# College Math Placement Practice Test (Sample)

## Study Guide

BY EXAMZIFY

**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. Don't worry about getting everything right, 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, and take breaks to retain information better.**

### 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.**

### 7. Use Other Tools

**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. **Which expression represents the amount of merchandise sold on Wednesday if d dollars worth of merchandise was sold on Tuesday and the amount sold on Wednesday was $150 less than twice this amount?**

   **A. 2d − 150**

   **B. 2(d − 150)**

   **C. 2(150 − d)**

   **D. 150 − 2d**

2. **What is the area of a triangle with a base of 10 and height of 5?**

   **A. 20**

   **B. 25**

   **C. 30**

   **D. 35**

3. **What is the solution to the equation 5x − 18 = x/2?**

   **A. x = 2**

   **B. x = 4**

   **C. x = 5**

   **D. x = 3**

4. **What is the financial formula for calculating simple interest?**

   **A. I = PRT**

   **B. $I = PRT^2$**

   **C. I = P/R * T**

   **D. I = P + RT**

5. **What is the first step in solving the equation 10x - 6 + 18x - 6(2x - 4) = 2?**

   **A. Simplify by adding like terms.**

   **B. Factor the equation.**

   **C. Distribute −6 into the parentheses.**

   **D. Isolate x.**

**6. What is 35% of 200?**

**A. 50**

**B. 60**

**C. 70**

**D. 75**

**7. What is the result of 6 + (8 - 3) × 2?**

**A. 10**

**B. 13**

**C. 16**

**D. 18**

**8. What can be concluded about the relationship between the price of bread and the cost of oil?**

**A. The price of bread is inversely proportional to the cost of oil.**

**B. The price of bread increases proportionally to the cost of oil.**

**C. The quantities do not have a relationship.**

**D. The price of bread increases with the cost of oil, but the relationship is not proportional.**

**9. What is the slope-intercept form of a linear equation?**

**A. $y = mx + b$**

**B. $y = ax^2 + bx + c$**

**C. $y = m(x - x1) + y1$**

**D. $y = A + Bx$**

**10. What is the value of (2^3) * (2^2)?**

**A. 16**

**B. 32**

**C. 8**

**D. 10**

# Answers

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

# Explanations

## 1. Which expression represents the amount of merchandise sold on Wednesday if d dollars worth of merchandise was sold on Tuesday and the amount sold on Wednesday was $150 less than twice this amount?

**A. 2d − 150**

**B. 2(d − 150)**

**C. 2(150 − d)**

**D. 150 − 2d**

**To determine the correct expression for the amount of merchandise sold on Wednesday, we start with the given information. It states that d dollars worth of merchandise was sold on Tuesday. The problem specifies that the amount sold on Wednesday is $150 less than twice the amount sold on Tuesday. To express this mathematically, we first find twice the amount sold on Tuesday, which is represented as \(2d\). Then, since the amount sold on Wednesday is $150 less than this value, we subtract 150 from \(2d\). This leads us to the expression \(2d - 150\). This approach is logical because it directly follows from the relationships given—first calculating the total without the deduction, and then applying the specified reduction. In contrast, the other options misinterpret the relationships or apply operations incorrectly: - Some may involve incorrect applications of the arithmetic operations or misuses of the terms present in the question. Thus, the expression \(2d - 150\) accurately represents the situation described, providing a clear mathematical representation of the amount sold on Wednesday based on Tuesday's sales.**

## 2. What is the area of a triangle with a base of 10 and height of 5?

**A. 20**

**B. 25**

**C. 30**

**D. 35**

**To determine the area of a triangle, the formula used is: \[ \text{Area} = \frac{1}{2} \times \text{base} \times \text{height} \] In this case, the base is given as 10 units and the height is given as 5 units. By substituting these values into the formula, we have: \[ \text{Area} = \frac{1}{2} \times 10 \times 5 \] Calculating this step-by-step: 1. Multiply the base and the height: \( 10 \times 5 = 50 \) 2. Then, take half of that product: \( \frac{1}{2} \times 50 = 25 \) Thus, the area of the triangle is 25 square units. This confirms that the answer is indeed 25. Understanding this process shows how critical it is to apply the area formula correctly for a triangle, which relies on both the base length and the height. Other values like 20, 30, or 35 do not match the calculated area, thereby reinforcing the effectiveness of the formula given the specified dimensions.**

## 3. What is the solution to the equation 5x − 18 = x/2?

**A. x = 2**

**B. x = 4**

**C. x = 5**

**D. x = 3**

**To solve the equation 5x − 18 = x/2, it's essential to isolate the variable x on one side. Here's how the solution unfolds: First, multiply both sides of the equation by 2 to eliminate the fraction. This gives: 2(5x - 18) = x Expanding the left side results in: 10x - 36 = x Next, subtract x from both sides to consolidate all x terms on one side: 10x - x - 36 = 0, which simplifies to: 9x - 36 = 0 Now, add 36 to both sides to isolate the term with x: 9x = 36 Finally, divide both sides by 9 to solve for x: x = 36 / 9 = 4 Thus, the solution to the equation is x = 4. This confirms that 4 is the correct answer, as all mathematical operations align correctly with solving the equation systematically.**

## 4. What is the financial formula for calculating simple interest?

**A. I = PRT**

**B. $I = PRT^2$**

**C. I = P/R * T**

**D. I = P + RT**

**The correct formula for calculating simple interest is represented by I = PRT. In this formula: - I stands for the interest earned or paid. - P represents the principal amount, which is the initial sum of money invested or borrowed. - R denotes the rate of interest, expressed as a decimal (for example, 5% would be 0.05). - T is the time the money is invested or borrowed for, typically measured in years. This formula indicates that the interest is directly proportional to the principal, the rate of interest, and the time period. By multiplying these three components, you can determine the total interest accrued over the specified period. The other options do not correctly represent the formula for simple interest. For instance, including $T^2$ suggests a compounding effect which does not apply to simple interest calculations. Similarly, the formula involving division by P or the addition of RT does not accurately describe how simple interest is calculated. Understanding these distinctions is essential for effectively applying financial concepts.**

## 5. What is the first step in solving the equation 10x - 6 + 18x - 6(2x - 4) = 2?

**A. Simplify by adding like terms.**

**B. Factor the equation.**

**C. Distribute −6 into the parentheses.**

**D. Isolate x.**

**To solve the equation \( 10x - 6 + 18x - 6(2x - 4) = 2 \), the first step involves addressing the distribution of the term that is multiplied by the parentheses, which is \(-6\). This means we need to apply the distributive property to the expression \(-6(2x - 4)\). Distributing \(-6\) into \(2x - 4\) involves multiplying \(-6\) by both terms inside the parentheses, resulting in \(-12x + 24\). This is crucial because it simplifies the equation and allows us to combine like terms effectively in subsequent steps. Once this distribution is handled, we can then proceed to combine like terms from the overall equation. Thus, focusing on distributing right from the first step provides a solid foundation for simplifying and solving the entire equation efficiently.**

## 6. What is 35% of 200?

**A. 50**

**B. 60**

**C. 70**

**D. 75**

**To determine 35% of 200, we use the formula for finding a percentage of a number. The percentage (in decimal form) is multiplied by the number in question. First, we convert 35% to a decimal by dividing by 100: 35% = 35 / 100 = 0.35. Next, we multiply this decimal by 200: 0.35 × 200 = 70. This calculation shows that 35% of 200 is indeed 70. Therefore, the correct answer is 70, which aligns perfectly with our calculation.**

## 7. What is the result of 6 + (8 - 3) × 2?

**A. 10**

**B. 13**

**C. 16**

**D. 18**

**To solve the expression 6 + (8 - 3) × 2, it's crucial to follow the order of operations, often remembered by the acronym PEMDAS (Parentheses, Exponents, Multiplication and Division (from left to right), Addition and Subtraction (from left to right)). 1. First, look inside the parentheses: (8 - 3) evaluates to 5. 2. Next, the expression simplifies to 6 + 5 × 2. 3. Now, according to the order of operations, we handle the multiplication before addition. So, we calculate 5 × 2, which equals 10. 4. This brings us to the next step, where we now have 6 + 10. 5. Finally, adding these together gives us 16. Thus, the correct result of the expression is 16.**

## 8. What can be concluded about the relationship between the price of bread and the cost of oil?

**A. The price of bread is inversely proportional to the cost of oil.**

**B. The price of bread increases proportionally to the cost of oil.**

**C. The quantities do not have a relationship.**

**D. The price of bread increases with the cost of oil, but the relationship is not proportional.**

**The correct conclusion highlights that there is a direct relationship between the price of bread and the cost of oil, with the understanding that as the cost of oil increases, the price of bread also rises, but not necessarily in a strictly proportional manner. This means that while higher oil prices can lead to increased transportation and production costs for bread, resulting in higher prices, the extent of the price increase for bread may not match the percentage increase in oil prices. Factors such as supply chain dynamics, production methods, and market demand can influence how much the price of bread actually goes up in response to oil price changes. Thus, although there is a clear tendency for bread prices to rise with oil prices, the relationship does not have to maintain a constant ratio, which keeps it from being classified as proportional. Understanding this relationship helps in predicting market behaviors and anticipating how external factors like oil prices can influence food costs.**

## 9. What is the slope-intercept form of a linear equation?

**A. $y = mx + b$**

**B. $y = ax^2 + bx + c$**

**C. $y = m(x - x1) + y1$**

**D. $y = A + Bx$**

**The slope-intercept form of a linear equation is represented as $y = mx + b$, where 'm' stands for the slope of the line and 'b' represents the y-intercept, which is the point where the line crosses the y-axis. This format is particularly useful because it immediately provides information about the steepness and direction of the line (positive or negative slope) as well as where it intersects the y-axis. In this form, for every increase in x by 1 unit, y changes by 'm' units, making it straightforward to graph the equation. Knowing the slope and y-intercept allows one to quickly sketch the line or understand its behavior without needing additional calculations. The other choices represent different types of equations: one is a quadratic equation (which features a squared term), another is a point-slope form (used for writing equations based on a given point and slope), and the last provides a linear equation but lacks the standard slope-intercept format.**

## 10. What is the value of (2^3) * (2^2)?

**A. 16**

**B. 32**

**C. 8**

**D. 10**

**To determine the value of (2^3) * (2^2), we can use the properties of exponents. Specifically, one of the key properties states that when multiplying expressions with the same base, we add the exponents. In this case, both terms have the base of 2. Therefore, we can rewrite the expression as follows: (2^3) * (2^2) = 2^(3+2). Now, we perform the addition of the exponents: 3 + 2 = 5. This means the expression simplifies to: 2^5. Next, we need to evaluate 2^5, which can be calculated as: 2 * 2 * 2 * 2 * 2 = 32. Thus, the value of (2^3) * (2^2) is 32, making it the correct answer.**

# 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://collegemath.examzify.com**

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