 9 is also not prime because it can be divided by 1, 3, and 9. - The number 10 is not prime since it can be divided by 1, 2, 5, and 10. When we reach 11, we find that it cannot be divided evenly by any number other than 1 and 11. This means that 11 meets the criteria of a prime number. Following 11, the next candidates would be 12 and beyond, but since we are looking for the next prime number immediately after 7, 11 is the correct answer. The subsequent prime number after 11 is 13, but that is not what the question asks for. Thus, 11 is confirmed as the next prime number after 7.

4. If $3x = 12$, what is the value of x ?

- A. 2
- B. 3
- C. 4**
- D. 5

To find the value of x in the equation $(3x = 12)$, you need to isolate x by dividing both sides of the equation by 3. So, you start with the equation: $(3x = 12)$ Now, divide both sides by 3: $(x = \frac{12}{3})$ Calculating that gives: $(x = 4)$ Thus, when the equation is simplified appropriately, x equals 4. This is the correct answer because it fulfills the original equation when substituted back; multiplying 4 by 3 results in 12. This confirms that the calculated value of x is accurate and verifies the solution to the equation.

5. What is the greatest common factor (GCF) of 18 and 24?

- A. 4
- B. 6**
- C. 12
- D. 18

To find the greatest common factor (GCF) of two numbers, in this case, 18 and 24, you can start by determining the factors of each number. The factors of 18 are: 1, 2, 3, 6, 9, and 18. The factors of 24 are: 1, 2, 3, 4, 6, 8, 12, and 24. Next, identify the common factors between the two sets. The common factors of 18 and 24 are: 1, 2, 3, and 6. Among these, the largest is 6. Therefore, the greatest common factor of 18 and 24 is 6. This value is significant because the GCF represents the largest integer that can divide both numbers without leaving a remainder, making it useful in various applications such as simplifying fractions, finding least common multiples, or solving problems involving ratios.

6. What is the formula for calculating simple interest?

- A. $I = P + rt$
- B. $I = Prt$**
- C. $I = r + t$
- D. $I = P - r$

The formula for calculating simple interest is given by the equation $(I = Prt)$, where (I) represents the interest earned, (P) stands for the principal amount (the initial sum of money), (r) is the rate of interest per time period (expressed as a decimal), and (t) is the time the money is invested or borrowed for, typically measured in years. This formula directly reflects how simple interest accumulates. The interest earned is proportional to both the amount of money (the principal) and the duration of the investment or loan, scaled by the interest rate. This means that if you increase any of these factors—either the principal, the interest rate, or the time period—the total interest will increase accordingly. Understanding this formula is crucial in finance, as it helps individuals calculate how much they will earn from savings or pay on loans without the complexities of compounding interest.

7. At what angle measure is a right angle?

- A. 90 degrees**
- B. 45 degrees**
- C. 180 degrees**
- D. 360 degrees**

A right angle is defined as an angle that measures exactly 90 degrees. This measurement is universally recognized in geometry and is foundational in various mathematical applications, such as in the definition of perpendicular lines. When two lines intersect at a right angle, they create four angles that are all equal to 90 degrees. The characterization of right angles is fundamental in both theoretical and applied mathematics, including architecture, engineering, and various fields where angles play a crucial role. The other angle measures provided do not represent right angles: 45 degrees is an acute angle, 180 degrees is a straight angle, and 360 degrees corresponds to a full rotation. Thus, the choice of 90 degrees unmistakably defines a right angle.

8. What is the absolute value of -7?

- A. -7**
- B. 0**
- C. 7**
- D. 14**

The absolute value of a number is defined as its distance from zero on the number line, regardless of direction. This means that the absolute value is always non-negative. For the number -7, its absolute value is determined by removing the negative sign, which gives us 7. Therefore, the absolute value of -7 is 7. This is why the correct answer is 7. The concept of absolute value can be particularly useful in various mathematical contexts, such as solving equations and understanding distances. It helps to express quantities in a standard format without considering their sign, ensuring that distance and magnitude are represented accurately.

9. How can you check if a solution is correct for the equation $4x - 12 = 0$?

- A. Substitute x back into the equation**
- B. Multiply the equation by 4**
- C. Add 12 to both sides**
- D. Subtract 4 from both sides**

To determine if a solution is correct for the equation $(4x - 12 = 0)$, the best approach is to substitute the value of (x) back into the original equation. This process involves replacing (x) with the solution you found and then simplifying the equation to see if both sides are equal. For example, if you solved the equation and found $(x = 3)$, you would substitute 3 for (x) in the equation: $[4(3) - 12 = 0.]$ Calculating this gives: $[12 - 12 = 0,]$ which confirms that the left side equals the right side, verifying that $(x = 3)$ is indeed the correct solution. Other methods, such as multiplying the equation by 4, adding 12 to both sides, or subtracting 4 from both sides, do not directly validate a solution; instead, they change the original equation without confirming its equality for the particular value of (x) . Therefore, substitution is the most effective and appropriate method for checking the correctness of a solution in this context.

10. If $(\frac{7}{2})^{-2}$ can be rewritten as $(\frac{2}{7})^2$, which of the following represents squaring the fraction?

A. $(2^2)/(7^2)$

B. $2+7$

C. $(2-7)^2$

D. $(2 \times 7)^2$

When you square a fraction, you square both the numerator and the denominator separately. In this case, when you have $(\frac{2}{7})$ and you want to square it, you would calculate $(\frac{2}{7})^2$. This results in squaring the numerator (2) and squaring the denominator (7), which can be expressed as $(2^2)/(7^2)$. So, the correct answer illustrates this process perfectly, showing that when the fraction $\frac{2}{7}$ is squared, it becomes $(2^2)/(7^2)$. This is the correct representation of squaring the fraction. The other choices, while potentially interesting, do not reflect the action of squaring both parts of the fraction as required.

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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://aleks-basicmathplacement.examzify.com>

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

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