GRADE 6 FAST MATHEMATICS 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

1. **Find the perimeter of a triangle with sides 5 cm, 7 cm, and 9 cm.**
   - A. 20 cm
   - B. 21 cm
   - C. 23 cm
   - D. 26 cm

2. **What is the distance between the points (0, 0) and (5, 12)?**
   - A. 13 units
   - B. 12 units
   - C. 10 units
   - D. sqrt(61) units

3. **How are integers added and subtracted?**
   - A. By applying and extending previous understandings of operations with whole numbers.
   - B. By ignoring the signs and adding absolute values.
   - C. By converting to fractions first.
   - D. By counting prime factors.

4. **Convert 7/20 to a decimal.**
   - A. 0.3
   - B. 0.25
   - C. 0.45
   - D. 0.35

5. **Simplify the expression 5y - 2y + 12.**
   - A. 3y + 12
   - B. 7y + 12
   - C. 5y + 12
   - D. y + 12

6. **Multiply 2/3 by 3/4. What is the product?**
   - A. 1/2
   - B. 2/3
   - C. 3/8
   - D. 1/3

7. What is the prime factorization of 60?

A. 2^2 * 3 * 5

B. 2^3 * 3 * 5

C. 2 * 3 * 5

D. 2^2 * 5 * 7

8. How is absolute value interpreted on a number line?

A. As the distance of a number from zero.

B. As the sign of a number.

C. As the square of a number.

D. As the distance between any two numbers.

9. Two shapes can have the same area but different perimeters.

A. True

B. False

C. Only if shapes are rectangles

D. Only if shapes are triangles

10. Perimeter of a rectangle with length 8 cm and width 3 cm is?

A. 22 cm

B. 16 cm

C. 24 cm

D. 26 cm

Answers

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

Explanations

1. Find the perimeter of a triangle with sides 5 cm, 7 cm, and 9 cm.

A. 20 cm

B. 21 cm

C. 23 cm

D. 26 cm

Perimeter is the total length around the triangle, found by adding all three side lengths. For these sides, add 5 cm, 7 cm, and 9 cm: 5 + 7 = 12, and 12 + 9 = 21. So the perimeter is 21 cm. This checks out because you're measuring the entire boundary once. If you mis-sum by skipping a side or counting a side twice, you'd get numbers like 20, 23, or 26, which aren't the actual distance around the triangle.

2. What is the distance between the points (0, 0) and (5, 12)?

A. 13 units

B. 12 units

C. 10 units

D. sqrt(61) units

To find the distance between two points on a plane, use the Pythagorean idea: distance is the square root of the sum of the squares of the horizontal and vertical differences. Here the horizontal difference is 5 and the vertical difference is 12. So the distance is sqrt(5^2 + 12^2) = sqrt(25 + 144) = sqrt(169) = 13. This is a classic 5-12-13 right triangle, which is why the numbers line up so neatly. The other options would come from not including both horizontal and vertical changes or from different differences, but the actual straight-line distance between the points is 13 units.

3. How are integers added and subtracted?

A. By applying and extending previous understandings of operations with whole numbers.

B. By ignoring the signs and adding absolute values.

C. By converting to fractions first.

D. By counting prime factors.

Adding and subtracting integers uses the same idea you already know from whole numbers, just with signs that show direction. When you add two integers, look at their signs. If both are the same sign, add their absolute values and keep that sign. If they have different signs, subtract the smaller absolute value from the larger and keep the sign of the number with the larger magnitude. This fits because adding a negative is like moving in the opposite direction, and subtracting a negative is like moving in the positive direction. For example, 5 plus a negative 3 equals 2, and negative 4 plus 7 equals 3. Subtraction can be seen as adding the opposite: 6 minus 2 is the same as 6 plus negative 2, which is 4, and 6 minus negative 2 becomes 6 plus 2, which is 8. This approach directly extends what you know about whole-number operations and doesn't involve fractions or prime-factor ideas, which aren't part of adding or subtracting integers.

4. Convert 7/20 to a decimal.

A. 0.3

B. 0.25

C. 0.45

D. 0.35

Converting a fraction to a decimal means expressing how many hundredths it represents. Since 1/20 equals 0.05, multiplying by 7 gives 7/20 = 7 × 0.05 = 0.35. Another way is to scale to denominator 100: 7/20 = 35/100 = 0.35.

5. Simplify the expression 5y - 2y + 12.

A. 3y + 12

B. 7y + 12

C. 5y + 12

D. y + 12

Combining like terms is what we're practicing here. When simplifying, you add or subtract coefficients of terms that have the same variable and exponent. In 5y - 2y + 12, the terms with y are like terms, so you combine 5y and -2y to get 3y. The 12 is a constant and doesn't have a y, so it stays as +12. Therefore, the expression simplifies to 3y + 12. If you see something like 7y + 12, that would come from treating the subtraction as addition, which isn't correct here; or 5y + 12 would miss subtracting the 2y, which changes the result.

6. Multiply 2/3 by 3/4. What is the product?

A. 1/2

B. 2/3

C. 3/8

D. 1/3

When you multiply fractions, multiply the numerators together and the denominators together. You can also simplify before multiplying by canceling common factors across the two fractions. Here, the 3 in the bottom of the first fraction and the 3 in the top of the second fraction cancel each other, leaving (2/1) × (1/4). That equals 2/4, which reduces to 1/2. You can see this another way by multiplying straight: 2 × 3 = 6 on top and 3 × 4 = 12 on the bottom, giving 6/12, which also reduces to 1/2. So the product is 1/2.

7. What is the prime factorization of 60?

A. 2^2 * 3 * 5

B. 2^3 * 3 * 5

C. 2 * 3 * 5

D. 2^2 * 5 * 7

Prime factorization means writing a number as a product of prime numbers. To factor 60, divide by the smallest prime, 2: 60 = 2 × 30. Divide by 2 again: 30 = 2 × 15. Then 15 is divisible by 3: 15 = 3 × 5. Since 3 and 5 are primes, we've finished. The primes we used are two 2s, one 3, and one 5, so 60 = 2^2 × 3 × 5. If you check the other expressions: 2^3 × 3 × 5 equals 120, not 60; 2 × 3 × 5 equals 30, not 60; and 2^2 × 5 × 7 equals 140, which isn't 60. So the correct prime factorization is 2^2 × 3 × 5.

8. How is absolute value interpreted on a number line?

A. As the distance of a number from zero.

B. As the sign of a number.

C. As the square of a number.

D. As the distance between any two numbers.

The main idea is that absolute value tells you how far a number sits from zero on the number line, regardless of direction. It's the distance from that number to zero, so it's always a nonnegative length. For example, the distance from 3 to zero is 3, and from -5 to zero is 5, so their absolute values are 3 and 5. This is different from the sign of a number, because absolute value ignores whether the number is positive or negative. It isn't the square of a number, which would be the number multiplied by itself. Also, the distance between two numbers is given by the absolute value of their difference, $|a - b|$, which is about how far apart two points are, not just from zero.

9. Two shapes can have the same area but different perimeters.

A. True

B. False

C. Only if shapes are rectangles

D. Only if shapes are triangles

Area is about how much space is inside a boundary, while perimeter is the length around the outside. Because these two measures come from different properties of a shape, they don't have to match. You can enclose the same amount of space with a longer boundary or with a shorter one. For example, a square with side 4 units has area 16 square units and a perimeter of 16 units. A rectangle that also has area 16, like 2 by 8, has a perimeter of 2(2+8) = 20 units. They enclose the same area, but the total edge length is different. So the statement is true: shapes can share the same area but have different perimeters. This idea applies across many shapes, not just rectangles.

10. Perimeter of a rectangle with length 8 cm and width 3 cm is?

A. 22 cm

B. 16 cm

C. 24 cm

D. 26 cm

Perimeter is the distance around a shape. For a rectangle, you add all four sides, and since opposite sides are equal, that's the same as twice the sum of the length and the width. So with length 8 cm and width 3 cm, the perimeter is $2 \times (8 + 3) = 22$ cm. That's the total distance around the rectangle. The other numbers come from miscounting or misusing the formula.

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://grade6fastmathematics.examzify.com

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