

OFFICIAL COURSE STUDY GUIDE

GMAT Focus Complete Course

Quant, Verbal, and Data Insights for the GMAT (Focus Edition), taught by veteran tutors.

TEST PREP · INTERMEDIATE · 9 MODULES · 40 HR 17 MIN

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GMAT Focus Complete Course: The Complete Study Guide

2026 Edition

Published by MegaCourse · megacourse.app

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INTRODUCTION

About This Course

Welcome to the GMAT Focus Complete Course study guide. This comprehensive course prepares you for the GMAT Focus Edition, covering Quant, Verbal, and Data Insights. Success on this exam can open doors to graduate business programs worldwide.

This study guide complements the online video course available on MegaCourse.app. The course provides a structured learning path, organized into 9 modules and 52 lessons. Veteran tutors from GMAT Club teach the core content.

MegaCourse upgrades the original video series with additional curated reading and resource lessons. You will find a final knowledge-check quiz, clear learning outcomes, and progress tracking tools. Upon completion, you can earn a shareable certificate. This comprehensive approach ensures you have all the necessary tools for effective preparation.

Course Facts

FORMAT	9 modules · 52 lessons
VIDEO INSTRUCTION	About 40 hr 17 min
LEVEL	Intermediate
CATEGORY	Test Prep
INSTRUCTOR	GMAT Club
CERTIFICATE	Included with course completion on MegaCourse
COURSE HOME	megacourse.app/courses/gmat-focus-complete-course

What You Will Learn

- Master GMAT quant reasoning without wasted calculation.
- Break down Critical Reasoning arguments into conclusion, evidence, and assumptions.
- Read dense RC passages for structure instead of detail.
- Handle Data Sufficiency and multi-source Data Insights formats confidently.

Who This Course Is For

This course is designed for students preparing for the GMAT Focus Edition. It serves those seeking a structured and comprehensive review of the exam's core subjects. The material is presented at an

intermediate level, building on foundational knowledge.

To benefit most from this course, you should have a solid grasp of high school mathematics. You should also be comfortable reading and understanding business and science prose.

Before You Start

- High school math.
- Comfortable reading business and science prose.

How to Use This Guide

This study guide is your companion to the GMAT Focus Complete Course videos. It provides a framework for active learning. Watch the video lessons first, then use this guide to review key concepts, work through practice problems, and consolidate your understanding.

The course is divided into 9 modules and 52 lessons, totaling approximately 40 hours and 17 minutes of instruction. Plan your study schedule to cover a few lessons each week. Consistent, focused effort over several weeks will yield the best results.

Use the end-of-module reviews to test your comprehension before moving on. The final assessment will help you gauge your readiness for the actual GMAT Focus Edition.

CHAPTER 1

Quant Starter Kit

This chapter introduces the fundamental quantitative reasoning concepts essential for success on the GMAT Focus Edition. We will build a strong foundation in algebra and arithmetic, which are critical for tackling more complex problems in the GMAT Quant and Data Insights sections. Mastering these basics allows you to approach problems systematically and efficiently.

Our focus is on understanding the underlying principles and developing strategies for solving problems accurately and without wasted calculation. You will learn to identify common problem types, apply appropriate techniques, and avoid typical pitfalls. This chapter provides the groundwork for all subsequent quantitative modules.

Algebraic Foundations: Equations, Inequalities, and Absolute Value

Covers: Linear and Quadratic Equations Tested on the GMAT | GMAT Focus Math Starter Kit EP1 · Inequalities and Absolute Value Concepts on the GMAT | GMAT Focus Math Starter Kit EP2

Algebra forms the backbone of many GMAT quantitative problems. A solid grasp of linear and quadratic equations, inequalities, and absolute value concepts is crucial. These topics test your ability to translate word problems into mathematical expressions and solve them accurately.

Linear Equations

Linear equations involve variables raised to the first power. They typically take the form $ax + b = c$. To solve a linear equation, isolate the variable by performing the same operations on both sides of the equation. Remember to combine like terms and distribute multiplication across parentheses when necessary.

Example: Solve $3(x - 2) + 5 = 2x + 7$

1. Distribute the 3: $3x - 6 + 5 = 2x + 7$
2. Combine like terms: $3x - 1 = 2x + 7$
3. Subtract $2x$ from both sides: $x - 1 = 7$
4. Add 1 to both sides: $x = 8$

Common mistakes include sign errors when distributing or combining terms, and failing to perform operations uniformly on both sides.

Quadratic Equations

Quadratic equations involve a variable raised to the second power, typically in the form $ax^2 + bx + c = 0$. The GMAT often tests two main methods for solving these: factoring and using the quadratic formula.

Factoring: This method works when the quadratic expression can be broken down into two linear factors. If $(x - p)(x - q) = 0$, then $x = p$ or $x = q$.

Example: Solve $x^2 - 5x + 6 = 0$

1. Find two numbers that multiply to 6 and add to -5. These are -2 and -3.
2. Factor the equation: $(x - 2)(x - 3) = 0$
3. Set each factor to zero: $x - 2 = 0$ or $x - 3 = 0$
4. Solve for x: $x = 2$ or $x = 3$

Quadratic Formula: For equations that are difficult to factor, use $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$. Always remember that quadratic equations can have up to two distinct solutions.

Inequalities

Inequalities are similar to equations but use comparison symbols ($<$, $>$, $\leq$, $\geq$). The primary rule to remember is that when you multiply or divide both sides of an inequality by a negative number, you must reverse the direction of the inequality sign.

Example: Solve $-2x + 3 < 11$

1. Subtract 3 from both sides: $-2x < 8$
2. Divide by -2 and reverse the sign: $x > -4$

Compound inequalities, like $-3 < 2x + 1 \leq 7$, require you to solve for x in all parts simultaneously. Subtract 1 from all parts: $-4 < 2x \leq 6$. Then divide all parts by 2: $-2 < x \leq 3$.

Absolute Value

Absolute value represents the distance of a number from zero, always yielding a non-negative result. For example, $|3| = 3$ and $|-3| = 3$.

To solve equations or inequalities involving absolute value, you typically set up two separate cases.

Case 1: Absolute Value Equations If $|x| = k$ (where $k \geq 0$), then $x = k$ or $x = -k$.

Example: Solve $|2x - 1| = 5$

1. Case A: $2x - 1 = 5 \Rightarrow 2x = 6 \Rightarrow x = 3$
2. Case B: $2x - 1 = -5 \Rightarrow 2x = -4 \Rightarrow x = -2$

Case 2: Absolute Value Inequalities

- If $|x| < k$ (where $k > 0$), then $-k < x < k$.
- If $|x| > k$ (where $k > 0$), then $x < -k$ or $x > k$.

Example: Solve $|x + 2| < 4$

1. Apply the rule: $-4 < x + 2 < 4$
2. Subtract 2 from all parts: $-6 < x < 2$

Practice Cue: Work through problems where you must first simplify expressions before applying these rules. Pay close attention to negative signs and the specific rules for inequalities and absolute values.

Arithmetic and Problem Solving Strategies: Ratios, Percentages, and Word Problems

Covers: Easiest way to Solve Hard Arithmetic Questions | GMAT Focus Math Starter Kit EP3 · Ratios, Percentages, & Complex Word Problems | GMAT Focus Math Starter Kit EP4

Efficient arithmetic and strong problem-solving skills are paramount for the GMAT. This section focuses on developing strategies to handle numerical calculations, ratios, percentages, and complex word problems with precision and speed.

Smart Arithmetic

The 'easiest way to solve hard arithmetic questions' on the GMAT often involves avoiding brute-force calculation. Instead, look for opportunities to simplify, estimate, or apply number properties. This includes using the order of operations (PEMDAS/BODMAS) correctly, recognizing common factors, and working with fractions and decimals effectively.

Example: Calculate $(1/3 + 1/4) / (1/2 - 1/6)$

1. Simplify the numerator: $(4/12 + 3/12) = 7/12$
2. Simplify the denominator: $(3/6 - 1/6) = 2/6 = 1/3$
3. Divide the numerator by the denominator: $(7/12) / (1/3) = (7/12) * (3/1) = 21/12 = 7/4$

Avoid converting fractions to decimals prematurely unless the problem specifically requires it or the numbers are very easy to work with (e.g., $1/2$, $1/4$). Look for patterns and common denominators.

Ratios

Ratios express the relationship between two or more quantities. A ratio of $A:B$ means that for every A units of the first quantity, there are B units of the second. Ratios can be expressed as fractions (A/B) or with a colon ($A:B$).

Example: A recipe calls for flour and sugar in a ratio of 5:2. If you use 15 cups of flour, how much sugar do you need?

1. Set up the ratio: $\text{Flour} / \text{Sugar} = 5 / 2$
2. Substitute the known amount of flour: $15 / \text{Sugar} = 5 / 2$
3. Cross-multiply: $5 * \text{Sugar} = 15 * 2$
4. Solve for Sugar: $5 * \text{Sugar} = 30 \Rightarrow \text{Sugar} = 6$ cups.

Common mistakes include confusing part-to-part ratios with part-to-whole relationships, or incorrectly setting up proportions.

Percentages

Percentages are a specific type of ratio, meaning 'out of one hundred.' To convert a percentage to a decimal, divide by 100 (e.g., $25\% = 0.25$). To convert a decimal to a percentage, multiply by 100.

Percentage Increase/Decrease:

- New Value = Original Value * (1 + percent increase as decimal)
- New Value = Original Value * (1 - percent decrease as decimal)

Example: A shirt costs \$40. It is discounted by 20%. What is the new price?

1. Calculate the discount amount: $0.20 * \$40 = \8
2. Subtract from the original price: $\$40 - \$8 = \$32$

Alternatively, New Price = $\$40 * (1 - 0.20) = \$40 * 0.80 = \$32$.

Successive Percentages: When an item undergoes multiple percentage changes, do not simply add or subtract the percentages. Apply each change sequentially.

Example: A price increases by 10%, then decreases by 10%. Is the final price the same as the original?

1. Assume Original Price = \$100.
2. Increase by 10%: $\$100 * (1 + 0.10) = \$100 * 1.10 = \$110$.
3. Decrease by 10% from the new price: $\$110 * (1 - 0.10) = \$110 * 0.90 = \$99$.

The final price (\$99) is less than the original (\$100). This illustrates why sequential calculation is vital.

Complex Word Problems

Solving complex word problems involves a structured approach:

1. **Understand the Question:** Read carefully to identify what is being asked.
2. **Identify Knowns and Unknowns:** List all given information and what you need to find.
3. **Define Variables:** Assign letters to unknown quantities.
4. **Translate to Equations:** Convert the verbal statements into mathematical equations.
5. **Solve the Equations:** Use algebraic or arithmetic techniques.
6. **Check Your Answer:** Does the answer make sense in the context of the problem?

Many GMAT word problems combine ratios, percentages, and basic algebra. Practice breaking down long problem statements into smaller, manageable parts. Look for keywords that indicate operations (e.g., 'of' often means multiplication, 'is' means equals). Drawing diagrams or creating tables can also help organize information for multi-step problems.

Practice Cue: For word problems, try rephrasing the question in your own words. This ensures you understand the core task. Then, write out your steps clearly before performing calculations.

KEY TAKEAWAYS

- Linear equations are solved by isolating the variable using inverse operations on both sides.
- Quadratic equations can have up to two solutions and are typically solved by factoring or using the quadratic formula.
- When multiplying or dividing an inequality by a negative number, always reverse the inequality sign.
- Absolute value problems require considering two cases: one positive and one negative, due to distance from zero.
- Efficient arithmetic on the GMAT involves simplifying expressions and applying number properties rather than always performing direct calculations.
- Ratios express relationships between quantities and can be used to set up proportions for solving problems.
- Percentage changes must be applied sequentially, especially for successive increases or decreases, rather than simply adding or subtracting percentages.
- Complex word problems require a systematic approach: understanding the question, defining variables, translating to equations, solving, and checking the answer.

CHECK YOUR UNDERSTANDING

Answer these before moving on. Model answers are in the Answer Key at the back of this guide.

1. What is the crucial rule to remember when solving inequalities that differs from solving equations?
2. Explain how to approach an absolute value equation like $|x + 3| = 7$.
3. If an item's price increases by 20% and then decreases by 10%, why is the final price not the same as if it had increased by 10% overall?
4. Describe a strategy for tackling a complex GMAT word problem.
5. What are two common methods for solving quadratic equations on the GMAT?

CHAPTER 2

GMAT Quant Fundamentals

This chapter lays the groundwork for mastering the Quantitative Reasoning section of the GMAT Focus Edition. It begins by outlining effective strategies for approaching GMAT Quant questions and optimizing your study habits. Success on the GMAT requires more than just knowing math facts; it demands strategic thinking, efficient problem-solving, and disciplined practice.

We then transition into the core mathematical concepts. You will review essential arithmetic principles, build a strong foundation in linear and quadratic algebra, understand the rules of exponents, and learn to confidently handle inequalities and absolute values. The chapter concludes by integrating these skills into a systematic approach for solving GMAT word problems, preparing you for the diverse challenges of the exam.

GMAT Quant Strategy and Study Techniques

Covers: GMAT Ninja Quant Ep 0: How to Approach GMAT Quant (video, 34 min) · How to Get Better at Studying for GMAT Quant (video, 8 min)

The GMAT Quantitative Reasoning section tests your problem-solving abilities and analytical skills, not just your raw calculation speed. A common mistake is to treat GMAT Quant like a traditional high school math test. Instead, focus on efficient reasoning and avoiding unnecessary calculations.

Strategic Approach to GMAT Quant Questions

When you encounter a Quant question, resist the urge to immediately start calculating. First, spend a moment understanding what the question is truly asking. Identify the exact information given and what you need to find. Many GMAT questions can be solved more quickly by using logical shortcuts, estimation, or by testing answer choices, rather than by direct algebraic manipulation.

Consider the answer choices before you begin solving. Sometimes, the format or range of the choices can guide your strategy. For Data Sufficiency questions, remember that you do not need to find the answer; you only need to determine if enough information is provided to find it. This distinction is crucial.

Time management is critical. The GMAT is a timed exam. If a problem seems overly complex or time-consuming, be prepared to make an educated guess and move on. Spending too much time on one difficult question can jeopardize your ability to complete easier questions later.

Effective Study Habits for GMAT Quant

Improving your GMAT Quant score involves more than just passively watching videos or reading explanations. Active learning is essential. Here are some techniques:

- **Error Log:** Maintain a detailed error log. For every question you get wrong, or even right but struggled with, record the question type, your mistake (conceptual error, careless calculation, timing

issue), and the correct approach. Reviewing your error log regularly helps identify patterns in your weaknesses.

- **Untimed Practice, Then Timed:** When learning new concepts, practice untimed to ensure full understanding. Once you feel comfortable, incorporate timed practice to build speed and stamina. Simulate exam conditions as closely as possible.
- **Review Fundamentals:** Many GMAT Quant errors stem from gaps in foundational knowledge. Revisit arithmetic, algebra, and geometry basics if you find yourself consistently struggling with certain types of problems.
- **Explain Concepts:** Try to explain a concept or a solution to someone else, or even to yourself out loud. This process solidifies your understanding and reveals any areas where your knowledge is weak.
- **Focus on Why:** Do not just memorize formulas. Understand the underlying principles. Knowing *why* a formula works helps you adapt it to different problem variations and avoids rote memorization that can fail under pressure.

Practice consistently. Short, focused study sessions are often more effective than infrequent, long sessions. Regularly revisit topics to reinforce your learning and ensure retention. The GMAT rewards consistent effort and strategic preparation.

Arithmetic Fundamentals

Covers: GMAT Ninja Quant Ep 1: Arithmetic (video, 49 min)

Arithmetic forms the bedrock of GMAT Quantitative Reasoning. A solid grasp of number properties, operations, and relationships is indispensable. This section reviews core arithmetic concepts, emphasizing mental math and efficient problem-solving.

Number Properties

- **Integers:** Whole numbers (positive, negative, and zero). Examples: -3, 0, 5.
- **Prime Numbers:** Integers greater than 1 with exactly two distinct positive divisors: 1 and itself. Examples: 2, 3, 5, 7, 11. (Note: 1 is not prime; 2 is the only even prime number.)
- **Even and Odd Numbers:** Even numbers are divisible by 2. Odd numbers are not. The sum/difference of two even numbers is even. The sum/difference of two odd numbers is even. The sum/difference of an even and an odd number is odd. The product of any integers involving an even number is even. The product of two odd numbers is odd.
- **Divisibility Rules:** Knowing these saves time. For example, a number is divisible by 3 if the sum of its digits is divisible by 3. A number is divisible by 4 if its last two digits form a number divisible by 4. A number is divisible by 5 if it ends in 0 or 5. A number is divisible by 6 if it is divisible by both 2 and 3.

Fractions, Decimals, and Percentages

These are different representations of the same values and you must be comfortable converting between them.

- **Fractions:** Represent parts of a whole. Operations (addition, subtraction, multiplication, division) require common denominators for addition/subtraction, but not for multiplication/division. Simplifying fractions before operations can prevent large numbers. For example, to add $\frac{1}{3} + \frac{1}{4}$, find a common denominator (12): $\frac{4}{12} + \frac{3}{12} = \frac{7}{12}$.
- **Decimals:** Base-10 representation. Operations follow standard rules. Be careful with decimal places in multiplication and division. For example, $0.2 * 0.3 = 0.06$ (two decimal places in the product).
- **Percentages:** "Per hundred." $X\% = X/100$. To find $X\%$ of Y , calculate $(X/100) * Y$. To find what percent X is of Y , calculate $(X/Y) * 100\%$.

Ratios, Rates, and Averages

- **Ratios:** Compare quantities. $A:B$ means A/B . Ratios can be simplified like fractions. If a ratio is $2:3$ and the total is 10, the parts are $2x$ and $3x$, so $5x = 10$, $x = 2$. The parts are 4 and 6.
- **Rates:** Ratios involving different units, often quantity per unit of time. Example: $\text{speed} = \text{distance}/\text{time}$.
- **Averages (Arithmetic Mean):** $\text{Sum of terms} / \text{Number of terms}$. The average formula is versatile. If you know any two of the three components (sum, number of terms, average), you can find the third.

Worked Example: Applying Number Properties

What is the smallest positive integer that is divisible by 2, 3, 4, and 5?

This asks for the Least Common Multiple (LCM) of 2, 3, 4, and 5.

1. Prime factorize each number: $2 = 2$ $3 = 3$ $4 = 2^2$ $5 = 5$
2. Take the highest power of each prime factor present: 2^2 (from 4) 3^1 (from 3) 5^1 (from 5)
3. Multiply these highest powers: $2^2 * 3 * 5 = 4 * 3 * 5 = 60$.

The smallest positive integer is 60.

Practice converting between fractions, decimals, and percentages quickly. Develop a strong intuition for number relationships to solve problems efficiently.

Algebraic Equations: Linear and Quadratic

Covers: GMAT Ninja Quant Ep 2: Linear Algebra (video, 1 hr 16 min) · GMAT Ninja Quant Ep 3: Quadratics (video, 1 hr 10 min)

Algebraic equations are fundamental to GMAT Quant. This section focuses on solving linear and quadratic equations, which appear frequently in various problem types.

Linear Equations

A linear equation involves variables raised only to the power of 1. The goal is to isolate the variable.

- **Single Variable:** $ax + b = c$. To solve, perform inverse operations to both sides of the equation. For example, to solve $3x - 7 = 8$: $3x - 7 + 7 = 8 + 7$ $3x = 15$ $3x / 3 = 15 / 3$ $x = 5$
- **Systems of Equations:** When you have two or more linear equations with two or more variables, you need a system of equations. The GMAT typically involves two variables and two equations. Two

primary methods are substitution and elimination.

- **Substitution:** Solve one equation for one variable, then substitute that expression into the other equation. For example:

1. $x + y = 10$

2. $2x - y = 5$ From (1), $y = 10 - x$. Substitute into (2): $2x - (10 - x) = 5$ $2x - 10 + x = 5$ $3x - 10 = 5$ $3x = 15$ $x = 5$ Then substitute $x = 5$ back into $y = 10 - x$ to find $y = 5$.

- **Elimination:** Add or subtract the equations to eliminate one variable. For the same system:

1. $x + y = 10$

2. $2x - y = 5$ Add (1) and (2) directly: $(x + y) + (2x - y) = 10 + 5$ $3x = 15$ $x = 5$ Substitute $x = 5$ into either original equation to find $y = 5$.

Common Mistake: Forgetting to distribute a negative sign when substituting an expression into an equation.

Quadratic Equations

A quadratic equation is of the form $ax^2 + bx + c = 0$, where $a \neq 0$. Quadratic equations often have two solutions.

- **Factoring:** If possible, factor the quadratic expression into two binomials. For example, $x^2 - 5x + 6 = 0$ factors to $(x - 2)(x - 3) = 0$. Setting each factor to zero gives $x = 2$ or $x = 3$.
- **Quadratic Formula:** For any quadratic equation, the solutions are given by $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$. This formula always works, even when factoring is difficult or impossible. For $x^2 - 5x + 6 = 0$, $a=1$, $b=-5$, $c=6$: $x = \frac{(5 \pm \sqrt{(-5)^2 - 4 * 1 * 6})}{(2 * 1)}$ $x = \frac{(5 \pm \sqrt{25 - 24})}{2}$ $x = \frac{(5 \pm \sqrt{1})}{2}$ $x = \frac{(5 \pm 1)}{2}$ So, $x = \frac{(5 + 1)}{2} = 3$ or $x = \frac{(5 - 1)}{2} = 2$.
- **Special Quadratics (Identities):**
 - $(a + b)^2 = a^2 + 2ab + b^2$
 - $(a - b)^2 = a^2 - 2ab + b^2$
 - $(a + b)(a - b) = a^2 - b^2$ (Difference of Squares) Recognizing these identities can significantly speed up problem-solving. For example, if you see $x^2 - 9$, recognize it as $(x - 3)(x + 3)$.

Practice solving various types of linear and quadratic equations. Pay close attention to signs and distribution. Data Sufficiency questions often test your ability to determine if a unique solution exists.

Exponents, Inequalities, and Absolute Values

Covers: GMAT Ninja Quant Ep 4: Exponents (video, 58 min) · GMAT Ninja Quant Ep 5: Inequalities & Absolute Values (video, 60 min)

This section covers three distinct but often interconnected algebraic concepts: exponents, inequalities, and absolute values. Mastering their rules and properties is crucial for GMAT Quant.

Exponents

Exponents indicate repeated multiplication. b^n means b multiplied by itself n times. Here are the key rules:

- **Multiplication:** $b^m * b^n = b^{(m+n)}$ (e.g., $2^3 * 2^4 = 2^7$)
- **Division:** $b^m / b^n = b^{(m-n)}$ (e.g., $3^5 / 3^2 = 3^3$)
- **Power of a Power:** $(b^m)^n = b^{(m*n)}$ (e.g., $(5^2)^3 = 5^6$)
- **Product/Quotient to a Power:** $(ab)^n = a^n * b^n$; $(a/b)^n = a^n / b^n$
- **Zero Exponent:** Any non-zero base raised to the power of 0 is 1. $b^0 = 1$ (e.g., $7^0 = 1$)
- **Negative Exponent:** $b^{(-n)} = 1 / b^n$ (e.g., $4^{(-2)} = 1/4^2 = 1/16$)
- **Fractional Exponent:** $b^{(m/n)} = \text{nth_root}(b^m)$ (e.g., $8^{(2/3)} = (\text{cube_root}(8))^2 = 2^2 = 4$)

Common Mistake: Applying exponent rules incorrectly when bases are different (e.g., $2^3 * 3^2$ cannot be simplified by adding exponents). Also, $(a+b)^n$ is not $a^n + b^n$.

Inequalities

Inequalities compare quantities using symbols like $<$, $>$, $\leq$, $\geq$. Solving inequalities is similar to solving equations, with one critical difference:

- **Flipping the Inequality Sign:** When you multiply or divide both sides of an inequality by a **negative** number, you must reverse the direction of the inequality sign. For example: $-2x < 6$ $x > 6 / (-2)$ (sign flipped) $x > -3$
- **Combining Inequalities:** If $x > 3$ and $x < 7$, then $3 < x < 7$. Be careful when combining inequalities that point in different directions or have no overlap.
- **Quadratic Inequalities:** To solve $x^2 - 5x + 6 < 0$:
 1. Find the roots of $x^2 - 5x + 6 = 0$, which are $x=2$ and $x=3$.
 2. These roots divide the number line into intervals: $x < 2$, $2 < x < 3$, $x > 3$.
 3. Test a value in each interval (e.g., $x=0$, $x=2.5$, $x=4$) to see if the inequality holds. For $x=0$, $0 - 0 + 6 = 6$ (not < 0). For $x=2.5$, $6.25 - 12.5 + 6 = -0.25$ (is < 0). For $x=4$, $16 - 20 + 6 = 2$ (not < 0).
 4. The solution is $2 < x < 3$.

Absolute Values

The absolute value of a number is its distance from zero on the number line, always non-negative. $|x|$ means x if $x \geq 0$ and $-x$ if $x < 0$.

- **Absolute Value Equations:** $|x| = k$ (where $k \geq 0$) means $x = k$ or $x = -k$. For example, $|2x - 1| = 5$ leads to two cases:
 1. $2x - 1 = 5 \Rightarrow 2x = 6 \Rightarrow x = 3$
 2. $2x - 1 = -5 \Rightarrow 2x = -4 \Rightarrow x = -2$

- **Absolute Value Inequalities:**

- $|x| < k$ (where $k > 0$) means $-k < x < k$. For example, $|x - 3| < 2$ means $-2 < x - 3 < 2$. Add 3 to all parts: $1 < x < 5$.
- $|x| > k$ (where $k \geq 0$) means $x > k$ or $x < -k$. For example, $|x + 1| > 4$ means $x + 1 > 4$ (so $x > 3$) or $x + 1 < -4$ (so $x < -5$).

Practice these rules diligently. Absolute value problems often involve setting up two separate equations or inequalities, which is a common point of error if not handled systematically.

Solving GMAT Word Problems

Covers: GMAT Ninja Quant Ep 6: Word Problems (video, 49 min)

Word problems integrate all the arithmetic and algebraic concepts discussed previously into real-world scenarios. The challenge lies in translating the narrative into mathematical expressions and equations. Success depends on a systematic approach.

General Strategy for Word Problems

1. **Read Carefully:** Understand the entire problem. Identify what is known, what needs to be found, and any constraints or conditions. Reread if necessary.
2. **Define Variables:** Assign variables (e.g., x , y) to the unknown quantities. Be specific about what each variable represents.
3. **Translate to Equations:** Convert the verbal statements into mathematical equations or inequalities. Look for keywords: 'is' or 'are' often mean $=$, 'of' means multiplication, 'per' means division, 'more than' means addition, 'less than' means subtraction.
4. **Solve the Equations:** Use your algebraic skills to solve for the unknown variables.
5. **Check Your Answer:** Does your answer make sense in the context of the problem? If you found a negative age or a fraction of a person, something is wrong. Also, ensure you answered the *specific* question asked, as sometimes intermediate values are not the final answer.

Common Types of Word Problems

- **Rate Problems:** Involve distance, rate, and time ($D = R * T$), or work, rate, and time ($Work = Rate * Time$). Remember to ensure units are consistent. *Example:* A car travels at 60 mph for 2 hours. How far does it travel? $D = 60 \text{ mph} * 2 \text{ hr} = 120 \text{ miles}$
- **Mixture Problems:** Combine two or more quantities with different concentrations or values. Often involve setting up equations based on the total quantity and the quantity of a specific component. *Example:* A 10-liter solution is 20% acid. How much pure acid must be added to make it a 50% acid solution? Let x be the amount of pure acid added. Initial acid: $0.20 * 10 = 2$ liters. New total volume: $10 + x$ liters. New acid amount: $2 + x$ liters. New concentration: $(2 + x) / (10 + x) = 0.50$ $2 + x = 0.5(10 + x)$ $2 + x = 5 + 0.5x$ $0.5x = 3$ $x = 6$ liters.
- **Work Problems:** Involve individuals or machines working together to complete a task. The rates are often expressed as $1/\text{time_to_complete_alone}$. *Example:* Person A can paint a room in 3 hours.

Person B can paint the same room in 6 hours. How long will it take them to paint it together? Person A's rate: $\frac{1}{3}$ room/hour. Person B's rate: $\frac{1}{6}$ room/hour. Combined rate: $\frac{1}{3} + \frac{1}{6} = \frac{2}{6} + \frac{1}{6} = \frac{3}{6} = \frac{1}{2}$ room/hour. Time together: $1 \div (\frac{1}{2}) = 2$ hours.

- **Age Problems:** Involve relationships between ages at different points in time. Carefully define variables for current ages and adjust for past or future ages.
- **Interest Problems:** Simple interest ($I = PRT$) or compound interest formulas. The GMAT Focus Edition typically favors simple interest for calculation-heavy problems, but conceptual understanding of compound interest may be tested.

Common Mistake: Misinterpreting keywords, setting up the wrong equation, or making calculation errors after the setup. Always double-check your translation from words to math.

Practice translating various word problem scenarios into algebraic expressions. Focus on setting up the equations correctly before attempting to solve them.

KEY TAKEAWAYS

- GMAT Quant emphasizes strategic reasoning and efficient problem-solving over raw calculation speed.
- Maintain an error log and practice actively to identify weaknesses and reinforce learning.
- A strong foundation in arithmetic, including number properties, fractions, decimals, and percentages, is essential.
- Master solving linear and quadratic equations using substitution, elimination, factoring, and the quadratic formula.
- Understand and correctly apply the rules of exponents, including those for zero, negative, and fractional powers.
- Remember to flip the inequality sign when multiplying or dividing by a negative number.
- Absolute value equations and inequalities require considering two distinct cases for solutions.
- Systematically translate GMAT word problems into mathematical equations by carefully defining variables and identifying relationships.

CHECK YOUR UNDERSTANDING

Answer these before moving on. Model answers are in the Answer Key at the back of this guide.

1. What is the primary difference in approach between GMAT Quant and a typical high school math test?
2. Explain the importance of an error log in GMAT Quant preparation.
3. When solving an inequality, under what specific condition must you reverse the inequality sign?
4. Describe the two cases you must consider when solving an equation involving absolute value, such as $|Ax + B| = C$.

5. What is the first crucial step in approaching any GMAT word problem?

CHAPTER 3

GMAT Quant: Ratios, Percentages, Number Properties, and Advanced Topics

This chapter builds essential quantitative reasoning skills crucial for the GMAT Focus Edition. We cover fundamental concepts in ratios, percentages, and number properties, which form the bedrock of many GMAT Quant problems. You will also learn about counting principles, sequences, and how to effectively solve problems involving rates and overlapping sets. Mastering these areas will significantly improve your efficiency and accuracy in the Quant and Data Insights sections, allowing you to approach complex problems with confidence and precision.

Ratios and Percentages

Covers: GMAT Ninja Quant Ep 7: Ratios (video, 1 hr 2 min) · GMAT Ninja Quant Ep 8: Percentages (video, 58 min)

Ratios compare two or more quantities. They can be expressed in several ways: $a:b$, a/b , or 'a to b'. Understanding ratios involves distinguishing between part-to-part comparisons and part-to-whole comparisons. For example, if a group has 3 boys and 2 girls, the ratio of boys to girls is 3:2 (part-to-part). The ratio of boys to the total group is 3:5 (part-to-whole). Always simplify ratios to their lowest terms. Proportions are equations stating that two ratios are equal. You can solve proportions by cross-multiplication.

Consider this example: A recipe requires 2 cups of flour for every 3 eggs. If you want to use 5 cups of flour, how many eggs do you need?

$$\begin{aligned}\text{Flour} / \text{Eggs} &= 2 / 3 \\ 5 / x &= 2 / 3 \\ 2 * x &= 5 * 3 \\ 2x &= 15 \\ x &= 7.5 \text{ eggs}\end{aligned}$$

Percentages represent a fraction 'per one hundred'. The notation $x\%$ means $x/100$. It is vital to convert between percentages, decimals, and fractions smoothly. For instance, 25% is equivalent to 0.25 or $1/4$. Percentage change is calculated as $((\text{New Value} - \text{Old Value}) / \text{Old Value}) * 100\%$. A common mistake is to miscalculate successive percentage changes. If an item's price increases by 10% and then decreases by 10%, it does not return to its original price.

Let's illustrate with an example: A shirt costs \$40. It is discounted by 25%. What is the new price?

To find the discount amount:

$$\text{Discount} = 25\% \text{ of } \$40 = 0.25 * 40 = \$10$$

To find the new price:

$$\text{New Price} = \text{Original Price} - \text{Discount}$$

$$\text{New Price} = \$40 - \$10 = \$30$$

Alternatively, if the price is discounted by 25%, it means 75% of the original price remains:

$$\text{New Price} = \$40 * (1 - 0.25) = \$40 * 0.75 = \$30$$

For successive changes, imagine an item costs \$100. A 10% increase makes it \$110. A subsequent 10% decrease applies to the new price of \$110, not the original \$100. So, 10% of \$110 is \$11. The final price is \$110 - \$11 = \$99. This is a 1% decrease from the original \$100. Always apply percentage changes to the current value, not the initial value, unless specified otherwise.

Number Properties Fundamentals

Covers: GMAT Ninja Quant Ep 9: Number Properties I (video, 1 hr 2 min) · GMAT Ninja Quant Ep 10: Number Properties II (video, 59 min)

Number properties deal with the characteristics of integers. Integers include positive numbers (1, 2, 3...), negative numbers (-1, -2, -3...), and zero.

Even and Odd Numbers

An even number is any integer divisible by 2. An odd number is any integer not divisible by 2.

Understanding their arithmetic properties is crucial:

- Even + Even = Even
- Odd + Odd = Even
- Even + Odd = Odd
- Even * Even = Even
- Odd * Odd = Odd
- Even * Odd = Even

Prime and Composite Numbers

A prime number is a positive integer greater than 1 that has exactly two distinct positive factors: 1 and itself. Examples include 2, 3, 5, 7, 11. Note that 2 is the only even prime number. A composite number is a positive integer greater than 1 that has more than two positive factors. Examples include 4, 6, 8, 9, 10. The number 1 is neither prime nor composite.

Factors and Multiples

Factors of a number divide it exactly, leaving no remainder. Multiples of a number are the products of that number and any integer. For example, the factors of 12 are 1, 2, 3, 4, 6, and 12. The multiples of 3 are 3, 6, 9, 12, and so on.

Divisibility Rules

Knowing divisibility rules helps quickly determine if one number divides another without a remainder:

- **By 2:** The number ends in 0, 2, 4, 6, or 8.
- **By 3:** The sum of its digits is divisible by 3.
- **By 4:** The number formed by its last two digits is divisible by 4.
- **By 5:** The number ends in 0 or 5.
- **By 6:** The number is divisible by both 2 and 3.
- **By 8:** The number formed by its last three digits is divisible by 8.
- **By 9:** The sum of its digits is divisible by 9.
- **By 10:** The number ends in 0.

Prime Factorization, GCF, and LCM

Prime factorization breaks down a number into its prime factors. For example, $72 = 2 * 2 * 2 * 3 * 3$, or $2^3 * 3^2$. This is fundamental for finding the Greatest Common Factor (GCF) and Least Common Multiple (LCM) of two or more numbers.

To find the GCF, multiply the common prime factors raised to the lowest power they appear in any of the numbers. To find the LCM, multiply all prime factors (common and uncommon) raised to the highest power they appear in any of the numbers.

Example: Find the GCF and LCM of 12 and 18.

Prime factorization of 12: $2^2 * 3^1$

Prime factorization of 18: $2^1 * 3^2$

$GCF(12, 18) = 2^1 * 3^1 = 6$

$LCM(12, 18) = 2^2 * 3^2 = 4 * 9 = 36$

Remainders

When an integer N is divided by a positive integer D , we get a quotient Q and a remainder R , such that $N = D * Q + R$, where $0 \leq R < D$. The remainder is always non-negative and less than the divisor. For example, when 75 is divided by 7, $75 = 7 * 10 + 5$. The remainder is 5.

Counting, Sequences, and Rates

Covers: GMAT Ninja Quant Ep 11: Counting & Sequences (video, 1 hr 2 min) · GMAT Ninja Quant Ep 12: Conversions & Rates I (video, 59 min) · GMAT Ninja Quant Ep 13: Rates II (video, 1 hr 10 min)

Counting Principles

Counting problems determine the number of possible arrangements or selections. The **Multiplication Principle** states that if there are 'm' ways to perform one task and 'n' ways to perform a second task, then

there are $m * n$ ways to perform both tasks. For example, if you have 3 different shirts and 4 different pairs of pants, you can create $3 * 4 = 12$ different outfits.

Permutations involve arrangements where order matters. The number of permutations of 'n' distinct items taken 'r' at a time is given by $nPr = n! / (n-r)!$. **Combinations** involve selections where order does not matter. The number of combinations of 'n' distinct items taken 'r' at a time is given by $nCr = n! / (r! * (n-r)!)$. For GMAT Focus, focus on understanding when order matters and applying these concepts to straightforward scenarios rather than memorizing complex formulas.

Sequences

Sequences are ordered lists of numbers.

Arithmetic Progressions (AP) have a constant difference between consecutive terms. This difference is called the common difference (d). The nth term is $a_n = a_1 + (n-1)d$. The sum of the first 'n' terms is $S_n = n/2 * (a_1 + a_n)$.

Geometric Progressions (GP) have a constant ratio between consecutive terms. This is called the common ratio (r). The nth term is $a_n = a_1 * r^{(n-1)}$.

Example for AP: The sequence 2, 5, 8, 11... has a common difference of 3. The 4th term is $2 + (4-1)3 = 2 + 9 = 11$.

Rates

Rates problems involve a quantity changing over time. The general formula is $\text{Rate} = \text{Quantity} / \text{Time}$.

Distance, Speed, Time: The most common rate problem type. The formula is $\text{Distance} = \text{Speed} * \text{Time}$ ($D=ST$). Ensure units are consistent. If speed is in miles per hour, distance must be in miles and time in hours.

Work Rates: If a person or machine completes a job in 'T' hours, their work rate is $1/T$ of the job per hour. When multiple entities work together, their rates add up.

Example: Pipe A fills a tank in 3 hours, and Pipe B fills the same tank in 6 hours. How long does it take if both pipes work together?

Pipe A's rate = $1/3$ tank/hour Pipe B's rate = $1/6$ tank/hour Combined rate = $1/3 + 1/6 = 2/6 + 1/6 = 3/6 = 1/2$ tank/hour

Time = Quantity / Rate = 1 tank / ($1/2$ tank/hour) = 2 hours

Average Speed: This is always Total Distance / Total Time. It is not simply the average of individual speeds unless the times traveled at each speed are equal. Be careful not to use $(\text{Speed}_1 + \text{Speed}_2) / 2$ unless the problem conditions justify it.

Unit Conversions: Many rate problems require converting units (e.g., minutes to hours, feet to miles). Always convert to consistent units before performing calculations.

Overlapping Sets

Covers: GMAT Ninja Quant Ep 14: Overlapping Sets (video, 46 min)

Overlapping sets problems involve groups with members that belong to more than one category. The **Principle of Inclusion-Exclusion** is the key concept here. For two overlapping sets, the formula helps us account for individuals counted twice.

For two sets, Group 1 and Group 2, the formula is:

$$\text{Total} = \text{Group1} + \text{Group2} - \text{Both} + \text{Neither}$$

Here:

- **Total** is the total number of items or people in the universal set.
- **Group1** is the number of items in the first category.
- **Group2** is the number of items in the second category.
- **Both** is the number of items that belong to *both* Group 1 and Group 2.
- **Neither** is the number of items that belong to *neither* Group 1 nor Group 2.

Venn diagrams are excellent tools for visualizing these problems. They help you clearly see the distinct regions: those in Group 1 only, those in Group 2 only, those in both, and those in neither.

Let's work through an example: In a class of 30 students, 15 play basketball, 10 play soccer, and 5 play both sports. How many students play neither basketball nor soccer?

Using the formula:

$$\begin{aligned}\text{Total} &= \text{Basketball} + \text{Soccer} - \text{Both} + \text{Neither} \\ 30 &= 15 + 10 - 5 + x \\ 30 &= 20 - 5 + x \\ 30 &= 15 + x \\ x &= 30 - 15 \\ x &= 15\end{aligned}$$

So, 15 students play neither basketball nor soccer.

When dealing with three overlapping sets, the formula becomes more complex, but the underlying principle remains the same: you add all individual groups, subtract all two-group overlaps, add back the three-group overlap, and then add those belonging to none of the groups. While GMAT Focus primarily tests two-set scenarios directly, understanding the logic extends to more complex situations. Always organize your information carefully, perhaps in a table or a Venn diagram, to avoid miscounting.

KEY TAKEAWAYS

- Ratios compare quantities, while percentages express parts per hundred; master their conversions and applications in word problems.
- Successive percentage changes apply to the current value, not the original, often resulting in a net change different from zero.
- Number properties such as even/odd, prime/composite, factors/multiples, and divisibility rules are foundational for GMAT Quant.
- Prime factorization is essential for finding the Greatest Common Factor (GCF) and Least Common Multiple (LCM) of numbers.
- Counting problems require careful consideration of whether order matters (permutations) or not (combinations).
- Rates problems use the formula $\text{Rate} = \text{Quantity} / \text{Time}$; always ensure consistent units for accurate calculations.
- The formula $\text{Total} = \text{Group1} + \text{Group2} - \text{Both} + \text{Neither}$ is crucial for solving problems involving two overlapping sets.

CHECK YOUR UNDERSTANDING

Answer these before moving on. Model answers are in the Answer Key at the back of this guide.

1. Explain the difference between a part-to-part ratio and a part-to-whole ratio, providing an example for each.
2. An item's price increases by 20%, then decreases by 20%. Is the final price higher than, lower than, or equal to the original price? Explain why.
3. What is the Greatest Common Factor (GCF) and the Least Common Multiple (LCM) of 24 and 36?
4. Two workers, A and B, can complete a task individually in 4 hours and 6 hours, respectively. If they work together, how long will it take them to complete the task?
5. In a survey of 50 people, 30 like coffee, 20 like tea, and 10 like both. How many people like neither coffee nor tea?

CHAPTER 4

Quant: Statistics, Probability, and Combinatorics

Chapter 4 prepares you for the GMAT Quant section by focusing on essential concepts in statistics, probability, and combinatorics. These topics frequently appear on the exam, often testing your conceptual understanding and ability to apply formulas efficiently, rather than requiring complex calculations. Mastering this material will help you approach a significant portion of GMAT Quant questions with confidence.

This chapter provides a comprehensive review of key statistical measures, the fundamentals of probability, and the critical distinction between permutations and combinations. You will learn to identify the correct approach for various problem types and avoid common pitfalls, ensuring you can solve these problems accurately and quickly.

Understanding Statistics: Measures of Central Tendency and Spread

Covers: GMAT Ninja Quant Ep 15: Statistics Part I (video, 45 min) · GMAT Ninja Quant Ep 16: Statistics Part II (video, 57 min)

Statistics questions on the GMAT primarily test your understanding of central tendency and data spread. The most common measures of central tendency are the mean, median, and mode. The range and standard deviation describe data spread.

Mean (Arithmetic Average)

The mean is the sum of all values divided by the number of values. It is sensitive to outliers. For a set of numbers $\{x_1, x_2, \dots, x_n\}$, the mean is calculated as:

$$\text{Mean} = (x_1 + x_2 + \dots + x_n) / n$$

For example, the mean of $\{2, 3, 7, 8\}$ is $(2 + 3 + 7 + 8) / 4 = 20 / 4 = 5$.

Median

The median is the middle value in a set when the values are arranged in ascending or descending order. If there is an odd number of values, the median is the single middle number. If there is an even number of values, the median is the average of the two middle numbers.

Example 1: For $\{2, 3, 7, 8, 10\}$, the median is 7. Example 2: For $\{2, 3, 7, 8\}$, the median is $(3 + 7) / 2 = 5$.

The median is less affected by extreme values than the mean.

Mode

The mode is the value that appears most frequently in a set. A set can have one mode, multiple modes, or no mode.

Example: For {2, 3, 3, 7, 8}, the mode is 3. For {2, 3, 3, 7, 7, 8}, the modes are 3 and 7.

Range

The range is the difference between the highest and lowest values in a set. It gives a simple measure of data spread.

Example: For {2, 3, 7, 8, 10}, the range is $10 - 2 = 8$.

Standard Deviation

Standard deviation measures the average amount of variation or dispersion of data points around the mean. A small standard deviation indicates that data points are generally close to the mean. A large standard deviation indicates that data points are spread out over a wider range of values. The GMAT typically tests the *concept* of standard deviation, not its calculation. You should understand that adding or subtracting a constant to every value in a set does not change the standard deviation. Multiplying or dividing every value by a constant scales the standard deviation by the absolute value of that constant.

Weighted Averages

A weighted average is used when different values contribute unequally to the total. Each value is multiplied by its weight, these products are summed, and the result is divided by the sum of the weights.

$$\text{Weighted Average} = (w_1 \times x_1 + w_2 \times x_2 + \dots + w_n \times x_n) / (w_1 + w_2 + \dots + w_n)$$

Example: A student scores 80 on a test weighted 40% and 90 on a test weighted 60%. The weighted average is $(0.40 \times 80 + 0.60 \times 90) / (0.40 + 0.60) = (32 + 54) / 1 = 86$.

Common Mistakes and Practice

One common mistake is confusing the mean and median, especially with outliers present. Always arrange data for the median. For standard deviation, remember that changing all values by the same absolute amount (e.g., adding 5 to each) does not change the spread. Changing values proportionally (e.g., multiplying by 2) does change the spread. Practice calculating these measures for various small data sets, including those with repeated numbers or outliers. Pay close attention to wording in problems to determine which measure is being requested. Consider how adding or removing a data point affects these statistics.

Probability and Combinatorics: Counting Outcomes and Likelihoods

Covers: GMAT Ninja Quant Ep 17: Probability (video, 55 min) · GMAT Ninja Quant Ep 18: Combinations & Permutations (video, 46 min)

Probability and combinatorics deal with counting possible outcomes and determining the likelihood of specific events. These topics require careful setup and understanding of 'AND' versus 'OR' conditions.

Basic Probability

Probability is the chance that an event will occur. It is expressed as a fraction or decimal between 0 and 1, inclusive.

$$P(\text{Event}) = (\text{Number of favorable outcomes}) / (\text{Total number of possible outcomes})$$

Example: The probability of rolling a 3 on a standard six-sided die is $1/6$, because there is one favorable outcome (rolling a 3) and six total possible outcomes (1, 2, 3, 4, 5, 6).

'AND' vs. 'OR' in Probability

- **'AND' (Multiplication Rule):** For two *independent* events A and B (where the outcome of one does not affect the other), the probability that both A *and* B occur is $P(A) * P(B)$. Example: The probability of rolling a 3 on the first die AND a 4 on the second die is $(1/6) * (1/6) = 1/36$.
- **'OR' (Addition Rule):** For two *mutually exclusive* events A and B (events that cannot both happen at the same time), the probability that A *or* B occurs is $P(A) + P(B)$. Example: The probability of rolling a 3 OR a 4 on a single die is $(1/6) + (1/6) = 2/6 = 1/3$.

Complementary Events

The probability that an event does *not* occur is 1 minus the probability that it *does* occur. $P(\text{not } A) = 1 - P(A)$. This is often useful for 'at least one' problems.

Permutations: Order Matters

A permutation is an arrangement of items where the order of selection is important. For example, arranging books on a shelf or selecting a president, vice-president, and secretary from a group. The number of permutations of k items chosen from a set of n distinct items is given by:

$${}_nP_k = n! / (n-k)!$$

Where '!' denotes the factorial (e.g., $5! = 5 * 4 * 3 * 2 * 1$).

Example: How many ways can 3 students be chosen from a group of 5 to fill the positions of President, Vice-President, and Treasurer? Order matters. This is ${}_5P_3 = 5! / (5-3)! = 5! / 2! = (5 * 4 * 3 * 2 * 1) / (2 * 1) = 60$ ways.

Combinations: Order Does Not Matter

A combination is a selection of items where the order of selection is not important. For example, choosing a committee of 3 people from a group of 5. The number of combinations of k items chosen from a set of n distinct items is given by:

$${}_nC_k = n! / (k! * (n-k)!)$$

Example: How many ways can a committee of 3 students be chosen from a group of 5? Order does not matter. This is ${}_5C_3 = 5! / (3! * (5-3)!) = 5! / (3! * 2!) = (5 * 4 * 3 * 2 * 1) / ((3 * 2 * 1) * (2 * 1)) = 120 / (6 * 1) = 20$ ways.

2) = $120 / 12 = 10$ ways.

Common Mistakes and Practice

The most frequent error is confusing permutations and combinations. Ask yourself: 'Does the order of selection change the outcome?' If yes, it is a permutation. If no, it is a combination. Practice identifying these situations. For probability, ensure you correctly identify independent versus mutually exclusive events. Use tree diagrams for sequential events to visualize outcomes. Break down complex problems into smaller, manageable steps.

KEY TAKEAWAYS

- The mean, median, and mode are measures of central tendency, each sensitive to outliers differently.
- Standard deviation indicates the spread of data points around the mean; a larger value means greater spread.
- Weighted averages account for different contributions of individual values to a total.
- Basic probability is the ratio of favorable outcomes to total possible outcomes.
- For independent events, use multiplication for 'AND' probabilities; for mutually exclusive events, use addition for 'OR' probabilities.
- Permutations are arrangements where order matters, while combinations are selections where order does not matter.
- Carefully distinguish between permutation and combination problems by determining if order is a significant factor.

CHECK YOUR UNDERSTANDING

Answer these before moving on. Model answers are in the Answer Key at the back of this guide.

1. What is the difference between the mean and the median, and when might one be preferred over the other?
2. Explain the concept of standard deviation without using a formula.
3. How do you determine if a problem requires a permutation or a combination?
4. A bag contains 5 red marbles and 3 blue marbles. What is the probability of drawing two red marbles in a row without replacement?
5. If a data set has a mean of 10 and a standard deviation of 2, what happens to the mean and standard deviation if every value in the set is increased by 3?

CHAPTER 5

Critical Reasoning

Critical Reasoning (CR) questions on the GMAT Focus Edition test your ability to analyze arguments, evaluate evidence, and identify underlying assumptions. This chapter provides a comprehensive framework for approaching CR questions, moving beyond superficial strategies to build a deep understanding of argument structure and common pitfalls.

Mastering CR involves careful reading, precise paraphrasing, and a systematic approach to evaluating answer choices. You will learn to identify the core of an argument, recognize common traps, and confidently reject incorrect options, even when the perfect answer seems elusive.

The Core Approach to Critical Reasoning

Covers: GMAT Ninja CR Ep 1: How to Approach GMAT Focus Critical Reasoning · GMAT Ninja CR Ep 2: Missing the Heart of the Passage · GMAT Ninja CR Ep 3: Paraphrasing · GMAT Ninja CR Ep 4: Obsessing Over Question Types

Success in GMAT Critical Reasoning begins with a consistent and disciplined approach. Do not rush to the answer choices. Your primary goal is to understand the argument presented in the passage. This means identifying its core components: the conclusion, the evidence or premises supporting that conclusion, and any unstated assumptions that bridge the gap between the evidence and the conclusion.

Identifying the Argument's Heart

Many students struggle because they miss the central point of the passage. The 'heart' of the passage is the main argument. It is not just a collection of facts. It is the author's point of view or recommendation, supported by specific reasons. Look for indicator words such as 'therefore', 'thus', 'consequently', or 'it follows that' to pinpoint the conclusion. Evidence often follows words like 'because', 'since', or 'for example'.

Once you identify the conclusion and evidence, ask yourself: *What must be true for this evidence to lead to this conclusion?* This question helps you uncover assumptions. Assumptions are unstated premises that are necessary for the argument to hold. They are often the key to strengthening or weakening an argument.

The Power of Paraphrasing

Paraphrasing is a critical skill for ensuring deep comprehension. After reading the passage, restate the argument in your own simple terms. Do not just repeat the words. Explain the conclusion, the evidence, and the core assumption as if you were explaining it to someone unfamiliar with the topic. This process forces you to engage with the meaning, not just the text. It helps you clarify ambiguities and identify any gaps in your understanding.

For example, consider this argument:

"Sales of electric cars have increased significantly over the past five years. Therefore, the government should invest more in charging infrastructure to support this growth."

Your paraphrase might be: *"Because more people are buying electric cars, the government needs to build more charging stations to keep up with demand."*

Here, the conclusion is the government should invest more. The evidence is increased sales. An unstated assumption is that current infrastructure is insufficient or that government investment is the best way to address the need.

De-emphasizing Question Types

While GMAT CR questions fall into categories like Strengthen, Weaken, Assumption, Inference, and Evaluate, do not obsess over these labels initially. The fundamental task remains the same: understand the argument. Once you grasp the argument's structure and content, the question type will guide *how* you interact with the argument, not *what* the argument is. For instance, a 'Strengthen' question asks for something that makes the conclusion more likely, given the evidence and assumptions. A 'Weaken' question asks for something that makes the conclusion less likely. Focus on the argument first, then apply the question type to your analysis. This approach prevents you from imposing a specific type of answer before fully understanding the argument's nuances.

Avoiding Common Traps in Critical Reasoning

Covers: GMAT Ninja CR Ep 5: Anticipating the Correct Answer... Incorrectly · GMAT Ninja CR Ep 6: Falling in love with an answer choice · GMAT Ninja CR Ep 7: Irrelevant & Out of Scope · GMAT Ninja CR Ep 8: Word Matching

Even with a strong understanding of argument structure, test-takers often fall prey to predictable traps. Recognizing these common errors is crucial for improving your accuracy in Critical Reasoning.

Anticipating Incorrectly

It is natural to try to predict the correct answer after analyzing the argument. However, this can be a double-edged sword. While some pre-thinking is useful, rigidly anticipating a specific answer can lead you to overlook the actual correct choice. The GMAT often presents answers that are subtly different from your prediction, or it may offer a valid alternative you did not consider. Be flexible. Use your pre-thinking to guide your search, but be ready to accept an answer that works, even if it is not exactly what you expected. If you find yourself trying to force an answer choice to fit your prediction, pause and re-evaluate.

Falling in Love with an Answer Choice

Emotional attachment to a particular answer choice can be a significant impediment. You might favor an option because it sounds good, uses familiar language, or aligns with your personal beliefs. However, the GMAT requires objective reasoning. An answer choice must logically interact with the argument as presented, regardless of its superficial appeal. If you spend too much time trying to justify a choice that does not quite fit, you are likely wasting valuable time and setting yourself up for an incorrect selection. Treat every answer choice with equal scrutiny initially. Do not let a single word or phrase bias you.

Irrelevant and Out of Scope Options

Many incorrect answer choices are irrelevant or out of scope. An **irrelevant** answer choice discusses something that has no bearing on the argument's conclusion or its supporting evidence. It might introduce a new topic that is related to the general subject matter but not to the specific argument at hand. An **out of scope** answer choice introduces information that goes beyond the boundaries of the argument. It might discuss consequences, implications, or related issues that are not directly addressed or implied by the passage. For example, if an argument is about the effectiveness of a new marketing campaign, an answer choice discussing the company's overall financial health might be out of scope unless directly linked to the campaign's success.

The Word Matching Trap

The GMAT frequently includes answer choices that use words or phrases directly from the passage. This is a common trap designed to appeal to test-takers who are scanning for familiar terms rather than understanding the argument's meaning. Simply matching words does not guarantee correctness. Often, these choices misrepresent the original meaning, twist the context, or connect familiar terms in illogical ways. Always prioritize the *meaning* and *logical connection* of an answer choice to the argument. Do not select an answer just because it contains words you recognize from the passage. Carefully analyze how the answer choice's content affects the argument.

Mastering Answer Choice Evaluation

Covers: GMAT Ninja CR Ep 9: Rejecting Imperfect Answer Choices

The final stage of solving a Critical Reasoning question involves systematically evaluating the answer choices. This is where many students struggle, especially when no single answer seems perfectly correct. The GMAT often presents four incorrect choices and one correct choice that may not be ideal, but is demonstrably better than the others. Your task is to find the *best* answer, not necessarily a flawless one.

The Elimination Mindset

Approach the answer choices with an elimination mindset. Your goal is to find reasons to *reject* four of the five options. The remaining choice, by process of elimination, must be the correct answer. This strategy is highly effective because it focuses on concrete flaws rather than subjective preferences.

Criteria for Rejection

When evaluating each answer choice, apply these rejection criteria:

- **Irrelevant or Out of Scope:** As discussed, if an answer choice introduces information unrelated to the argument's core or extends beyond its boundaries, eliminate it. It does not address the argument presented.
- **Contradicts the Passage:** Some choices directly contradict a statement or implication made in the passage. These are clear eliminations.
- **Too Strong or Too Weak:** Pay attention to the strength of the language. Words like 'always', 'never', 'all', 'only' are very strong and often make an answer choice incorrect if the argument does not fully

support such an absolute claim. Conversely, an answer might be too weak to have any meaningful impact on the argument, especially for Strengthen or Weaken questions.

- **Introduces New Information:** Be wary of choices that bring in new facts or concepts not mentioned or implied by the passage. While some questions (like Strengthen/Weaken) might introduce *new evidence*, this evidence must directly impact the existing argument. If it introduces an entirely new premise that the argument does not rely on, it is likely incorrect.
- **Word Matching Trap:** Do not fall for choices that merely echo words from the passage without conveying a logical connection to the argument's conclusion or evidence. Superficial resemblance is a common distractor.

Systematic Comparison

After eliminating the clearly incorrect choices, you might be left with two or three plausible options. This is where careful comparison is essential. Re-read the argument and the question. Then, compare the remaining answer choices side-by-side. Ask yourself: *Which of these options most directly addresses the question based on the argument's components? Which one has the most significant impact (for Strengthen/Weaken) or is most directly supported (for Inference)?*

For example, if a 'Weaken' question has two seemingly plausible answers, one might weaken the argument slightly, while the other devastates it. Choose the one with the stronger, more direct impact. Often, the 'correct' answer is simply the *least incorrect* of the options. Do not hesitate to select an answer that feels imperfect, provided you have clear reasons to reject all other choices. This systematic approach, focusing on why answers are wrong, builds confidence and improves accuracy.

KEY TAKEAWAYS

- Always begin by deeply understanding the argument's conclusion, evidence, and unstated assumptions before looking at answer choices.
- Paraphrasing the argument in your own words ensures genuine comprehension and helps identify its core structure.
- Prioritize understanding the argument over categorizing question types; the question type merely dictates how you interact with the argument's components.
- Avoid rigid pre-thinking or emotional attachment to answer choices; remain flexible and objective during evaluation.
- Actively identify and eliminate irrelevant, out of scope, contradictory, or superficially word-matched answer options.
- The correct answer is often the best among imperfect choices, so focus on rejecting the four incorrect options systematically.

CHECK YOUR UNDERSTANDING

Answer these before moving on. Model answers are in the Answer Key at the back of this guide.

1. What are the three core components of any Critical Reasoning argument that you should identify first?
2. Why is paraphrasing an effective strategy for Critical Reasoning questions?
3. Explain the 'word matching' trap and why it is dangerous.
4. When evaluating answer choices, what is the primary mindset you should adopt?
5. What does it mean for an answer choice to be 'out of scope'?

CHAPTER 6

Reading Comprehension Strategies

Reading Comprehension (RC) on the GMAT Focus Edition tests your ability to understand, analyze, and evaluate written material. This includes identifying the main idea, understanding the author's purpose, distinguishing between facts and opinions, and making inferences based on the text. Success in RC requires a strategic approach, focusing on the structure and argument of a passage rather than getting lost in minor details.

This chapter provides a comprehensive guide to mastering GMAT Focus Reading Comprehension. You will learn fundamental strategies for approaching any passage, specific techniques for handling different subject matters like science and humanities, and advanced methods for tackling long and exceptionally difficult texts. The goal is to improve your efficiency and accuracy, helping you confidently answer RC questions without needing to reread extensively.

Fundamental Approach to Reading Comprehension and Point of View

Covers: GMAT Ninja RC Ep 1: How to approach GMAT Focus Reading Comprehension (video, 1 hr 12 min) · GMAT Ninja RC Ep 2: Point of View in Reading Comprehension Passages (video, 59 min)

Your primary goal in GMAT Reading Comprehension is to grasp the passage's overall structure and the author's main point. Do not read for every single detail. Instead, focus on the 'why' and 'how' of the passage. Why did the author write this? How do the paragraphs connect? What is the author trying to achieve?

The Strategic Reading Process

- 1. Read for Structure and Main Idea:** Begin by reading the passage actively. Pay close attention to the first and last sentences of each paragraph. These often contain topic sentences or summary statements. Identify the overall topic, the author's general stance, and the logical flow from one paragraph to the next. Look for transition words (e.g., 'however', 'consequently', 'for example') that signal shifts in argument or evidence.
- 2. Identify the Author's Purpose:** Every passage has a primary purpose. Is the author explaining a phenomenon, arguing a position, critiquing an idea, or comparing different viewpoints? Understanding this overarching goal helps you filter relevant information. Common purposes include to analyze, to evaluate, to describe, to refute, or to reconcile.
- 3. Understand the Scope:** The scope is the specific aspect of the topic the author chooses to discuss. A passage might mention a broad subject like 'climate change' but focus only on 'the economic impact of climate change on coastal cities'. Keep the scope narrow. Do not bring in outside knowledge.
- 4. Note Key Terms and Definitions:** Some passages introduce specialized vocabulary. While you do not need to memorize these, understand their role in the passage. The GMAT often defines complex terms within the text. Make a mental note of where these definitions appear.

Point of View in Passages

Understanding point of view is crucial for many RC questions, especially those asking about tone or author's attitude. The author's point of view refers to their perspective, opinion, or stance on the subject matter. It can be neutral, critical, supportive, skeptical, or enthusiastic.

- **Author's Explicit View:** Sometimes the author states their opinion directly using phrases like 'I believe' or 'it is clear that'.
- **Author's Implicit View:** More often, the author's view is implied through word choice (diction), the selection of evidence, and the overall tone. For instance, using words like 'flawed', 'unconvincing', or 'misguided' indicates a critical stance. Conversely, words like 'compelling', 'insightful', or 'robust' suggest approval.
- **Distinguishing Views:** Passages often present multiple viewpoints. The author might discuss the views of other researchers, critics, or schools of thought. It is essential to differentiate between the author's own opinion and the opinions they are merely reporting. Pay attention to attribution (e.g., 'Smith argues that...', 'Critics contend that...').

Common Mistakes to Avoid

- **Getting Lost in Details:** Do not try to memorize every fact. Focus on the main idea and structure. Specific details are there to support the main idea. You can always refer back to the passage for detail-oriented questions.
- **Misidentifying Scope:** Avoid choosing answers that are too broad or too narrow compared to the passage's actual focus.
- **Confusing Author's View with Others' Views:** Ensure you correctly attribute opinions. A common trap is to select an answer reflecting a view mentioned in the passage but not held by the author.

Practice Cue

After reading a passage, pause before looking at the questions. Mentally summarize the main idea, the author's purpose, and the structure of each paragraph. Try to articulate the author's point of view in one sentence. This active recall strengthens your understanding.

Strategies for Science and Humanities Passages

Covers: GMAT Ninja RC Ep 3: How to Approach Science Passages on the GMAT Focus & EA (video, 55 min) · GMAT Ninja RC Ep 4: How to Tackle Humanities Passages on the GMAT Focus & EA (video, 1 hr 5 min)

GMAT Reading Comprehension passages span various disciplines, primarily science and humanities. While the core strategies of reading for structure and main idea remain consistent, adapting your focus to the specific characteristics of each type can improve your performance.

Approaching Science Passages

Science passages often discuss research, theories, natural phenomena, or technological advancements. They tend to be factual and objective, though they can present competing hypotheses or interpretations.

- **Identify the Core Concept or Phenomenon:** What is the central scientific idea being discussed? This could be a biological process, a physical law, or a chemical reaction.
- **Track Experiments and Results:** If an experiment is described, understand its purpose, methodology, and findings. Pay attention to cause and effect relationships. Do not get bogged down in technical jargon; focus on the *implications* of the data.
- **Note Competing Theories or Explanations:** Science passages frequently present an established theory and then introduce a new hypothesis or an alternative explanation. Clearly distinguish between these different perspectives and understand the evidence supporting each.
- **Focus on Relationships:** How do different concepts relate to each other? Is one a cause of another? Is one a specific example of a broader principle? Look for comparative language.
- **Common Question Types:** Expect questions about specific details, the purpose of an experiment, the relationship between two concepts, or the implications of a finding.

Tackling Humanities Passages

Humanities passages typically explore topics in art, literature, history, philosophy, or social sciences. These passages often feature more nuanced arguments, subjective interpretations, and discussions of ideas or historical events.

- **Identify the Central Argument or Thesis:** Humanities passages are often built around an author's argument or interpretation of a subject. Pinpoint this main contention early.
- **Track Different Perspectives and Interpretations:** These passages frequently discuss the views of different scholars, artists, or historical figures. It is crucial to keep these perspectives separate and understand how they relate to the author's own argument. Look for phrases like 'some scholars argue', 'a contrasting view holds', or 'the traditional interpretation'.
- **Analyze Tone and Diction:** The author's attitude is often more pronounced in humanities passages. Pay close attention to word choice. Is the author critical, admiring, neutral, or dismissive? The tone can reveal a lot about their point of view.
- **Understand Historical Context (if applicable):** If the passage discusses a historical period or event, understand its significance within the argument. Dates and names are usually less important than the ideas or movements they represent.
- **Common Question Types:** You will likely encounter questions about the author's main point, the purpose of a specific example, the relationship between different theories, or the overall tone of the passage.

Practice Cue

When practicing, consciously identify whether a passage is science or humanities. Then, apply the specific focus points for that type. For science, sketch out the experiment or theory. For humanities, outline the main argument and opposing viewpoints. This targeted practice builds efficiency.

Mastering Long and Hard Reading Passages

Covers: GMAT Ninja RC Ep 5: Long Reading Comprehension Passages on the GMAT Focus & EA (video, 1 hr 2 min) · GMAT Ninja RC Ep 6: Hard Reading Passages on the GMAT Focus & EA (video, 1 hr 8 min)

Long and hard Reading Comprehension passages present distinct challenges. Long passages test your endurance and ability to maintain focus, while hard passages demand a deeper understanding of complex arguments and subtle distinctions. Both require disciplined reading and effective information management.

Strategies for Long Passages

Long passages, typically four or more paragraphs, can feel overwhelming. The key is to manage your time and attention efficiently.

- **Maintain Focus:** It is easy to lose track of the main idea in a lengthy discussion. After each paragraph, quickly summarize its contribution to the overall argument. Ask yourself: 'What did I just read, and how does it fit in?'
- **Paragraph Mapping:** Create a mental or brief physical map of the passage. For each paragraph, note its main point and purpose in the margin or on your scratchpad. This allows you to quickly locate information when answering questions. For example:
 - P1: Intro to X, historical context.
 - P2: Theory A about X, evidence.
 - P3: Critique of Theory A, new evidence.
 - P4: Theory B (author's preferred), implications.
- **Anticipate Questions:** As you read, consider what aspects of the passage might lead to questions. Look for contrasting viewpoints, cause-and-effect relationships, and strong author opinions. This primes your brain for critical details.
- **Do Not Reread Entire Passages:** If a question asks about a specific detail, use your paragraph map to go directly to the relevant section. Rereading the whole passage for every question is a significant time sink.

Tackling Hard Passages

Hard passages are characterized by dense prose, abstract concepts, intricate arguments, or a high concentration of technical terms. They require a more analytical and patient approach.

- **Slow Down Initially:** For a truly hard passage, resist the urge to rush. A slightly slower, more deliberate first read to grasp the core argument will save time later by reducing the need for multiple rereads.
- **Break Down Complex Sentences:** Identify the subject, verb, and object in long, convoluted sentences. Parenthetical phrases or clauses often provide additional detail but can be mentally set aside during the initial parse to understand the core meaning.

- **Identify the Argument's Components:** For passages presenting an argument, clearly distinguish the conclusion, the evidence supporting it, and any counterarguments or objections raised. Understand how each part contributes to the whole.
- **Recognize Subtle Distinctions:** Hard passages often hinge on fine differences between similar concepts or arguments. Pay close attention to qualifying words (e.g., 'rarely', 'often', 'primarily', 'notwithstanding') that modify claims.
- **Use Context for Unfamiliar Terms:** If you encounter a highly specialized term, do not panic. The GMAT rarely requires outside knowledge. The surrounding sentences usually provide enough context to understand the term's function in the passage, even if you do not know its precise definition.

Common Mistakes to Avoid

- **Skimming Too Much:** While you should not get lost in details, skimming excessively on hard passages means you miss the main argument entirely. Find a balance.
- **Giving Up on the First Read:** Hard passages demand persistence. If you do not fully grasp it on the first pass, identify the parts you understood and reread only the most challenging sentences or paragraphs.

Practice Cue

Select passages that you find particularly challenging. Practice creating a concise paragraph map for each. For hard passages, try to paraphrase each paragraph's main point in your own words to ensure you truly understand the content, not just the words.

KEY TAKEAWAYS

- Approach all Reading Comprehension passages by focusing on the main idea, overall structure, and the author's primary purpose, rather than memorizing every detail.
- Actively identify the author's point of view, distinguishing it from other perspectives presented in the passage.
- Adapt your reading strategy for science passages by tracking experiments, results, and competing theories, focusing on cause and effect.
- For humanities passages, prioritize identifying the central argument, different interpretations, and the author's tone and diction.
- Manage long passages by creating mental or physical paragraph maps to maintain focus and efficiently locate specific information.
- Tackle hard passages by slowing down initially, breaking down complex sentences, and precisely identifying the components of an argument.
- Avoid common pitfalls such as getting lost in minor details, misidentifying the passage's scope, or confusing different viewpoints.

CHECK YOUR UNDERSTANDING

Answer these before moving on. Model answers are in the Answer Key at the back of this guide.

1. What is the primary objective when reading a GMAT Reading Comprehension passage?
2. How can you effectively distinguish the author's point of view from other perspectives mentioned in a passage?
3. What is a key difference in approach when reading a science passage versus a humanities passage?
4. Describe the 'paragraph mapping' strategy and explain its benefit for long passages.
5. When encountering a particularly hard or dense passage, what initial step should you take?

CHAPTER 7

Data Insights

This chapter introduces the GMAT Focus Edition's Data Insights section, a critical component that assesses your ability to analyze, interpret, and synthesize information from diverse sources. This section integrates quantitative and verbal reasoning skills, demanding a strategic approach to various data formats.

Studying this chapter will equip you with the methods needed to confidently tackle graphical interpretation, table analysis, two-part analysis, multi-source reasoning, and data sufficiency questions. Mastery of these techniques is essential for success on the GMAT Focus Edition.

Navigating Data Insights and Graphical Interpretation

Covers: Data Insights Ep. 0: How to Approach GMAT Data Insights (video, 12 min) · Data Insights Ep. 1: Graphical Interpretation -- Just Read the Bleeping Graph (video, 42 min) · Data Insights Ep. 2: Graphical Interpretation -- Fun with Unusual Graphs (video, 48 min) · Data Insights Ep. 3: Key Quant Skills for Graphical Interpretation (video, 49 min)

The Data Insights section of the GMAT Focus Edition is designed to test your ability to work with data in various forms. It combines elements of quantitative reasoning, verbal reasoning, and critical thinking. Your overall approach should involve careful reading of the question, understanding the data presented, and identifying the specific information required to answer.

Understanding Graphical Interpretation

Graphical interpretation questions present data visually through charts and graphs. Common types include bar charts, line graphs, pie charts, and scatter plots. Your first step is always to read the title, axis labels, and legend. These elements provide context and define what the data represents. Pay close attention to units of measurement and the scale of the axes. For instance, a bar chart might show sales figures in millions of dollars, while a line graph could track percentage change over time.

Extracting specific values often requires careful reading of the graph's scale. For example, if a bar ends between two grid lines, you may need to estimate its precise value. Identifying trends involves observing the overall direction of lines or the relative heights of bars. A rising line indicates an increase, a falling line a decrease. Pie charts show proportions of a whole, so the sum of all segments must be 100 percent.

Dealing with Unusual Graphs

Some Data Insights questions may feature less common graph types, such as stacked bar charts, bubble charts, or heat maps. The principle remains the same: understand what each visual element represents. For a stacked bar chart, each segment within a bar contributes to the total height of that bar. A bubble chart uses the size of the bubble to represent a third variable, in addition to the X and Y axes. Always look for a key or legend that explains these unique visual cues.

Essential Quant Skills for Graphs

Many graphical interpretation questions require you to apply basic quantitative skills. These include calculating percentages, ratios, averages, and rates. Estimation is also a powerful tool. You might not need an exact number; often, estimating allows you to quickly eliminate incorrect answer choices. For example, if a question asks for a percentage increase, you might estimate the starting and ending values from a bar chart and then perform a rough calculation.

Consider this example: A bar chart shows company revenue as \$200 million in Year 1 and \$250 million in Year 2. To find the percentage increase, you calculate the difference (\$50 million) and divide by the original amount (\$200 million). This gives 0.25, or a 25 percent increase. If the values were harder to read, say \$203 million and \$248 million, you could estimate them as \$200 million and \$250 million to quickly arrive at an approximate 25 percent increase, which would likely be sufficient to select the correct answer.

Common mistakes include misreading scales, confusing absolute values with percentages, or failing to identify the correct base for percentage calculations. Always double-check the question to ensure you are calculating what is asked.

Table Analysis and Two-Part Analysis

Covers: Data Insights Ep. 4: Table Analysis -- This is Pretty Much Excel (video, 27 min) · Data Insights Ep. 5: Two-Part Analysis -- Verbal-Based Questions (video, 31 min) · Data Insights Ep. 6: Two-Part Analysis -- Quant-based Questions (video, 45 min)

Data Insights questions frequently present information in tables. Table analysis involves extracting specific data points, performing calculations, and identifying relationships within the structured data. Think of a table as a spreadsheet: rows represent records, and columns represent attributes. Carefully read column headers, row labels, and any footnotes. These details are crucial for accurate interpretation.

Mastering Table Analysis

When faced with a complex table, do not try to absorb all information at once. Instead, identify the specific data required by the question. You may need to sum values, calculate averages, find differences, or determine ratios across different rows or columns. For example, if a table lists sales by region and quarter, a question might ask for the total sales in the North region for the third quarter. You would locate the intersection of that row and column. Another question might ask for the average sales across all regions for a specific year. This would require summing the sales for that year and dividing by the number of regions.

Example: Calculating an Average from a Table Suppose a table shows monthly expenses for a department:

Month	Salaries (\$)	Rent (\$)	Utilities (\$)
January	15,000	3,000	500
February	15,000	3,000	650

March	15,000	3,000	700
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To find the average monthly Utilities expense for the first quarter, you would sum the Utilities column ($500 + 650 + 700 = 1,850$) and divide by the number of months (3). The average is $1,850 / 3 = \$616.67$.

Understanding Two-Part Analysis (TPA)

Two-Part Analysis questions require you to make two independent decisions to complete a scenario. The question will present a problem, and you will choose one option from a list for the first part and another option from a second list for the second part. It is crucial to remember that these two choices are independent. Do not assume a relationship between them unless the question explicitly states one.

Verbal-Based TPA Questions

Verbal-based TPA questions often involve logical reasoning, evaluating arguments, or identifying cause and effect. The options typically consist of statements, actions, or conclusions. For instance, a question might present a business problem and ask you to select the best action to address it and the most likely outcome of that action. You must carefully read the prompt and each option to ensure your selections are logically sound and directly supported by the provided information.

Quant-Based TPA Questions

Quant-based TPA questions require calculations, problem-solving, or data interpretation. The options will usually be numerical values, expressions, or specific data points. For example, a question might ask you to select the optimal production quantity for a product and the resulting profit. You would need to perform calculations based on given costs, revenues, or other numerical data to arrive at the correct pair of answers.

For both types of TPA questions, tackle one part at a time. Evaluate the options for the first part and select the best fit. Then, independently evaluate the options for the second part. Common mistakes include assuming the two parts are dependent, failing to fully evaluate all options for each part, or misinterpreting the question prompt's specific requirements.

Multi-Source Reasoning

Covers: Data Insights Ep. 7: Intro to Multi-Source Reasoning (video, 49 min) · Data Insights Ep. 8: Key Reminders for Multi-Source Reasoning (video, 43 min)

Multi-Source Reasoning (MSR) questions present information across multiple tabs or sources, such as text passages, tables, and graphs. Your task is to synthesize information from these disparate sources to answer questions. This format tests your ability to identify relevant data, draw inferences, and recognize potential contradictions.

Strategic Approach to MSR

Begin by quickly skimming all available sources. Understand the general topic of each tab and the type of information it contains. For example, one tab might be a memo, another a sales report table, and a third a

market trend graph. This initial overview helps you identify which sources are likely to be relevant to specific questions without reading every detail immediately.

Once you have a question, identify which sources are most likely to contain the necessary information. You will often need to combine data from two or more sources. For instance, a question might ask about the profitability of a specific product line (information found in a table) in the context of recent market changes (information found in a text passage). You must connect these pieces of data to form a complete answer.

Types of MSR Questions

MSR questions can ask for factual recall, requiring you to locate specific details within one or more sources. They can also ask for inferences, where you must draw a conclusion based on combining information that is not explicitly stated. Other questions may require you to identify discrepancies between sources or evaluate a proposed course of action based on all available data.

Example: Synthesizing Information Imagine Source 1 is an email stating that customer satisfaction dropped last quarter due to slow delivery times. Source 2 is a table showing delivery times for different regions, and Source 3 is a graph illustrating customer satisfaction ratings by region. A question might ask: "Which region experienced the most significant drop in customer satisfaction due to slow delivery times?" You would need to cross-reference the email's claim with the delivery times in Source 2 and the satisfaction ratings in Source 3, focusing on regions with both slow delivery and declining satisfaction.

Key Reminders for MSR

Not all information in every source will be relevant to every question. Be selective in your reading and focus only on what is needed. Beware of distractors: information that seems related but does not directly answer the question. Pay close attention to details such as units, dates, and definitions across sources. A slight difference in a date range or a definition could change the entire meaning. Using your scratchpad to jot down connections or summarize key points from each source can be highly beneficial. Avoid making assumptions not explicitly supported by the provided data. Your answers must be grounded in the information given in the sources.

How to Approach Data Sufficiency in Data Insights

Covers: Data Insights Ep. 9: How to Approach Data Sufficiency (video, 36 min)

Data Sufficiency (DS) questions in the Data Insights section follow the same fundamental logic as their Quantitative Reasoning counterparts, but they often incorporate data presented in graphs, tables, or text passages. The core task remains to determine whether the given statements provide enough information to answer a specific question definitively.

The Five Standard Answer Choices

It is crucial to memorize the five standard answer choices for Data Sufficiency questions. These choices are always the same:

- (A) Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.

- (B) Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.
- (C) BOTH statements (1) and (2) TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.
- (D) EACH statement ALONE is sufficient.
- (E) Statements (1) and (2) TOGETHER are NOT sufficient.

Strategic Evaluation

Your strategy for Data Sufficiency should be systematic. First, thoroughly understand the question. What specific value, relationship, or conclusion are you trying to determine? What information would be needed to answer it definitively?

Next, evaluate Statement (1) ALONE. Temporarily ignore Statement (2). Ask yourself: "Does Statement (1) provide enough information to answer the question?" If it does, then the answer is either (A) or (D). If it does not, the answer must be (B), (C), or (E).

Then, evaluate Statement (2) ALONE. Now, ignore Statement (1). Ask yourself: "Does Statement (2) provide enough information to answer the question?" If it does, the answer is either (B) or (D). If it does not, the answer must be (A), (C), or (E).

If neither statement alone is sufficient, you must combine BOTH statements (1) and (2). Ask: "Do Statements (1) and (2) together provide enough information to answer the question?" If they do, the answer is (C). If even combined they are not sufficient, the answer is (E).

The AD/BCE Method

A helpful method for streamlining the process is the "AD/BCE" approach. If Statement (1) is sufficient, then the answer must be (A) or (D). You can eliminate (B), (C), and (E). If Statement (1) is not sufficient, then the answer must be (B), (C), or (E). You can eliminate (A) and (D).

Example: Data Sufficiency with a Table Consider a question asking for the average number of units sold per salesperson last month. You are given a table of sales data. Statement (1) might say: "The total number of units sold by all salespersons last month was 1,200." Statement (2) might say: "There were 15 salespersons last month." To find the average, you need both the total units and the total number of salespersons. Statement (1) alone gives total units, but not the number of salespersons. Statement (2) alone gives the number of salespersons, but not total units. Therefore, neither is sufficient alone. Combined, they provide both pieces of information (1,200 units / 15 salespersons), making the answer (C).

Common mistakes include forgetting to test statements independently, making assumptions not supported by the data, or confusing "sufficient" with "solvable." Remember, you do not need to solve for the exact answer, only determine if you *could* solve for it.

KEY TAKEAWAYS

- Data Insights assesses your ability to analyze, interpret, and synthesize information from various formats, combining quantitative and verbal reasoning skills.
- Mastering graphical interpretation requires careful attention to scales, legends, and the ability to perform quick estimations for efficient problem-solving.
- Table Analysis demands precision in extracting data and performing calculations based on specific criteria within structured data.
- Two-Part Analysis questions require two independent decisions, whether based on verbal reasoning or quantitative problem-solving, without assuming interdependencies.
- Multi-Source Reasoning tests your skill in synthesizing information from multiple, often disparate, data sources to answer complex questions.
- Data Sufficiency questions in Data Insights apply the classic DS logic to data presented in graphs, tables, or text, requiring a systematic evaluation of statements.

CHECK YOUR UNDERSTANDING

Answer these before moving on. Model answers are in the Answer Key at the back of this guide.

1. What is the primary goal of the GMAT Focus Data Insights section?
2. When approaching a Multi-Source Reasoning question, what is a recommended initial strategy?
3. Explain the core difference between a verbal-based and a quant-based Two-Part Analysis question.
4. Why is estimation a valuable skill in Data Insights, particularly for Graphical Interpretation?
5. Describe the process of evaluating statements in a Data Sufficiency question.

CHAPTER 8

GMAT Focus Orientation

This chapter introduces you to the GMAT Focus Edition, a critical first step in your preparation. You will learn about the exam's structure, its unique scoring system, and the strategic implications of its new features. We also outline a robust practice strategy centered on official materials.

Understanding these foundational elements will help you build an effective study plan and approach the test with confidence.

Understanding the GMAT Focus Edition

Covers: The GMAT Focus Edition, Explained

The GMAT Focus Edition represents a streamlined approach to assessing business school readiness. This computer-adaptive exam is 2 hours and 15 minutes long. It comprises three equally weighted 45-minute sections. Notably, the essay section and Sentence Correction questions have been removed. The test now focuses purely on reasoning skills.

The Sections Explained

The exam consists of three distinct sections:

- 1. Quantitative Reasoning:** This section presents 21 Problem Solving questions. Its core content centers on arithmetic and algebra. Unlike some other sections, a calculator is not permitted here. Questions are designed to reward strong reasoning, estimation abilities, and number sense. If you find yourself needing to perform complex, multi-digit calculations, you have likely overlooked an intended shortcut or a more efficient approach. Focus on conceptual understanding and strategic problem solving.
- 2. Verbal Reasoning:** This section contains 23 questions. It assesses two primary areas: Critical Reasoning (CR) and Reading Comprehension (RC). Critical Reasoning questions require you to analyze short arguments. You will need to strengthen or weaken arguments, identify assumptions, or evaluate conclusions. A strict habit for CR is to identify the argument's conclusion, the supporting evidence, and any logical gaps between them *before* you review the answer choices. Reading Comprehension passages test your ability to understand complex texts. The emphasis is on grasping the passage's structure and main ideas rather than memorizing specific details.
- 3. Data Insights:** This is the most modern section, featuring 20 questions. It integrates several question types: Data Sufficiency, Table Analysis, Graphics Interpretation, Two-Part Analysis, and Multi-Source Reasoning. An on-screen calculator is available for this section. Data Sufficiency questions ask whether given statements provide enough information to answer a specific question. You almost never need to calculate the actual numerical answer. Your task is to determine if a unique solution *could* be found from the provided data. This section tests your ability to analyze and interpret data from various formats.

Scoring and Strategic Features

The total score for the GMAT Focus Edition ranges from 205 to 805. All scores end in a 5, which helps distinguish them from the older 200-800 GMAT scale. Crucially, all three sections contribute equally to your total score. This means Data Insights is not a minor component; it represents a full third of your overall performance.

Several features of the GMAT Focus Edition allow for new test-taking strategies:

- **Question Review and Edit:** Within any section, you can bookmark questions. At the end of that section, you can revisit these bookmarked questions and change up to three answers. This feature significantly alters the old "never look back" rule of adaptive tests. Your strategy can now involve quickly answering easy questions to bank points, bookmarking questions that cause doubt, and then using any leftover time to review and edit those marked questions.
- **Choose Your Section Order:** At the start of the exam, you select the order in which you will complete the three sections. This allows you to play to your strengths. You might choose to start with your strongest section to build confidence, or begin with a section that serves as a good warm-up. It is important to decide on your preferred order in advance and to rehearse it during your practice tests.
- **Score Sending After the Fact:** You have control over which programs receive your GMAT scores. This means you can take a real GMAT Focus Edition exam as a diagnostic attempt. Some candidates deliberately use this option to experience the test environment without immediate pressure to send a score. You can then decide later if you want to release that score to business schools.

This section provides a foundational understanding of the GMAT Focus Edition's structure, content, and key strategic elements. Mastering these aspects is the first step in effective preparation.

Your Official Practice Strategy

Covers: Your Official (Free) Practice Arsenal

Effective GMAT preparation hinges on using the right materials. The test maker, GMAC, provides a substantial amount of authentic practice resources. These official questions are the only ones perfectly calibrated to the GMAT Focus Edition. This course emphasizes using these official materials as your primary grounding.

The Official (Free) Practice Arsenal

You should begin your preparation with the free resources available directly from mba.com. These are invaluable for understanding the test's nuances and adapting your strategy.

- **GMAT Official Starter Kit + Practice Exams 1 & 2:** This is the flagship free offering. It includes a bank of real, retired GMAT questions. More importantly, it provides two full-length, computer-adaptive practice exams. These exams use the authentic scoring algorithm and interface, making them your most accurate tools for self-assessment. Treat Practice Exam 1 as your initial diagnostic. Take it under full test conditions on your first day of serious preparation. This will establish a baseline score and highlight your initial strengths and weaknesses. Reserve Practice Exam 2 for approximately two

weeks before your actual test day. This allows you to gauge your progress and fine-tune your final strategies.

- **Official Sample Questions and Format Tutorials:** On mba.com, you will find sample questions and interactive tutorials that walk you through every Data Insights question type. These tutorials demonstrate the real test interface. Given that Data Insights formats are new to most test-takers, spending an hour early in your preparation reviewing these tutorials is highly recommended. It will familiarize you with the visual presentation and interaction requirements for this section.

Expanding Your Practice (Paid Options)

Should you exhaust the free official materials, additional resources are available for purchase. These include GMAT Official Practice Exams (3-6) and the *GMAT Official Guide* question banks. Always prioritize purchasing these official materials before considering any third-party question banks. Official questions provide the most reliable representation of the GMAT.

A Structured Calibration Routine

A disciplined practice routine is essential for maximizing your score. Consider the following calibration plan:

1. **Day 1:** Take Official Practice Exam 1. Complete it under full test conditions, using your chosen section order. Carefully record your section scores and track your question-level timing. This data is critical for identifying areas needing improvement.
2. **Weeks 1-6:** Dedicate this period to learning the methods taught in this course. Drill by specific question type to solidify your understanding. Every 10 days, complete a timed set of 20 official questions. This regular check-in helps keep your progress calibrated and ensures you are applying learned methods effectively under time pressure.
3. **T-minus 14 Days:** Take Official Practice Exam 2. Schedule it for the same time of day as your actual GMAT appointment. This simulates the real test experience and helps you manage energy levels and focus.
4. **Final Week:** Focus on reviewing your error log. Rehearse your specific review-and-edit routine, including which bookmarked questions you would revisit first. Avoid introducing any new content or complex topics in the last three days before your exam. This period should be for consolidation and mental preparation.

Timing Discipline

Across all three sections, you will have approximately two minutes per question on average. The GMAT severely penalizes unfinished sections. A hard rule to adopt is to guess and bookmark any question that takes you past the three-minute mark. This strategy protects the dozens of points that are often lost each year due to timing mismanagement. It ensures you reach every question and do not leave valuable points unattempted.

This structured approach to practice, anchored by official materials and strict timing, will build your confidence and readiness for the GMAT Focus Edition.

KEY TAKEAWAYS

- The GMAT Focus Edition consists of three equally weighted 45-minute sections: Quantitative Reasoning, Verbal Reasoning, and Data Insights.
- Quantitative Reasoning prohibits calculators and rewards clean reasoning, while Data Insights includes an on-screen calculator and diverse data interpretation tasks.
- The total score range is 205-805, with all three sections contributing equally to the final score.
- New strategic features allow you to review and edit up to three answers per section, choose your section order, and decide which scores to send after the exam.
- Official GMAC practice exams and questions are the most accurate and valuable resources for GMAT Focus Edition preparation.
- A structured practice routine, including diagnostic exams and timed question sets, is crucial for effective calibration and progress tracking.
- Adhering to strict timing discipline, such as guessing and bookmarking questions taking over three minutes, prevents severe penalties for unfinished sections.

CHECK YOUR UNDERSTANDING

Answer these before moving on. Model answers are in the Answer Key at the back of this guide.

1. What are the three sections of the GMAT Focus Edition, and how long is each section?
2. What is a key difference in calculator usage between the Quantitative Reasoning and Data Insights sections?
3. How does the "question review and edit" feature change test-taking strategy compared to older adaptive tests?
4. Why are the official GMAC practice exams considered the most valuable preparation resource?
5. Describe the timing discipline rule for questions that take longer than average.

CHAPTER 9

Final Assessment: GMAT Focus Strategy

This chapter marks the culmination of your GMAT Focus Complete Course. Module 9 presents a final assessment designed to test your overall strategic readiness for the GMAT Focus Edition. This quiz is not just about recalling facts. It challenges you to apply the integrated strategies you have learned across all sections: Quantitative Reasoning, Verbal Reasoning, and Data Insights.

Consider this assessment a diagnostic tool. It helps you identify any remaining areas for improvement in both content knowledge and test-taking approach. Use it to consolidate your understanding and fine-tune your GMAT Focus strategy before you face the actual exam.

Approaching the GMAT Focus Strategy Quiz

Covers: Final Assessment: GMAT Focus Strategy (quiz, 5 min)

By this point in the course, you should have mastered the core concepts and strategies for each section of the GMAT Focus Edition. This includes efficient quantitative problem-solving, breaking down critical reasoning arguments, reading for structure in reading comprehension, and confidently handling Data Sufficiency and Multi-Source Reasoning. The Final Assessment quiz is a short, targeted exercise to gauge your ability to apply these skills under timed conditions.

How to Attack the Quiz

Treat this 5-minute quiz as a mini-simulation. Approach each question with the same focus and strategic mindset you would use on the actual GMAT Focus. Read every question carefully. Identify the question type and recall the specific strategies for it. For quantitative questions, aim for efficiency and avoid unnecessary calculations. For verbal questions, focus on argument structure and evidence. For data insights, synthesize information quickly.

Manage your time effectively. A 5-minute quiz requires quick decisions. Do not get stuck on any single question. If a question seems too difficult, make your best educated guess and move on. Use the process of elimination to narrow down answer choices whenever possible. This quiz is a test of your strategic application, not just your knowledge.

Common Mistakes to Avoid

Students often make several common mistakes when taking short assessments like this:

- **Rushing without strategy:** Simply trying to answer quickly without applying learned techniques leads to careless errors.
- **Ignoring question types:** Each GMAT question type has specific optimal approaches. Failing to recognize these can waste time and lead to incorrect answers.
- **Overthinking simple questions:** Do not try to find hidden complexities where none exist. Trust your initial understanding if it aligns with a clear strategy.

- **Failing to review:** The value of a diagnostic quiz comes from reviewing your performance. Skipping this step means missing a key learning opportunity.

Interpreting Your Results

Your score on this quiz provides an immediate snapshot of your strategic readiness. However, the raw score is only part of the insight. Focus on the *why* behind your answers. For each question, ask yourself:

- Was my approach correct? If not, what strategy should I have used?
- Did I make a careless error, or was there a fundamental misunderstanding?
- Was my timing appropriate for this question type?
- Could I have used process of elimination more effectively?

Identify patterns in your mistakes. Did you struggle with a particular content area? Did you misinterpret certain question types? Did you run out of time on specific questions? These insights are far more valuable than the score itself. They pinpoint areas where you need further review or strategy refinement. Use this information to guide your final preparation steps and consolidate your GMAT Focus strategy.

KEY TAKEAWAYS

- The Final Assessment quiz evaluates your overall strategic readiness for the GMAT Focus Edition.
- Approach the quiz as a realistic mini-simulation, applying all learned GMAT Focus strategies.
- Manage your time carefully, making quick decisions and using the process of elimination.
- Avoid rushing without strategy or overthinking questions during the assessment.
- Review your quiz results to understand the *why* behind correct and incorrect answers, not just the score.
- Identify specific content areas or strategic gaps revealed by your performance.

CHECK YOUR UNDERSTANDING

Answer these before moving on. Model answers are in the Answer Key at the back of this guide.

1. What is the primary purpose of the Final Assessment quiz in Module 9?
2. How should you approach the quiz to maximize its benefit for your GMAT preparation?
3. What kind of mistakes should you look for when reviewing your quiz results, beyond just the incorrect answers?
4. Beyond the score, what is the most important information to gain from this assessment?

REFERENCE

Glossary

Absolute value

The distance of a number from zero on a number line, always represented as a non-negative value.

Argument

A set of statements, including premises (evidence) and a conclusion, intended to persuade or establish a point.

Arithmetic progression (ap)

A sequence of numbers where the difference between consecutive terms is constant.

Assumption

An unstated piece of information or belief that must be true for the evidence to logically support the conclusion.

Combination

A selection of items where the order of selection does not matter.

Composite number

A positive integer greater than 1 that has more than two distinct positive factors.

Computer-adaptive exam

A test format where question difficulty adjusts based on a test-taker's performance, tailoring the exam in real-time.

Conclusion

The main point or claim that the argument seeks to establish; what the author wants you to believe.

Data insights

The modern GMAT section evaluating data analysis skills through various formats, including Data Sufficiency, with an on-screen calculator.

Data sufficiency

A GMAT Focus question type that tests whether given statements provide enough information to definitively answer a specific question, without necessarily requiring the answer itself.

Diagnostic quiz

A short assessment designed to identify a student's strengths and weaknesses in specific areas or overall strategic application.

Estimation

The process of finding an approximate value or quantity, often used in Data Insights to quickly evaluate options or narrow down possibilities without precise calculation.

Evidence (premise)

The facts, data, or reasons provided to support the conclusion of an argument.

Exponent

A number indicating how many times a base number is multiplied by itself.

Gmat focus edition

The current version of the Graduate Management Admission Test, streamlined to three core reasoning sections.

Graphical interpretation

The process of understanding and extracting relevant information from visual representations of data, such as bar charts, line graphs, and pie charts.

Greatest common factor (gcf)

The largest positive integer that divides two or more integers without leaving a remainder.

Inequality

A mathematical statement comparing two expressions using symbols like $<$ (less than), $>$ (greater than), $\leq$ (less than or equal to), or $\geq$ (greater than or equal to).

Inference

A conclusion logically derived from the information presented in the passage, even if not explicitly stated.

Irrelevant

An answer choice that discusses a topic or detail that has no bearing on the argument's conclusion or supporting evidence.

Least common multiple (lcm)

The smallest positive integer that is a multiple of two or more given integers.

Linear equation

An algebraic equation in which the highest power of the variable is one, typically represented as $ax + b = c$.

Main idea

The central point or argument the author is trying to convey in the passage.

Mean

The arithmetic average of a set of numbers, calculated by summing all values and dividing by the count of values.

Median

The middle value in a data set when arranged in order; for an even number of data points, it is the average of the two middle values.

Mode

The value that appears most frequently in a data set.

Multi-source reasoning

A GMAT Focus Data Insights question type that presents information across multiple tabs or sources, requiring the test taker to synthesize data to answer questions.

Mutually exclusive events

Events that cannot occur at the same time.

Out of scope

An answer choice that introduces information or ideas unrelated to the specific argument presented in the passage.

Overlapping sets

Groups of items where some members belong to more than one category, often solved using the Principle of Inclusion-Exclusion.

Paragraph map

A mental or written summary of each paragraph's main point and its contribution to the overall passage structure.

Paraphrasing

Restating a passage's content in your own words to ensure complete understanding of its meaning and structure.

Percentage

A way of expressing a number as a fraction of 100, denoted by the percent sign (%).

Permutation

An arrangement of items where the order of selection is important.

Point of view

The author's perspective, opinion, or stance on the subject matter, often revealed through tone and word choice.

Primary purpose

The author's overarching goal in writing the passage, such as to explain, argue, critique, or compare.

Prime number

An integer greater than 1 that has no positive divisors other than 1 and itself.

Probability

The likelihood of an event occurring, expressed as a ratio of favorable outcomes to total possible outcomes.

Process of elimination

A test-taking strategy where incorrect answer choices are systematically ruled out to increase the probability of selecting the correct answer.

Quadratic equation

An algebraic equation in which the highest power of the variable is two, typically represented as $ax^2 + bx + c = 0$.

Quantitative reasoning

The GMAT section assessing arithmetic and algebra skills through problem-solving, without a calculator.

Question review and edit

A GMAT Focus feature allowing test-takers to bookmark questions and change up to three answers per section at the end of that section.

Ratio

A comparison of two or more quantities, often expressed as a fraction or with a colon (e.g., a:b).

Scope

The specific, limited aspect of a broader topic that the passage addresses.

Standard deviation

A measure of the dispersion or spread of a set of data points around its mean.

Strategic readiness

A student's preparedness to apply effective test-taking strategies and content knowledge across all sections of the GMAT Focus Edition.

Table analysis

The skill of reading, understanding, and performing calculations on data presented in a structured tabular format, often requiring attention to rows, columns, and headers.

Time management

The skill of allocating appropriate amounts of time to each question or section during a timed exam to ensure completion and maximize performance.

Two-part analysis

A GMAT Focus Data Insights question type that requires two independent decisions or solutions to complete a given scenario or problem.

Verbal reasoning

The GMAT section covering Critical Reasoning and Reading Comprehension, testing argument analysis and text interpretation.

Word problem

A mathematical problem presented in prose, requiring translation into mathematical expressions and equations to solve.

REFERENCE

Answer Key

Chapter 1: Quant Starter Kit

1. What is the crucial rule to remember when solving inequalities that differs from solving equations?

When solving inequalities, if you multiply or divide both sides by a negative number, you must reverse the direction of the inequality sign. Failing to do so will result in an incorrect solution set for the inequality.

2. Explain how to approach an absolute value equation like $|x + 3| = 7$.

To solve $|x + 3| = 7$, you must consider two separate cases because the expression inside the absolute value could be either 7 or -7. Case 1: $x + 3 = 7$, which gives $x = 4$. Case 2: $x + 3 = -7$, which gives $x = -10$. Both 4 and -10 are solutions.

3. If an item's price increases by 20% and then decreases by 10%, why is the final price not the same as if it had increased by 10% overall?

The percentage changes are applied sequentially to the current price, not the original price. A 20% increase is applied to the original price, and then the 10% decrease is applied to that new, higher price. This results in a different final value than a single 10% increase from the original price.

4. Describe a strategy for tackling a complex GMAT word problem.

A good strategy involves several steps. First, carefully read and understand what the question is asking. Next, identify all known values and the unknown quantity you need to find, assigning variables where necessary. Then, translate the verbal information into mathematical equations. Finally, solve the equations and check if your answer makes logical sense in the context of the problem.

5. What are two common methods for solving quadratic equations on the GMAT?

Two common methods for solving quadratic equations are factoring and using the quadratic formula. Factoring involves breaking the quadratic expression into two linear factors. The quadratic formula, $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$, can solve any quadratic equation, especially those that are not easily factorable.

Chapter 2: GMAT Quant Fundamentals

1. What is the primary difference in approach between GMAT Quant and a typical high school math test?

GMAT Quant emphasizes strategic reasoning, efficient problem-solving, and logical shortcuts over extensive calculation. Unlike high school tests, it often rewards understanding concepts and properties rather than just applying formulas directly, with time management being a critical factor.

2. Explain the importance of an error log in GMAT Quant preparation.

An error log helps you systematically track mistakes, identify recurring patterns in your weaknesses

(conceptual gaps, careless errors, timing issues), and focus your study efforts. Regularly reviewing it reinforces correct approaches and prevents repeating the same errors.

3. When solving an inequality, under what specific condition must you reverse the inequality sign?

You must reverse the inequality sign when you multiply or divide both sides of the inequality by a negative number. Failing to do so is a common source of error that leads to incorrect solution sets.

4. Describe the two cases you must consider when solving an equation involving absolute value, such as $|Ax + B| = C$.

When solving an absolute value equation like $|Ax + B| = C$ (where $C \geq 0$), you must consider two separate cases: $Ax + B = C$ and $Ax + B = -C$. Each case is then solved as a standard linear equation to find the possible values for the variable.

5. What is the first crucial step in approaching any GMAT word problem?

The first crucial step is to read the problem carefully and thoroughly. You must fully understand what information is given, what the question specifically asks for, and any conditions or constraints before attempting to define variables or set up equations.

Chapter 3: GMAT Quant: Ratios, Percentages, Number Properties, and Advanced Topics

1. Explain the difference between a part-to-part ratio and a part-to-whole ratio, providing an example for each.

A part-to-part ratio compares two distinct components within a whole, such as the ratio of boys to girls in a class. A part-to-whole ratio compares a component to the entire group, like the ratio of boys to the total number of students. For example, if there are 3 boys and 2 girls, the part-to-part ratio of boys to girls is 3:2, while the part-to-whole ratio of boys to students is 3:5.

2. An item's price increases by 20%, then decreases by 20%. Is the final price higher than, lower than, or equal to the original price? Explain why.

The final price will be lower than the original price. A 20% increase applies to the original price, while the subsequent 20% decrease applies to the *new, higher* price. For example, starting with \$100, a 20% increase makes it \$120. A 20% decrease on \$120 is \$24, resulting in a final price of \$96. This is less than the original \$100.

3. What is the Greatest Common Factor (GCF) and the Least Common Multiple (LCM) of 24 and 36?

First, find the prime factorization for each number: $24 = 2^3 \cdot 3$ and $36 = 2^2 \cdot 3^2$. The GCF is found by taking the common prime factors raised to their lowest powers, so $\text{GCF}(24, 36) = 2^2 \cdot 3 = 4 \cdot 3 = 12$. The LCM is found by taking all prime factors raised to their highest powers, so $\text{LCM}(24, 36) = 2^3 \cdot 3^2 = 8 \cdot 9 = 72$.

4. Two workers, A and B, can complete a task individually in 4 hours and 6 hours, respectively. If they work together, how long will it take them to complete the task?

Worker A's rate is $\frac{1}{4}$ of the task per hour, and Worker B's rate is $\frac{1}{6}$ of the task per hour. When working together, their rates add: $\frac{1}{4} + \frac{1}{6} = \frac{3}{12} + \frac{2}{12} = \frac{5}{12}$ of the task per hour. To find the total

time, take the reciprocal of the combined rate. So, it will take them $12/5$ hours, or 2.4 hours, to complete the task together.

5. In a survey of 50 people, 30 like coffee, 20 like tea, and 10 like both. How many people like neither coffee nor tea?

Use the overlapping sets formula: $\text{Total} = \text{Group1} + \text{Group2} - \text{Both} + \text{Neither}$. Plugging in the values: $50 = 30 + 20 - 10 + \text{Neither}$. This simplifies to $50 = 50 - 10 + \text{Neither}$, which means $50 = 40 + \text{Neither}$. Therefore, 10 people like neither coffee nor tea.

Chapter 4: Quant: Statistics, Probability, and Combinatorics

1. What is the difference between the mean and the median, and when might one be preferred over the other?

The mean is the average of all values, while the median is the middle value when data is ordered. The mean is sensitive to extreme values (outliers), which can skew its representation of the 'typical' value. The median is less affected by outliers, making it a better measure of central tendency for skewed distributions.

2. Explain the concept of standard deviation without using a formula.

Standard deviation measures how spread out the data points are from the average (mean). A small standard deviation means data points are clustered closely around the mean. A large standard deviation means data points are more spread out over a wider range.

3. How do you determine if a problem requires a permutation or a combination?

You determine this by asking if the order of selection matters. If different orders of the same items result in different outcomes (e.g., assigning roles), it is a permutation. If the order does not change the outcome (e.g., forming a committee), it is a combination.

4. A bag contains 5 red marbles and 3 blue marbles. What is the probability of drawing two red marbles in a row without replacement?

The probability of drawing the first red marble is $5/8$. After removing one red marble, there are 4 red marbles left and 7 total marbles. So, the probability of drawing a second red marble is $4/7$. The combined probability is $(5/8) * (4/7) = 20/56 = 5/14$.

5. If a data set has a mean of 10 and a standard deviation of 2, what happens to the mean and standard deviation if every value in the set is increased by 3?

If every value in the set is increased by 3, the mean will also increase by 3, becoming 13. However, the standard deviation, which measures the spread of data, will remain unchanged at 2. Adding a constant to every value shifts the entire distribution but does not alter its spread.

Chapter 5: Critical Reasoning

1. What are the three core components of any Critical Reasoning argument that you should identify first?

The three core components are the conclusion, the evidence (or premises), and the unstated

assumptions. Identifying these elements provides a complete understanding of the argument's structure and logical flow.

2. Why is paraphrasing an effective strategy for Critical Reasoning questions?

Paraphrasing forces you to translate the argument into simpler terms, ensuring you grasp its true meaning rather than just its words. This process helps clarify complex ideas, identify the argument's core, and uncover any gaps in your comprehension.

3. Explain the 'word matching' trap and why it is dangerous.

The word matching trap involves selecting an answer choice simply because it contains words or phrases from the passage. This is dangerous because these choices often twist the original meaning or context, leading to incorrect conclusions despite superficial familiarity. Always prioritize logical connection over mere word resemblance.

4. When evaluating answer choices, what is the primary mindset you should adopt?

You should adopt an elimination mindset. Rather than searching for the 'perfect' answer, focus on finding concrete reasons to reject the four incorrect choices. The remaining option, even if imperfect, is the correct answer by process of elimination.

5. What does it mean for an answer choice to be 'out of scope'?

An answer choice is 'out of scope' when it introduces new information, ideas, or topics that extend beyond the boundaries of the argument presented in the passage. It discusses issues not directly addressed or implied by the argument, making it irrelevant to the question at hand.

Chapter 6: Reading Comprehension Strategies

1. What is the primary objective when reading a GMAT Reading Comprehension passage?

The primary objective is to understand the passage's main idea, the author's overall purpose, and the general structure of the argument. You should not aim to memorize every detail, but rather grasp the 'big picture' and how information is organized.

2. How can you effectively distinguish the author's point of view from other perspectives mentioned in a passage?

Pay close attention to attribution and word choice. Phrases like 'Smith argues' or 'critics contend' signal other viewpoints. The author's own view is often conveyed through their selection of evidence, the overall tone, and evaluative language (e.g., 'compelling', 'flawed').

3. What is a key difference in approach when reading a science passage versus a humanities passage?

For science passages, focus on identifying core concepts, tracking experiments and their results, and understanding cause-and-effect relationships. For humanities passages, concentrate on the central argument, different interpretations of ideas, and the author's specific tone and nuanced diction.

4. Describe the 'paragraph mapping' strategy and explain its benefit for long passages.

Paragraph mapping involves briefly summarizing the main point and purpose of each paragraph as you read. This strategy helps you maintain focus, understand the flow of the argument, and quickly locate specific information when answering questions, reducing the need to reread the entire passage.

5. When encountering a particularly hard or dense passage, what initial step should you take?

For a hard passage, it is beneficial to slow down your initial read. Focus on breaking down complex sentences, identifying the core subject and verb, and understanding the main components of the argument. A deliberate first pass will save time by building a solid foundation of understanding.

Chapter 7: Data Insights

1. What is the primary goal of the GMAT Focus Data Insights section?

The Data Insights section evaluates a test taker's ability to analyze and interpret data from various sources. It assesses critical thinking skills, combining elements of quantitative reasoning, verbal reasoning, and data literacy to solve problems.

2. When approaching a Multi-Source Reasoning question, what is a recommended initial strategy?

A good initial strategy for Multi-Source Reasoning is to quickly skim all available sources to understand their content and format. This helps identify which sources are relevant to which questions and how they might relate to each other before getting into details.

3. Explain the core difference between a verbal-based and a quant-based Two-Part Analysis question.

Verbal-based Two-Part Analysis questions typically involve logical reasoning, evaluating arguments, or identifying cause-and-effect relationships. Quant-based questions, in contrast, require numerical calculations, problem-solving, or interpreting data from graphs or tables to arrive at numerical solutions.

4. Why is estimation a valuable skill in Data Insights, particularly for Graphical Interpretation?

Estimation is valuable because it allows for quick evaluation of answer choices without needing precise calculations. For graphical interpretation, where exact values might be hard to read, estimation helps narrow down options efficiently and identify the correct range or trend.

5. Describe the process of evaluating statements in a Data Sufficiency question.

In Data Sufficiency, first evaluate Statement (1) alone to see if it provides sufficient information to answer the question. Then, independently evaluate Statement (2) alone. If neither is sufficient on its own, combine both statements to determine if they are sufficient together.

Chapter 8: GMAT Focus Orientation

1. What are the three sections of the GMAT Focus Edition, and how long is each section?

The GMAT Focus Edition has three sections: Quantitative Reasoning, Verbal Reasoning, and Data Insights. Each section is 45 minutes long, making the total exam duration 2 hours and 15 minutes.

2. What is a key difference in calculator usage between the Quantitative Reasoning and Data Insights sections?

The Quantitative Reasoning section does not allow a calculator. In contrast, the Data Insights section provides an on-screen calculator for its various question types.

3. How does the "question review and edit" feature change test-taking strategy compared to older adaptive tests?

This feature allows test-takers to bookmark questions and change up to three answers per section. This softens the old "never look back" rule. It enables a strategy of answering easy questions quickly, marking doubtful ones, and then using leftover time for review and edits.

4. Why are the official GMAC practice exams considered the most valuable preparation resource?

Official GMAC practice exams are created by the test maker and use the authentic scoring algorithm and interface. This makes them the most accurate and reliable tools for understanding the test, assessing performance, and calibrating study progress.

5. Describe the timing discipline rule for questions that take longer than average.

A critical timing rule is to guess and bookmark any question that takes longer than three minutes. This prevents spending too much time on a single question, ensuring you reach all questions in a section and avoid severe penalties for unfinished sections.

Chapter 9: Final Assessment: GMAT Focus Strategy

1. What is the primary purpose of the Final Assessment quiz in Module 9?

The primary purpose is to assess your overall strategic readiness for the GMAT Focus Edition. It tests your ability to apply integrated strategies across all sections, not just your recall of individual facts. It serves as a diagnostic tool for final preparation.

2. How should you approach the quiz to maximize its benefit for your GMAT preparation?

You should approach the quiz as a mini-simulation of the actual GMAT Focus. Apply all learned strategies, manage your time carefully, and use process of elimination. The goal is to practice strategic application under timed conditions.

3. What kind of mistakes should you look for when reviewing your quiz results, beyond just the incorrect answers?

Look for patterns in your mistakes. Identify if you struggled with specific content areas, misinterpreted question types, or made careless errors. Also, assess if your timing was appropriate for each question and if you effectively used process of elimination.

4. Beyond the score, what is the most important information to gain from this assessment?

The most important information is understanding *why* you answered questions correctly or incorrectly. This insight helps pinpoint specific areas where your content knowledge or strategic application needs further refinement. It guides your final study efforts effectively.

CLOSING

Where to Go Next

After completing the GMAT Focus Complete Course, your next step is to solidify your skills through extensive practice. Take several full-length GMAT Focus Edition practice tests under timed conditions. Analyze your performance on these tests to identify any remaining weak areas.

Continue reviewing concepts from this guide and the video lessons. Focus on understanding *why* certain answers are correct or incorrect. Consider joining study groups or forums to discuss challenging problems and strategies.

With your GMAT Focus Edition preparation complete, you will be ready to apply to graduate business programs. The skills developed here, particularly in critical thinking and data analysis, will serve you well beyond the exam itself.



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