

PRAXIS ELEMENTARY EDUCATION: MULTIPLE SUBJECTS MATHEMATICS (5003) PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED 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. 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. If $a = 2$ and $b = 3$, what is the value of $2a + 3b$?
- A. 10
 - B. 11
 - C. 13
 - D. 9
2. What is the median value of the data set: 1, 2, 4, 4, 5, 7, 8, 9, 9, 9, 10, 11, 12?
- A. 7
 - B. 8
 - C. 9
 - D. 10
3. What is the formula for the area of a triangle?
- A. Area = base $\times$ height
 - B. Area = $\frac{1}{2} \times$ base $\times$ height
 - C. Area = length $\times$ width
 - D. Area = $\pi \times$ radius²
4. Which operation would you perform first according to the order of operations in the expression: $5 + 2 \times 3$?
- A. Addition
 - B. Multiplication
 - C. Subtraction
 - D. Division
5. Which statement can be inferred about the yearly exports from the given data?
- A. A. Exports increased each year for all countries.
 - B. B. The country with the highest export total had a three-year total between \$11 billion and \$12 billion.
 - C. C. Exports from Country A more than doubled from 1995 to 1997.
 - D. D. Yearly exports were consistent and did not change.

6. What is the graph of the solutions to the inequality $-(1/2)x - 6 > 4 - 3x$?
- A. A graph with numbers greater than 4
 - B. A graph including 4
 - C. A graph with numbers less than 4
 - D. A graph with numbers equal to 4
7. How many degrees are in a right angle?
- A. 45 degrees
 - B. 90 degrees
 - C. 180 degrees
 - D. 360 degrees
8. What type of angle measures less than 90 degrees?
- A. Obtuse angle
 - B. Right angle
 - C. Supplementary angle
 - D. Acute angle
9. How many points did the Clearbrook Wildcats score in their last basketball game if they scored an average of 77 points across four games and had scores of 70, 76, and 82 in the first three games?
- A. A. 70
 - B. B. 76
 - C. C. 77
 - D. D. 80
10. Given the values of a linear function f , what is the value of $f(100)$ based on the provided table?
- A. A. 30
 - B. B. 36
 - C. C. 40
 - D. D. 48

Answers

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

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Explanations

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1. If $a = 2$ and $b = 3$, what is the value of $2a + 3b$?

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

To determine the value of the expression $2a + 3b$, first, substitute the values of a and b into the expression. Given $a = 2$ and $b = 3$, replacing a and b gives: $2(2) + 3(3)$. Now, calculate the values step by step. First, multiply 2 by a : $2(2) = 4$. Next, multiply 3 by b : $3(3) = 9$. Now, add these two results together: $4 + 9 = 13$. This shows that the value of the expression $2a + 3b$ when $a = 2$ and $b = 3$ is indeed 13. Therefore, the correct answer aligns with this calculation, confirming that 13 is the appropriate conclusion for the given values of a and b .

2. What is the median value of the data set: 1, 2, 4, 4, 5, 7, 8, 9, 9, 9, 10, 11, 12?

- A. 7
- B. 8**
- C. 9
- D. 10

To find the median of a data set, you first need to arrange the numbers in order from smallest to largest, which is already done in this case: 1, 2, 4, 4, 5, 7, 8, 9, 9, 9, 10, 11, 12. Next, determine the number of values in the data set. Here, there are 13 values. Since the count is odd, the median will be the middle number. The median is positioned at the $\left(\frac{n+1}{2}\right)$ th position, where (n) is the total number of values. Calculating this gives $\left(\frac{13+1}{2}\right) = 7$. Thus, the median is the 7th value in the ordered list. Counting through the ordered set, we find that the 7th value is 8. Therefore, the median of this data set is 8. This makes the choice of 8 the correct answer for the median of the given data set.

3. What is the formula for the area of a triangle?

- A. Area = base $\times$ height
- B. Area = $\frac{1}{2} \times$ base $\times$ height**
- C. Area = length $\times$ width
- D. Area = $\pi \times$ radius²

The formula for the area of a triangle is given by multiplying the base of the triangle by its height and then dividing by 2. This is represented as Area = $\frac{1}{2} \times$ base $\times$ height. The reason for dividing by 2 is that a triangle can be thought of as half of a rectangle. When the base and height are used to define a rectangle's area, the triangle occupies half of that area when split diagonally. This relationship is fundamental in geometry and is applicable to all triangles, regardless of their specific shape, as long as the base and height are correctly measured. This understanding reinforces the foundational concept that multiple shapes can share common area formulas but differ in their specific dimensions, such as triangles compared to rectangles or circles.

4. Which operation would you perform first according to the order of operations in the expression: $5 + 2 \times 3$?

A. Addition

B. Multiplication

C. Subtraction

D. Division

In the expression $5 + 2 \times 3$, multiplication is performed before addition because of the established order of operations, which is often remembered using the acronym PEMDAS (Parentheses, Exponents, Multiplication and Division from left to right, Addition and Subtraction from left to right). In this case, the multiplication occurs first; specifically, 2 is multiplied by 3, yielding 6. After that, the result of this multiplication is added to 5. It is crucial to respect this order to arrive at the correct solution, which would be $5 + 6 = 11$. Understanding this hierarchy is fundamental in mathematics to ensure consistent results across various calculations.

5. Which statement can be inferred about the yearly exports from the given data?

A. A. Exports increased each year for all countries.

B. B. The country with the highest export total had a three-year total between \$11 billion and \$12 billion.

C. C. Exports from Country A more than doubled from 1995 to 1997.

D. D. Yearly exports were consistent and did not change.

The statement indicating that the country with the highest export total had a three-year total between \$11 billion and \$12 billion is the most valid inference based on the presumed data. This suggests that by analyzing the yearly export figures from different countries, one can derive that the total exports over a specific period fall within this range. This interpretation is crucial because it demonstrates an understanding of aggregate data, where individual yearly exports can be summed to give an overall view of a country's performance in exports over a designated timeframe. If this information is clearly supported by the data, it allows for logical extrapolation of key insights, such as recognizing which country consistently performed well regarding exports. Other statements, such as asserting that exports increased each year for all countries or that exports from Country A more than doubled from 1995 to 1997, would require specific data trends to validate them. Similarly, claiming that yearly exports were consistent implies a lack of variability which would likely contradict common trends observed in export data across countries. Thus, the correctness of the chosen statement relies on its groundedness in the numerical data that supports quantifiable trends.

6. What is the graph of the solutions to the inequality $-(1/2)x - 6 > 4 - 3x$?

A. A graph with numbers greater than 4

B. A graph including 4

C. A graph with numbers less than 4

D. A graph with numbers equal to 4

To determine the correct answer, it's important to solve the inequality and understand the nature of the solutions. Starting with the given inequality: $-(1/2)x - 6 > 4 - 3x$ To eliminate the fractions and simplify the inequality, you can multiply the entire inequality by -2, making sure to reverse the inequality sign: $x + 12 < -8 + 6x$ Now, rearranging the terms gives: $-5x < -8 - 12$ Adding 12 to both sides results in: $-5x < -20$ Dividing each side by -5 (again reversing the inequality sign) leads to: $x > 4$ Now, interpreting the inequality $x > 4$ shows that the solution includes all numbers greater than 4. Graphing this means shading to the right of the number line starting at 4, not including 4 itself, as the inequality does not include equality (indicated by a "greater than" sign). Thus, the graph of the solutions to the inequality is one where all numbers greater than 4 are included, which corresponds to the first choice.

7. How many degrees are in a right angle?

A. 45 degrees

B. 90 degrees

C. 180 degrees

D. 360 degrees

A right angle is defined as the angle formed when two lines are perpendicular to each other. In standard geometric terms, a right angle measures exactly 90 degrees. This universally accepted definition is foundational in various branches of mathematics, particularly in geometry, where right angles play a crucial role in establishing the properties of shapes, particularly rectangles and squares. The other options represent different types of angles: 45 degrees corresponds to an acute angle, 180 degrees denotes a straight angle, which forms a straight line, and 360 degrees signifies a full rotation, returning to the starting position. Therefore, 90 degrees is the precise measurement for a right angle, confirming why it is the correct choice in this question.

8. What type of angle measures less than 90 degrees?

A. Obtuse angle

B. Right angle

C. Supplementary angle

D. Acute angle

An acute angle is defined as an angle that measures less than 90 degrees. This characteristic distinguishes acute angles from other types of angles. For example, an obtuse angle measures more than 90 degrees but less than 180 degrees, which is the opposite of what is required in this case. A right angle, on the other hand, is exactly 90 degrees, so it does not fall under the criterion of being less than 90 degrees. Supplementary angles refer to two angles that add up to 180 degrees, which also does not match the definition of measuring less than 90 degrees. Therefore, the identification of an acute angle as the type of angle that measures less than 90 degrees is correct, as it fits the criteria perfectly.

9. How many points did the Clearbrook Wildcats score in their last basketball game if they scored an average of 77 points across four games and had scores of 70, 76, and 82 in the first three games?

- A. A. 70
- B. B. 76
- C. C. 77
- D. D. 80**

To determine the score of the Clearbrook Wildcats in their last basketball game, we first need to find the total points they scored across all four games. Since they averaged 77 points over four games, we can calculate the total points by multiplying the average score by the number of games: $\text{Total points} = \text{Average points per game} \times \text{Number of games}$ $\text{Total points} = 77 \times 4 = 308$ points. Next, we add the scores of the first three games to find out how many points were scored in the last game. The scores of the first three games are 70, 76, and 82. We sum these scores: $70 + 76 + 82 = 228$ points. To find the score in the last game, we subtract the total points from the sum of the first three games: $\text{Score in last game} = \text{Total points} - \text{Points from first three games}$ $\text{Score in last game} = 308 - 228 = 80$ points. Thus, the Wildcats scored 80 points in their last game.

10. Given the values of a linear function f , what is the value of $f(100)$ based on the provided table?

- A. A. 30
- B. B. 36
- C. C. 40**
- D. D. 48

To determine the value of $f(100)$ from a linear function based on the provided table, it is essential to understand the properties of linear relationships. A linear function can typically be expressed in the form $f(x) = mx + b$, where m is the slope and b is the y-intercept. By looking at the values provided in the table, one can calculate the slope using two points and then apply it to find the corresponding output for $f(100)$. For example, if the table provides coordinates (x_1, y_1) and (x_2, y_2) , you can calculate the slope (m) as $(y_2 - y_1) / (x_2 - x_1)$. With the slope known, you can select one of the points, substitute its x and y values into the equation, and solve for the y-intercept (b). After establishing the equation of the linear function, substituting 100 into the equation yields $f(100)$. In this question, if the result from your calculations yields 40, that indicates that when x equals 100, $f(x)$ equals 40, aligning with the characteristics of the linear function depicted in the table. This demonstrates how the relationship maintained consistent changes

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://praxis5003.examzify.com>

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

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