

Praxis Elementary Education: Mathematics CKT (7813) Practice Exam (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. A vehicle travels at a speed of 60 miles per hour. How far does it travel in feet in 1 hour?
 - A. 3,960 feet
 - B. 4,800 feet
 - C. 5,280 feet
 - D. 6,000 feet

2. In a fraction, what is the top number called?
 - A. Denominator
 - B. Cardinal
 - C. Numerator
 - D. Factor

3. What does inequality indicate?
 - A. A mathematical statement without numbers
 - B. A comparison of two quantities using symbols
 - C. A method of solving equations
 - D. A calculation of average values

4. What is the equivalent fraction of 50%?
 - A. $\frac{1}{3}$
 - B. $\frac{1}{4}$
 - C. $\frac{1}{2}$
 - D. $\frac{2}{3}$

5. What is the formula for the area of a circle?
 - A. $A = 2\pi r$
 - B. $A = \pi r^2$
 - C. $A = r^2\pi/2$
 - D. $A = 2r$

6. In an isosceles triangle, what can be said about the angles?
 - A. All angles are equal
 - B. Two angles are equal
 - C. No angles are equal
 - D. One angle is 90 degrees

7. How many sides does a hexagon have?

- A. 4
- B. 5
- C. 6
- D. 7

8. Which number is a prime number?

- A. 9
- B. 11
- C. 15
- D. 21

9. What is the next number in the sequence: 2, 4, 8, 16?

- A. 24
- B. 30
- C. 32
- D. 36

10. How many faces does a cube have?

- A. 5
- B. 6
- C. 7
- D. 8

Answers

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

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Explanations

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1. A vehicle travels at a speed of 60 miles per hour. How far does it travel in feet in 1 hour?

- A. 3,960 feet
- B. 4,800 feet**
- C. 5,280 feet
- D. 6,000 feet

To determine the distance a vehicle travels in feet when moving at a speed of 60 miles per hour for 1 hour, it's first essential to convert miles to feet. 1 mile is equivalent to 5,280 feet. Therefore, if the vehicle is traveling at 60 miles in one hour, the calculation for distance in feet would be: $60 \text{ miles} \times 5,280 \text{ feet/mile} = 316,800 \text{ feet}$. This represents a huge error in the given answer since it calculates the correct distance traveled based on the relationship between miles and feet. So, the correct answer is that in 1 hour, at a speed of 60 miles per hour, the vehicle travels 316,800 feet. None of the provided options are accurate—indicating the result of the calculation should reflect 316,800 feet despite the options presented. This oversight underscores the importance of accurate unit conversions in calculations involving different measurement systems.

2. In a fraction, what is the top number called?

- A. Denominator
- B. Cardinal
- C. Numerator**
- D. Factor

In a fraction, the top number refers to the part that indicates how many parts of a whole are being considered. This is known as the numerator. The numerator plays an essential role in defining the value of the fraction, as it tells you the count of the parts being taken from the total. For instance, in the fraction $\frac{3}{4}$, the 3 is the numerator, indicating three parts out of four total parts. Understanding the placement and function of the numerator is crucial for comprehension of how fractions work, including performing operations like addition, subtraction, multiplication, and division with fractions. The terms denominator, cardinal, and factor refer to different mathematical concepts that do not specifically identify the top number in a fraction. The denominator is the bottom number in a fraction representing the total number of equal parts, while cardinal numbers refer to counting numbers (like 1, 2, 3) rather than a specific role in fractions, and factors indicate numbers that divide another number without leaving a remainder.

3. What does inequality indicate?

- A. A mathematical statement without numbers
- B. A comparison of two quantities using symbols**
- C. A method of solving equations
- D. A calculation of average values

Inequality indicates a comparison of two quantities using symbols, such as "greater than," "less than," "greater than or equal to," and "less than or equal to." These symbols allow us to express relationships between different values, showcasing how one quantity stands in relation to another. This concept is fundamental in mathematics because it helps represent situations where sizes, amounts, or values are not equal, enabling us to understand and analyze variances between them. Understanding inequalities is crucial in various mathematical concepts, such as solving inequalities, graphing solutions on a number line, or analyzing functions. For instance, inequalities can illustrate constraints in real-world scenarios, such as budget limits or resource allocations. Hence, recognizing that inequalities serve as a tool to express relationships between numbers accurately reflects their significance in both theoretical and practical applications in mathematics.

4. What is the equivalent fraction of 50%?

- A. $1/3$
- B. $1/4$
- C. $1/2$**
- D. $2/3$

To determine the equivalent fraction of 50%, it is useful to understand what a percentage represents. Percentages are a way to express a number as a fraction of 100. Therefore, 50% can be mathematically expressed as: $50\% = 50/100$. Next, this fraction can be simplified. Both the numerator (50) and the denominator (100) can be divided by their greatest common divisor, which is 50. Performing this operation: $50 \div 50 = 1$ $100 \div 50 = 2$. This results in the simplified fraction: $50/100 = 1/2$. Thus, 50% is equivalent to the fraction $1/2$. This understanding is important for converting percentages to fractions and vice versa, which is a foundational concept in elementary mathematics.

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

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

The formula for the area of a circle is derived from its geometric properties. It states that the area (A) is equal to π times the radius (r) squared, which is represented as $A = \pi r^2$. This reflects how the area is related to the radius; as the radius increases, the area grows exponentially since it is squared. The presence of π in the formula accounts for the circle's constant ratio of circumference to diameter, which is approximately 3.14. This means that if you know the radius of a circle, you can calculate the area by squaring that radius and then multiplying by π . Understanding this relationship is fundamental in many areas of mathematics and physics, as it allows for calculations related to circles in various applications. The other options provided do not correctly represent the relationship between radius and area for a circle, which is why the answer $A = \pi r^2$ is the only correct choice.

6. In an isosceles triangle, what can be said about the angles?

- A. All angles are equal
- B. Two angles are equal**
- C. No angles are equal
- D. One angle is 90 degrees

In an isosceles triangle, it is defined by having at least two sides that are of equal length. The angles opposite these equal sides are also equal in measure. This property stems from the fact that in any triangle, the interior angles must sum up to 180 degrees. Consequently, if two angles are equal, the third angle can be determined by subtracting the sum of the two equal angles from 180 degrees. Thus, the statement that two angles are equal accurately describes the properties of an isosceles triangle, making it a distinguishing characteristic of such triangles. In contrast, other options do not align with the properties of an isosceles triangle; for instance, having all angles equal would refer to an equilateral triangle, while stating no angles are equal describes a scalene triangle. Denoting one angle as 90 degrees does not inherently relate to isosceles triangles, as they can have various angle measures, including both acute and obtuse angles.

7. How many sides does a hexagon have?

- A. 4
- B. 5
- C. 6**
- D. 7

A hexagon is defined as a polygon with six sides. The term "hexagon" is derived from the Greek word "hex," which means six, and "gon," which refers to angles or sides. In geometry, the properties of a hexagon include having six angles and six vertices as well. Each side of a hexagon can be of equal length, making it a regular hexagon, or the sides may vary, indicating an irregular hexagon. Importantly, the identification of polygons by the number of their sides is a fundamental concept in geometry. Therefore, the correct identification of a hexagon as having six sides is essential for understanding various geometric properties and classifications.

8. Which number is a prime number?

- A. 9
- B. 11**
- C. 15
- D. 21

A prime number is defined as a natural number greater than 1 that has no positive divisors other than 1 and itself. In other words, it cannot be formed by multiplying two smaller natural numbers. In this question, 11 meets the criteria for a prime number. Its only divisors are 1 and 11, meaning it cannot be divided evenly by any other integer. On the other hand, the other numbers listed do not qualify as prime: - 9 can be divided evenly by 1, 3, and 9, highlighting that it has multiple factors. - 15 has divisors of 1, 3, 5, and 15, showing it is also not prime. - 21 can be divided by 1, 3, 7, and 21, confirming it is not a prime number either. Thus, 11 is the only number in the list that is prime, as it exclusively meets the definition without any other factors present.

9. What is the next number in the sequence: 2, 4, 8, 16?

- A. 24
- B. 30
- C. 32**
- D. 36

To identify the next number in the sequence 2, 4, 8, 16, one should observe the pattern in the progression of numbers. Each number in the sequence is obtained by multiplying the previous number by 2. Starting with 2, when multiplied by 2, we get 4. Continuing this pattern, multiplying 4 by 2 results in 8, and then multiplying 8 by 2 leads to 16. Following this consistent multiplication of 2, we take the last number in the sequence (16) and again multiply it by 2. Calculating this gives us: $16 \times 2 = 32$. Thus, the next number in the sequence is 32, confirming that this choice follows the established pattern of doubling each previous term in the sequence. The option representing this answer aligns perfectly with the mathematical behavior exhibited in the series.

10. How many faces does a cube have?

- A. 5
- B. 6**
- C. 7
- D. 8

A cube has six faces, which are all square in shape and congruent to each other. This solid geometric figure is defined by having equal lengths for all its edges and maintaining right angles between its faces. The six faces correspond to the three pairs of opposite faces - one pair for each dimension (length, width, and height). Since a cube is a three-dimensional object, it encloses a volume and has distinct flat surfaces that collectively form its structure, resulting in a total of six separate faces. Understanding this fundamental characteristic of a cube is essential in geometry and helps in visualizing and working with three-dimensional shapes in various mathematical contexts.

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://praxiselemeducmathckt.examzify.com>

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

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