NLN NEX MATH 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.

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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!

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Questions

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1. What is the circumference of a circle with radius 5 units?

A. 5π

B. 10π

C. 15π

D. 20π

2. The perimeter P of a triangle with side lengths a, b, and c is equal to which expression?

A. ab + bc + ca

B. 2(a + b + c)

C. a^2 + b^2 + c^2

D. a + b + c

3. Suppose events A and B are independent with P(A) = 0.4 and P(B) = 0.5. What is P(A and B)?

A. 0.4

B. 0.6

C. 0.2

D. 0.1

4. For the standard form Ax + By = C, the y-intercept of the corresponding slope-intercept form is equal to

A. C/B

B. -C/B

C. -C/A

D. C/A

5. How many square kilometers are in 1 square mile?

A. 2.59 square km

B. 1.0 square km

C. 0.4 square km

D. 6.49 square km

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6. Volume of a prism with base area 12 square units and height 4 units?

A. 36

B. 40

C. 48

D. 60

7. (a^n)^m equals which expression?

A. a^(n+m)

B. a^(n/m)

C. a^(nm)

D. (a^n)^m

8. Area of a circle with diameter 6 units is what?

A. 18π

B. 3π

C. 9π

D. 6π

9. What is the formula to solve percent problems such as 'what % of 40 is 8'?

A. part = whole * 0

B. part = whole * %

C. part = percent * whole

D. percent = part/whole

10. Which expression represents the area of a triangle with base b and height h?

A. bh

B. 1/2 bh

C. 2 bh

D. b^2 h

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Answers

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

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Explanations

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1. What is the circumference of a circle with radius 5 units?

A. 5π

B. 10π

C. 15π

D. 20π

The main idea is that the circumference of a circle is 2π times the radius. With a radius of 5, you multiply 2π by 5: 2π × 5 = 10π units. You can also check using the diameter: the diameter is 2r = 10, and C = πd = π × 10 = 10π, which matches. The other numbers come from misapplying the formula, like using πr (which would give 5π and misses the factor of 2) or mixing up diameter values. The correct result is 10π.

2. The perimeter P of a triangle with side lengths a, b, and c is equal to which expression?

A. ab + bc + ca

B. 2(a + b + c)

C. a^2 + b^2 + c^2

D. a + b + c

Perimeter is the total distance around the figure, so for a triangle with side lengths a, b, and c you add all three sides: P = a + b + c. This matches the idea of walking once around the triangle. For example, with a = 3, b = 4, c = 5, the perimeter is 3 + 4 + 5 = 12. The other expressions aren't the sum of the edge lengths: ab + bc + ca combines products of sides, 2(a + b + c) doubles the total, and a^2 + b^2 + c^2 sums the squares of the sides, which relates to other properties, not the perimeter.

3. Suppose events A and B are independent with P(A) = 0.4 and P(B) = 0.5. What is P(A and B)?

A. 0.4

B. 0.6

C. 0.2

D. 0.1

When two events are independent, the chance that both occur is the product of their individual probabilities. So P(A and B) = P(A) × P(B) = 0.4 × 0.5 = 0.2. That means the probability of both A and B happening is 0.2 (20%). The other numbers would come from adding or otherwise mixing the probabilities, but for independent events the joint probability is the product, not a sum.

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4. For the standard form Ax + By = C, the y-intercept of the corresponding slope-intercept form is equal to

A. C/B

B. -C/B

C. -C/A

D. C/A

To find the y-intercept, think in terms of the slope-intercept form y = mx + b, where b is the value of y when x = 0 (the point where the line crosses the y-axis). Start with Ax + By = C and solve for y: By = -Ax + C, so y = (-A/B)x + C/B. When x = 0, y = C/B, so the y-intercept is C/B.

5. How many square kilometers are in 1 square mile?

A. 2.59 square km

B. 1.0 square km

C. 0.4 square km

D. 6.49 square km

Unit conversions for area come from squaring the linear conversion factor. Since 1 mile is about 1.609 kilometers, 1 square mile equals (1.609 km)^2 ≈ 2.5899 km^2, or about 2.59 square kilometers. So the number of square kilometers in 1 square mile is approximately 2.59. The other numbers don't fit because they're far from that value—1.0 and 0.4 are too small, and 6.49 is too large.

6. Volume of a prism with base area 12 square units and height 4 units?

A. 36

B. 40

C. 48

D. 60

Volume is found by multiplying the area of the base by the height. With a base area of 12 square units and a height of 4 units, the volume is 12 × 4 = 48 cubic units. This makes sense because you're counting how much space is inside by stacking all the base areas along the height. If either the base area or the height were different, the product would be a different number—for example, a volume of 36 would require a product like 12 × 3 or 9 × 4, but here the given measurements fix it at 12 and 4, so the result is 48.

7. (a^n)^m equals which expression?

A. a^(n+m)

B. a^(n/m)

C. a^(nm)

D. (a^n)^m

When you raise a power to another power, you multiply the exponents. So (a^n)^m simplifies to a^(n·m), because you're applying the exponent m to the exponent n. That means the expression equals a^(nm). The other forms don't match the rule: a^(n+m) would come from multiplying two bases with the same base, not from raising a power to another power; a^(n/m) would come from dividing exponents, which isn't what this operation does. The original written form is a restatement of the operation, but a^(nm) is the standard simplified form.

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8. Area of a circle with diameter 6 units is what?

A. 18π

B. 3π

C. 9π

D. 6π

Area of a circle depends on the radius, via A = π r^2. The diameter is 6, so the radius is half of that: r = 3. Then A = π × 3^2 = 9π. So the area is 9π square units. The other numbers would come from a different radius, which doesn't match the given diameter, so 9π is the correct area.

9. What is the formula to solve percent problems such as 'what % of 40 is 8'?

A. part = whole * 0

B. part = whole * %

C. part = percent * whole

D. percent = part/whole

Percent is a ratio of the part to the whole. The common relationship is part = percent × whole, with the percent written as a decimal. When you want to find the percent from given part and whole, you rearrange to percent = part ÷ whole. For example, what percent of 40 is 8? The part is 8 and the whole is 40, so percent = 8/40 = 0.2. As a percent, that's 20%. So using percent = part/whole directly gives you the percent value you're looking for.

10. Which expression represents the area of a triangle with base b and height h?

A. bh

B. 1/2 bh

C. 2 bh

D. b^2 h

The area of a triangle is found by taking half of the product of its base and its height. This comes from imagining two triangles that form a rectangle with the same base and height; together they make the rectangle, so each triangle is half of the rectangle's area. With base b and height h, that area becomes (1/2) × b × h. So the correct expression is (1/2) b h. The other ideas would give the full rectangle's area (bh), a doubled amount (2bh), or an extra factor of b (b^2 h), which doesn't match the way area scales with base and height for a triangle.

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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://nlnnexmath.examzify.com

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

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