

Grade 6 FAST Mathematics Practice Test (Sample)

Study Guide



Everything you need from our exam experts!

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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. A square has area 64 square centimeters. What is the side length?
 - A. 16 cm
 - B. 4 cm
 - C. 8 cm
 - D. 6 cm

2. What is 0.75 divided by 0.5?
 - A. 1.5
 - B. 0.75
 - C. 1.0
 - D. 2.0

3. What is the greatest common factor of 21 and 28?
 - A. 7
 - B. 14
 - C. 21
 - D. 28

4. Which equation matches the statement: 'A number increased by 6 equals 15'?
 - A. $k + 6 = 20$
 - B. $k + 6 = 15$
 - C. $k - 6 = 15$
 - D. $k \times 6 = 15$

5. What is the prime factorization of 60?
 - A. $2^2 \times 3 \times 5$
 - B. $2^3 \times 3 \times 5$
 - C. $2 \times 3 \times 5$
 - D. $2^2 \times 5 \times 7$

6. Find the greatest common factor of 18 and 24.
 - A. 6
 - B. 12
 - C. 3
 - D. 18

7. Convert 0.125 to a fraction.

- A. $\frac{1}{4}$
- B. $\frac{1}{8}$
- C. $\frac{3}{16}$
- D. $\frac{2}{16}$

8. One marble drawn from a bag with 3 red, 2 blue, and 5 green marbles. What is the probability the marble is red?

- A. $\frac{1}{2}$
- B. $\frac{1}{4}$
- C. $\frac{3}{10}$
- D. $\frac{3}{5}$

9. Which measure describes the spread of a data set?

- A. Median
- B. Range
- C. Mean
- D. Mode

10. In a recipe that uses 4 parts flour and 5 parts sugar, if the total parts are 45, how many parts are flour?

- A. 25
- B. 20
- C. 18
- D. 40

Answers

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

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Explanations

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1. A square has area 64 square centimeters. What is the side length?

- A. 16 cm
- B. 4 cm
- C. 8 cm**
- D. 6 cm

For a square, area equals the side length squared. To find the side when the area is 64, take the square root of 64, which is 8. So the side length is 8 cm. Check: $8 \times 8 = 64$, which matches the given area. If the side were 16 cm, the area would be 256; if it were 4 cm, the area would be 16; if it were 6 cm, the area would be 36. This confirms 8 cm is the correct side length.

2. What is 0.75 divided by 0.5?

- A. 1.5**
- B. 0.75
- C. 1.0
- D. 2.0

Dividing by a decimal is the same as multiplying by its reciprocal. The reciprocal of 0.5 is 2, since $0.5 \times 2 = 1$. So $0.75 \div 0.5$ equals $0.75 \times 2 = 1.5$. You can also see this by turning decimals into fractions: 0.75 is $\frac{3}{4}$ and 0.5 is $\frac{1}{2}$, so $(\frac{3}{4}) \div (\frac{1}{2}) = (\frac{3}{4}) \times (\frac{2}{1}) = \frac{6}{4} = \frac{3}{2} = 1.5$. A quick check is to multiply the result by 0.5 to get back 0.75, which confirms the quotient.

3. What is the greatest common factor of 21 and 28?

- A. 7**
- B. 14
- C. 21
- D. 28

The greatest common factor is the largest number that can divide both numbers exactly. Factor each number: $21 = 3 \times 7$ and $28 = 2 \times 2 \times 7$. They share the factor 7 (and 1, but 7 is the larger one). So the greatest common factor is 7. Numbers like 14, 21, or 28 don't work because they don't divide both numbers (14 doesn't divide 21, 21 doesn't divide 28, and 28 doesn't divide 21).

4. Which equation matches the statement: 'A number increased by 6 equals 15'?

- A. $k + 6 = 20$
- B. $k + 6 = 15$**
- C. $k - 6 = 15$
- D. $k \times 6 = 15$

When you hear "a number increased by 6," think of adding 6 to that number. If the result is 15, the unknown number plus 6 must equal 15. Using a variable for the unknown number, that equation is $k + 6 = 15$. This matches the statement exactly because you're taking a number, increasing it by 6, and the total is 15. Solving it shows $k = 9$ (subtract 6 from both sides). The other forms would imply different operations or different results, not the idea of adding 6 to the number to get 15.

5. 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: $60 = 2 \times 30$. Divide by 2 again: $30 = 2 \times 15$. Then 15 is divisible by 3: $15 = 3 \times 5$. Since 3 and 5 are primes, we've finished. The primes we used are two 2s, one 3, and one 5, so $60 = 2^2 \times 3 \times 5$. If you check the other expressions: $2^3 \times 3 \times 5$ equals 120, not 60; $2 \times 3 \times 5$ equals 30, not 60; and $2^2 \times 5 \times 7$ equals 140, which isn't 60. So the correct prime factorization is $2^2 \times 3 \times 5$.

6. Find the greatest common factor of 18 and 24.

- A. 6**
- B. 12
- C. 3
- D. 18

The idea here is to find the greatest common factor, the largest number that divides both numbers evenly. Using prime factorization, 18 can be written as 2×3^2 and 24 as $2^3 \times 3$. The common factors come from the primes they share, taking the smallest powers: 2^1 and 3^1 , which multiply to 6. So 6 goes into both numbers without a remainder, and there isn't a larger number that does that for both. For example, 12 isn't a divisor of 18, and 18 isn't a divisor of 24, so they aren't common factors. 3 is a common factor, but it's smaller than 6. Therefore, the greatest common factor is 6.

7. Convert 0.125 to a fraction.

- A. $1/4$
- B. $1/8$**
- C. $3/16$
- D. $2/16$

Think of 0.125 as a fraction by using a denominator of a power of ten. Since there are three digits after the decimal, write it as $125/1000$. Both numerator and denominator share a common factor of 125, so you can divide them by 125 to get $1/8$. And 1 divided by 8 is exactly 0.125, so this fraction matches the decimal perfectly. The same value can appear as $2/16$, but that isn't in simplest form; the most reduced exact fraction is $1/8$.

8. One marble drawn from a bag with 3 red, 2 blue, and 5 green marbles. What is the probability the marble is red?

- A. $1/2$
- B. $1/4$
- C. $3/10$**
- D. $3/5$

Probability is the ratio of favorable outcomes to all possible outcomes. Here, the event is drawing a red marble. There are 3 red marbles out of a total of 10 marbles (3 red + 2 blue + 5 green). So the chance of red is 3 out of 10, written as $3/10$, which is 0.3 or 30%. The other fractions would imply more or fewer red marbles than exist in the bag (for example, $1/2$ would mean 5 red out of 10; $1/4$ would suggest 2.5 red, which isn't possible; $3/5$ would require 6 red), so they don't fit the bag's composition.

9. Which measure describes the spread of a data set?

- A. Median
- B. Range**
- C. Mean
- D. Mode

The spread of a data set is about how far the values are from each other. The range captures that idea by subtracting the smallest value from the largest value, showing the total spread from end to end of the data. For example, in a data set that ranges from 3 to 15, the range is 12, which tells you there's a spread of 12 units between the smallest and largest numbers. This focuses on how far apart the numbers are, not on where the center sits. The other measures describe central tendency rather than spread. The median tells you the middle value, the mean gives the average, and the mode is the most frequently occurring value. None of these directly describe how spread out the data are, which is why the range is the right choice here.

10. In a recipe that uses 4 parts flour and 5 parts sugar, if the total parts are 45, how many parts are flour?

- A. 25
- B. 20**
- C. 18
- D. 40

Think of the recipe as a whole made of equal “parts.” Flour and sugar share a fixed ratio of 4 parts flour to 5 parts sugar, which adds up to 9 parts total. Flour makes up 4 of those 9 parts, so flour is $\frac{4}{9}$ of the entire mixture. If the total is 45 parts, flour equals $45 \times \frac{4}{9} = (45/9) \times 4 = 5 \times 4 = 20$ parts. You can check by splitting 45 into nine equal groups of 5 parts each; four of those groups give 20 parts for flour and the remaining five groups give 25 parts for sugar, keeping the 4:5 ratio. Other options would correspond to different shares of the total (for example, 25 parts would be $\frac{5}{9}$ of the total, not $\frac{4}{9}$), so 20 is the correct amount for flour.

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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://grade6fastmathematics.examzify.com>

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

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