

Praxis Elementary Education: Mathematics CKT (7813) Practice Exam (Sample)

Study Guide



Everything you need from our exam experts!

This is a sample study guide. To access the full version with hundreds of 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. Don't worry about getting everything right, 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, and take breaks to retain information better.

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.

7. Use Other Tools

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!

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Questions

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- 1. What is the formula for slope intercept form of a linear equation?**
 - A. $y=mx+b$**
 - B. $A=lw$**
 - C. Probability = favorable outcomes/total outcomes**
 - D. x_2-y_2/x_1-y_1**
- 2. If a rectangle has a length of 8 m and a width of 3 m, what is its diagonal length?**
 - A. 7.21 m**
 - B. 8.54 m**
 - C. 9.00 m**
 - D. 10.00 m**
- 3. What does the associative property allow you to do in an equation?**
 - A. Change the order of the addends**
 - B. Change the grouping of the addends**
 - C. Add zero to any number**
 - D. Combine addition and subtraction**
- 4. To calculate the degrees in a pentagon, what formula would you use?**
 - A. 3×180**
 - B. $(5 - 2) \times 180$**
 - C. 5×180**
 - D. $5 - 2$**
- 5. How many days are in a leap year?**
 - A. 364**
 - B. 365**
 - C. 366**
 - D. 367**

- 6. Which mathematical operation is associated with the concept of exponent?**
- A. Addition
B. Multiplication
C. Division
D. Power
- 7. If a class has 20 students and 12 are girls, what fraction of the class are boys?**
- A. $1/2$
B. $2/5$
C. $3/4$
D. $1/4$
- 8. Which decimal represents the fraction of $1/5$?**
- A. 0.2
B. 0.5
C. 0.25
D. 0.75
- 9. In terms of distances, which is greater: 5,280 feet or 1 mile?**
- A. 5,280 feet
B. 1 mile
C. Both are equal
D. 1,600 yards
- 10. All integers are classified as which type of numbers?**
- A. Natural numbers
B. Composite numbers
C. Whole numbers
D. Rational numbers

Answers

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

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Explanations

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1. What is the formula for slope intercept form of a linear equation?

- A. y=mx+b**
- B. A=lw**
- C. Probability = favorable outcomes/total outcomes**
- D. x2-y2/x1-y1**

The formula for slope-intercept form of a linear equation is expressed as $y = mx + b$. In this formula, 'y' represents the dependent variable, while 'x' is the independent variable. The 'm' in the equation signifies the slope of the line, indicating how much 'y' changes for a unit change in 'x'. The 'b' represents the y-intercept, which is the value of 'y' when 'x' is zero. This form is particularly useful in graphing linear equations because it clearly shows the slope and where the line crosses the y-axis. Understanding this format allows for easy interpretation of linear relationships, making it valuable in various mathematical and real-world applications, such as predicting trends.

2. If a rectangle has a length of 8 m and a width of 3 m, what is its diagonal length?

- A. 7.21 m**
- B. 8.54 m**
- C. 9.00 m**
- D. 10.00 m**

To find the diagonal length of a rectangle, you can use the Pythagorean theorem, which states that in a right triangle, the square of the length of the hypotenuse (in this case, the diagonal of the rectangle) is equal to the sum of the squares of the lengths of the other two sides (the length and width of the rectangle). In this scenario, the length of the rectangle is 8 meters and the width is 3 meters. According to the Pythagorean theorem, the diagonal (d) can be calculated using the formula: $d = \sqrt{\text{length}^2 + \text{width}^2}$. Substituting the given dimensions into the formula: $d = \sqrt{8^2 + 3^2}$. $d = \sqrt{64 + 9}$. $d = \sqrt{73}$. Calculating the square root of 73 yields approximately 8.54 meters. This calculation aligns with the given choice of 8.54 m. This choice is correct because it accurately follows the principles of the Pythagorean theorem and uses the correct measurements of the rectangle's dimensions. Thus, the diagonal length of

3. What does the associative property allow you to do in an equation?

- A. Change the order of the addends
- B. Change the grouping of the addends**
- C. Add zero to any number
- D. Combine addition and subtraction

The associative property focuses on how numbers are grouped in an equation, rather than their order. When using the associative property, it does not matter how the numbers are grouped in terms of parentheses; the sum (in addition) remains the same regardless of how the numbers are arranged. For example, in the expression $(a + b) + c$, you can regroup it as $a + (b + c)$ without changing the outcome of the addition. This property is essential for simplifying calculations and understanding how to manipulate expressions effectively. This characteristic distinguishes it from other properties, such as the commutative property, which indeed deals with changing the order of the addends, or properties related to the identity element, like adding zero, or the combination of different operations, such as addition and subtraction.

4. To calculate the degrees in a pentagon, what formula would you use?

- A. 3×180
- B. $(5 - 2) \times 180$**
- C. 5×180
- D. $5 - 2$

In a pentagon, the formula to calculate the total sum of the interior angles is based on the number of sides (n) the polygon has. The formula is $(n - 2) \times 180$ degrees. Since a pentagon has 5 sides, substituting 5 into the formula gives us $(5 - 2) \times 180$, which simplifies to 3×180 . Thus, the total sum of the interior angles for a pentagon is 540 degrees. This formula works because it calculates how many triangles can be formed within the polygon; each triangle has a total of 180 degrees. For a pentagon, you can create three triangles (hence, 5 sides - 2 equals 3), leading to the total angle sum. Using this reasoning, it is clear why the selected option is the correct choice for finding the total degrees in a pentagon.

5. How many days are in a leap year?

- A. 364
- B. 365
- C. 366**
- D. 367

A leap year contains 366 days, which is one day more than the standard 365 days in a common year. This additional day occurs on February 29th, which is added to the calendar every four years to help synchronize the calendar year with the solar year. This adjustment accounts for the fact that a complete orbit of the Earth around the Sun takes approximately 365.25 days. The leap year system is designed to ensure that calendar dates remain consistent with the seasons over time. Therefore, the correct answer reflects this understanding of leap years in relation to the annual calendar.

6. Which mathematical operation is associated with the concept of exponent?

- A. Addition**
- B. Multiplication**
- C. Division**
- D. Power**

The association of exponent with the concept of power is fundamental in mathematics. An exponent indicates how many times a base number is multiplied by itself. For example, in the expression (2^3) , the number 2 is the base, and the exponent 3 indicates that 2 is multiplied by itself three times: $(2 \times 2 \times 2)$, which equals 8. This operation signifies that exponents are intrinsically linked to the concept of power, reflecting how many times a number (the base) is used as a factor. Therefore, recognizing that an exponent signifies a power helps solidify an understanding of exponential notation and its wider applications in mathematics.

7. If a class has 20 students and 12 are girls, what fraction of the class are boys?

- A. 1/2**
- B. 2/5**
- C. 3/4**
- D. 1/4**

To determine the fraction of the class that are boys, start by finding the number of boys in the class. Given that there are 20 students in total and 12 of them are girls, you can calculate the number of boys by subtracting the number of girls from the total number of students: 20 students - 12 girls = 8 boys. Now that you have the count of boys, you can express this as a fraction of the total number of students. The fraction is given by the number of boys over the total number of students: 8 boys / 20 students. To simplify this fraction, divide both the numerator and the denominator by their greatest common divisor, which is 4: $(8 \div 4) / (20 \div 4) = 2/5$. This shows that 2/5 of the class consists of boys. Therefore, this fraction correctly represents the proportion of boys in the class.

8. Which decimal represents the fraction of 1/5?

- A. 0.2**
- B. 0.5**
- C. 0.25**
- D. 0.75**

To convert the fraction 1/5 to a decimal, you can perform the division of the numerator by the denominator. In this case, you divide 1 by 5. When you do this division, you find that 1 divided by 5 equals 0.2. This means that one-fifth can be expressed as a decimal of 0.2. This is confirmed by the mathematical fact that when you divide 1 into 5 equal parts, each part is represented by the value of 0.2. Understanding this concept is fundamental in both recognizing equivalent fractions and in performing operations that require converting between fractions and decimals. The decimal 0.2 accurately reflects the value of the fraction 1/5.

9. In terms of distances, which is greater: 5,280 feet or 1 mile?

- A. 5,280 feet**
- B. 1 mile**
- C. Both are equal**
- D. 1,600 yards**

To determine which is greater between 5,280 feet and 1 mile, it is important to recognize that 1 mile is defined as exactly 5,280 feet. This means that both measurements represent the same distance. In this context, when evaluating any options that involve comparisons of distance, understanding the standard definitions of units is key. Since 1 mile is equivalent to 5,280 feet, that equivalence leads to the conclusion that both distances are equal and hence supports the correct answer. The comparison reinforces the necessity of grasping conversion factors between different units of distance, ensuring clarity when comparing distances in future situations.

10. All integers are classified as which type of numbers?

- A. Natural numbers**
- B. Composite numbers**
- C. Whole numbers**
- D. Rational numbers**

Integers are classified as rational numbers because they can be expressed as a fraction where the numerator is an integer and the denominator is a non-zero integer. For example, the integer 3 can be expressed as $3/1$, and -2 can be expressed as $-2/1$. Rational numbers include all integers, fractions, and whole numbers, as long as they can be represented as the ratio of two integers. This classification is significant because it encompasses not just positive and negative whole numbers, but also zero, making it a more inclusive category. Understanding this helps clarify the broader relationships between different sets of numbers in mathematics.

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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