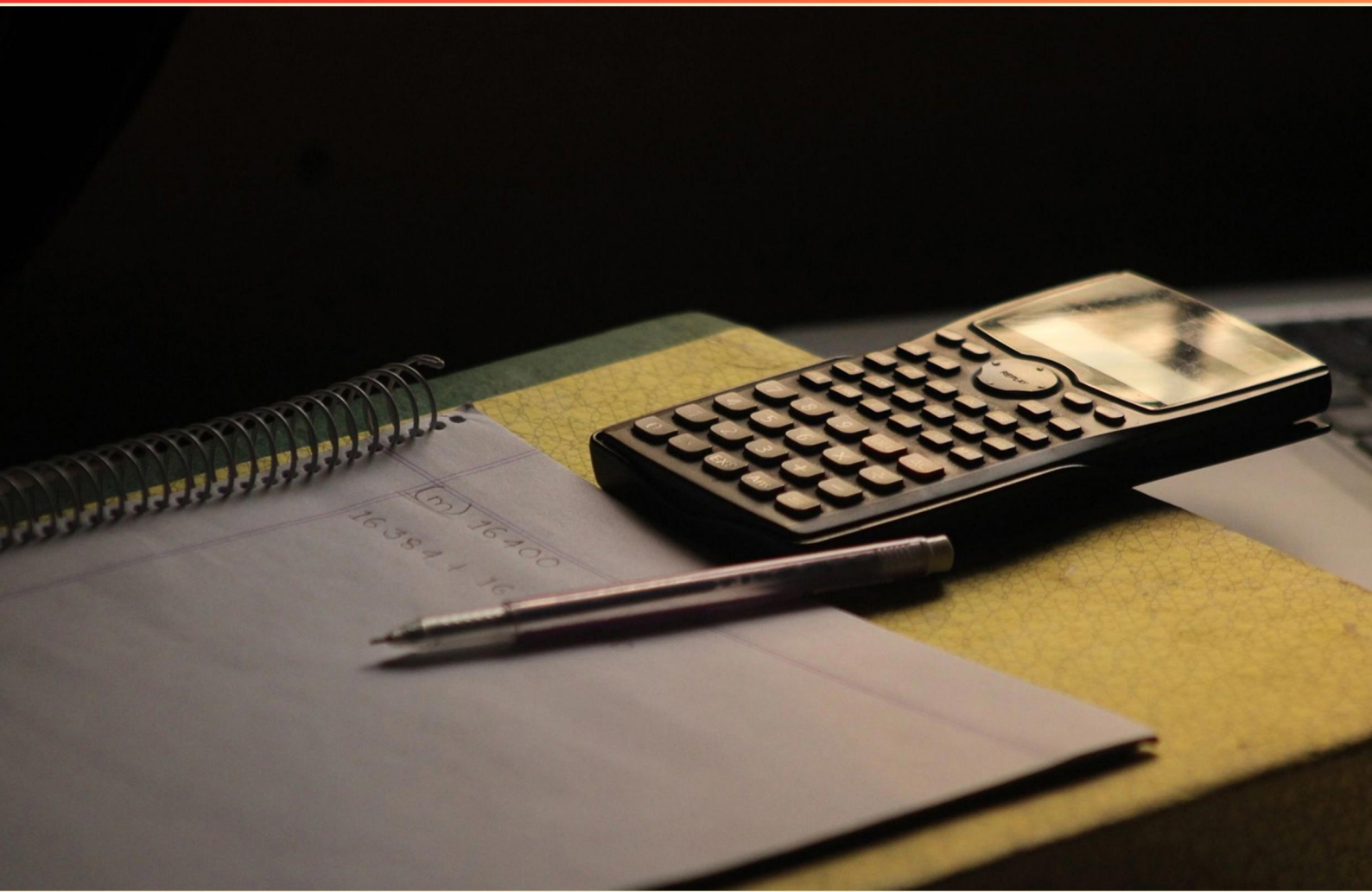


FTCE GENERAL KNOWLEDGE MATH PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE

<https://ftcegeneralknowledgemath.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. What term describes two parallel lines with distance as a defining metric on a plane?
 - A. Congruent plane
 - B. Coordinate system
 - C. Linear system
 - D. Vector field
2. How many sides are in a hexagon?
 - A. 4
 - B. 5
 - C. 6
 - D. 7
3. What is the total area of a pyramid given by the formula $\frac{1}{2}Pl + B$?
 - A. Lateral area of a pyramid
 - B. Perimeter of a triangle
 - C. Area of a circle
 - D. Total area of a pyramid
4. What is the square root of 25?
 - A. 2
 - B. 5
 - C. 6
 - D. 10
5. How do you calculate the perimeter of a rectangle?
 - A. Length + Width
 - B. $2(\text{Length} + \text{Width})$
 - C. Length X Width
 - D. $2(\text{Length} \times \text{Width})$

6. In a fraction, what name is given to the top part that indicates the change in Y coordinates?
- A. Denominator
 - B. Numerator
 - C. Dividend
 - D. Factor
7. What is the scientific notation for the number 0.000000975?
- A. 9.75×10
 - B. 9.75×10
 - C. 97.5×10
 - D. 0.975×10
8. What is the formula for calculating the area of a rectangle?
- A. $\frac{1}{2}bh$
 - B. $L + W$
 - C. LW
 - D. $2(L + W)$
9. Which formula calculates the area of a circle?
- A. $\frac{1}{2}h(a + b)$
 - B. $(3.14)r^2$
 - C. $\frac{1}{3}Bh$
 - D. $\frac{1}{2}\pi$
10. How many milliliters are equivalent to 1 teaspoon?
- A. 5 ml
 - B. 10 ml
 - C. 15 ml
 - D. 20 ml

Answers

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

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Explanations

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1. What term describes two parallel lines with distance as a defining metric on a plane?

- A. Congruent plane
- B. Coordinate system
- C. Linear system
- D. Vector field

The correct term describing two parallel lines with distance as a defining metric on a plane is a congruent plane. In geometry, parallel lines are defined as lines in the same plane that do not intersect, no matter how far they are extended. The distance between two parallel lines remains constant, making the concept of congruence relevant. A congruent plane refers to a plane configuration where properties such as distance and angles are preserved. Thus, when discussing parallel lines, the consistent distance between them captures the essence of how these lines relate within the entire plane structure. In contrast, a coordinate system refers to a framework for defining the position of points in a plane, while a linear system typically deals with a set of linear equations or relationships. A vector field describes a function that assigns a vector to every point in a plane or space, which is not directly related to the characteristics of parallel lines. Each of these terms addresses different mathematical concepts that do not specifically focus on the distance between two parallel lines in a plane.

2. How many sides are in a hexagon?

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

A hexagon is defined as a polygon that has six sides. The prefix "hex-" comes from Greek, meaning six, which directly indicates the total number of sides in this shape. Therefore, the correct answer is 6. Recognizing the specific properties of common polygons, such as triangles, quadrilaterals, pentagons, and hexagons, is key to identifying their characteristics easily. In this case, knowing that a hexagon has six sides helps you arrive at the correct answer.

3. What is the total area of a pyramid given by the formula $\frac{1}{2}PI + B$?

- A. Lateral area of a pyramid
- B. Perimeter of a triangle
- C. Area of a circle
- D. Total area of a pyramid

The formula provided describes the total area of a pyramid, which encompasses both the lateral area and the base area (denoted as B in the formula). The term $\frac{1}{2}PI$ typically refers to the lateral area of a pyramid with a circular base, derived from the formula for lateral area based on the perimeter of the base and the slant height. Understanding that total area involves combining both the lateral surface area and the area of the base, option D is indeed the correct choice here. It reflects the representation of a pyramid's total surface area, which is critical in geometry for calculating volume or understanding the proportions of three-dimensional shapes. The context suggests that the other options do not directly represent the total area of a pyramid; rather, they refer to specific attributes or characteristics of different shapes, which don't encompass the total area calculation for a pyramid structure.

4. What is the square root of 25?

- A. 2
- B. 5**
- C. 6
- D. 10

The correct answer is 5, as the square root of a number is a value that, when multiplied by itself, gives the original number. In this case, 5 multiplied by 5 equals 25, confirming that 5 is indeed the square root of 25. The other choices do not yield 25 when squared. For instance, 2 squared is 4, 6 squared is 36, and 10 squared is 100. Therefore, those options do not meet the definition of a square root for the number 25.

5. How do you calculate the perimeter of a rectangle?

- A. Length + Width
- B. 2(Length + Width)**
- C. Length X Width
- D. 2(Length X Width)

To calculate the perimeter of a rectangle, you use the formula that sums up the lengths of all four sides. The perimeter can be defined as twice the sum of the length and the width, which means you add the length and width together and then multiply that sum by 2. This accounts for both the opposite sides of the rectangle. Therefore, the option that states "2(Length + Width)" accurately represents this calculation. Using this formula ensures that you include both sets of lengths and widths, yielding the total measurement around the rectangle. The other formulas either do not account for both dimensions appropriately or do not relate to the concept of perimeter.

6. In a fraction, what name is given to the top part that indicates the change in Y coordinates?

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

The top part of a fraction is known as the numerator. It represents the number of parts being considered out of a total number of equal parts. When dealing with changes in coordinates, such as ΔY in a slope formula or a rate of change, the numerator typically captures the vertical change or the difference in the Y coordinates. This is essential in understanding how the values relate to one another, particularly in mathematical concepts such as slope and rates. In the context of the fraction, the numerator serves as the indicator of how much change occurs in relation to the total represented by the denominator, which is the bottom part of the fraction.

7. What is the scientific notation for the number 0.000000975?

- A. 9.75×10^{-7}**
- B. 9.75×10^{-6}
- C. 97.5×10^{-8}
- D. 0.975×10^{-7}

The correct scientific notation for the number 0.000000975 is expressed as 9.75×10^{-7} . In scientific notation, a number is represented as a product of a coefficient and a power of ten. The coefficient must be a number greater than or equal to 1 and less than 10. In this case, to convert 0.000000975 into scientific notation, you first shift the decimal point to the right until you have a number between 1 and 10. Moving the decimal point 7 places to the right gives you 9.75. Since you moved the decimal to the right, the exponent for the power of ten is negative, indicating a value less than one. Thus, you get 9.75×10^{-7} to the power of negative seven. The other options do not properly represent the number in scientific notation. The second choice involves an exponent that does not accurately reflect the original value, while the third choice incorrectly shifts the decimal to yield a coefficient greater than 10. The last choice also misplaces the decimal and the exponent in a way that does not correspond to the initial numerical value.

8. What is the formula for calculating the area of a rectangle?

- A. $\frac{1}{2}bh$
- B. $L + W$
- C. LW**
- D. $2(L + W)$

The formula for calculating the area of a rectangle is indeed represented by the expression LW , where L stands for the length and W stands for the width. This formula works because the area of a rectangle is defined as the amount of space enclosed within its four sides, which can be determined by multiplying the length of one side by the length of the adjacent side. Each unit of length in the rectangle's length can be paired with each unit of width, resulting in a grid of square units that fills the rectangle, thereby giving its area. In contrast, the other options relate to different mathematical concepts: for instance, $\frac{1}{2}bh$ represents the area of a triangle, $L + W$ sums the length and width without providing area, and $2(L + W)$ calculates the perimeter of the rectangle, not its area. Therefore, LW is the correct formula for the area of a rectangle.

9. Which formula calculates the area of a circle?

- A. $\frac{1}{2}h(a + b)$
- B. $(3.14)r^2$**
- C. $\frac{1}{3}Bh$
- D. $\frac{1}{2}\pi r^2$

The formula to calculate the area of a circle is indeed represented by πr^2 , and in the context of your answer, $(3.14)r^2$ serves as a practical approximation of πr^2 . This formula expresses the area in terms of the radius (r) of the circle, indicating that the area is proportional to the square of the radius. The numerical approximation of π as 3.14 simplifies calculations and demonstrates how the radius contributes to the area. Other options relate to different geometric calculations: one is for the area of a trapezoid, another for the volume of a prism, and the last option does not represent a standard geometric formula for area. Hence, the focus on radius squared multiplied by π directly leads to the correct understanding of how to measure the area of a circular shape.

10. How many milliliters are equivalent to 1 teaspoon?

- A. 5 ml
- B. 10 ml
- C. 15 ml**
- D. 20 ml

The correct conversion for teaspoons to milliliters indicates that 1 teaspoon is equivalent to 5 milliliters. This means that when measuring liquid ingredients in cooking and baking, using a teaspoon will yield a volume of 5 ml. Recognizing this conversion is essential in culinary contexts or when precise measurements are needed in recipes. In this case, the understanding of standard measurement conversions clarifies why the selected answer is not accurate, as it misinterprets the volume that a teaspoon represents compared to common metric conversions. To ensure accuracy in measurement, it's important to have correct conversions at hand.

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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://ftcegeneralknowledgemath.examzify.com>

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

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