

GMAT

GRADUATE MANAGEMENT ADMISSION TEST

Thomas H. Martinson
David Ellis, M.B.A.



ARCO
NEW YORK

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Fourth Edition

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HOW THIS BOOK CAN HELP YOU GET A BETTER GMAT SCORE

The book you are now holding is different from other preparation books in several ways that can help you get a better GMAT score.

First, it begins with an orientation to the GMAT. This is absolutely indispensable to those who are not thoroughly familiar with this particular exam, and it should also prove valuable as a refresher for those who already know something about the test. The orientation discusses the format of exam, providing examples of the five subject areas, with explanations. Then it describes the procedure for scoring the test. Finally, it addresses the problem of test anxiety and offers suggestions for reducing unnecessary anxiety and tension.

Second, this book contains our exclusive Test-Busters strategies:

TEST BUSTERS

Test Busters takes you inside the GMAT and shows you how to turn the common patterns and

multiple-choice format of the test into additional points for a higher score. In all, the book includes over 135 Test Busters plus a comprehensive review of the math you need for the GMAT.

Third, this book contains *six* full-length practice exams that simulate as closely as possible actual GMATs. Each item is written to conform to test specifications such as level of difficulty, appropriateness of wrong as well as right answers, and overall format.

Fourth, following each of the six practice tests is an extensive discussion of every item that appeared on that test. This discussion not only explains why the correct answer is correct, it explains why the wrong answers are wrong and gives suggestions for avoiding future errors.

As you can see, this is a book for serious students who really want the crucial advantage they can get from conscientious study with quality preparation materials.

Part One

About the GMAT and General Test-Taking Information

ORIENTATION

The letters G-M-A-T stand for Graduate Management Admission Test. The GMAT is a service of the Graduate Management Admission Council, an association of graduate business and management schools. The GMAC contracts for the development and administration of the GMAT and distribution of GMAT scores. At present, Educational Testing Service (ETS) has this contract. To obtain registration materials for the GMAT, write to:

Graduate Management Admission Test
Educational Testing Service
CN 6101
Princeton, N.J. 08541-6101

The purpose of the GMAT is to provide a standard measure that will permit admissions decisions to be based, at least in part, on an "objective" comparison of all candidates—no matter what their college or background.

The GMAT generates three different scores: a verbal score, a math score, and a composite score. To learn how your scores will affect your application, you should study the informational bulletins published by the schools to which you are applying. In particular, you should try to determine what weight is given to which scores and what scores you will need to be a competitive applicant.

THE FORMAT OF THE GMAT

The GMAT consists of seven separately timed, 30-minute sections. Each section is devoted to a particular type of question.

VERBAL AREAS

The GMAT uses three different types of verbal questions: reading comprehension, sentence correc-

tion, and critical thinking.

Reading Comprehension

Reading comprehension, as the name implies, tests your ability to understand the substance and logical structure of a written selection. A reading comprehension section contains three selections, each about 475 to 525 words long, with eight or nine questions. The total number of questions in the section will be 25. Here is an example of a reading comprehension selection. (To avoid getting mired in a discussion of a particular selection, the passage is shorter than those usually used by the GMAT, and it is followed by only two questions, rather than the usual eight or nine.)

Directions: Below is a reading selection followed by a number of questions. Read the selection. Then, based on your understanding of the selection, select the best answer to each question.

The international software market represents a significant business opportunity for U.S. micro-computer software companies, but illegal copying of programs is limiting the growth of sales abroad. If not dealt with quickly, international piracy of software could become one of the most serious trade problems faced by the United States.

Software piracy is already the biggest barrier to U.S. software companies entering foreign markets. One reason is that software is extremely easy and inexpensive to duplicate compared to the cost of developing and marketing the software. The actual cost of duplicating a software program, which may have a retail value of \$400 or more, can be as little as a dollar or two—the main component being the cost of the diskette. The cost of counterfeiting software is substantially less than the cost of duplicating watches, books, or blue jeans. Given that the difference between the true value of the original and the cost of the

counterfeit is so great for software, international piracy has become big business. Unfortunately, many foreign governments view software piracy as an industry in and of itself and look the other way.

U.S. firms stand to lose millions of dollars in new business, and diminished U.S. sales not only harm individual firms but also adversely affect the entire U.S. economy.

In this passage, the author is primarily concerned to

- (A) criticize foreign governments for stealing U.S. computer secrets
- (B) describe the economic hazards software piracy poses to the United States
- (C) demand that software pirates immediately cease their illegal operations
- (D) present a comprehensive proposal to counteract the effects of international software piracy
- (E) disparage the attempts of the U.S. government to control software piracy

The author's attitude toward international software piracy can best be described as

- (A) concern
- (B) rage
- (C) disinterest
- (D) pride
- (E) condescension

The best answer to the first question is (B). This question, typical of the GMAT, asks about the main point of the selection. (A) is incorrect. Though the author implies criticism of foreign governments, their mistake, so far as we are told, is not stealing secrets but tacitly allowing the operation of a software black market. (C) is incorrect since this is not the main point of the selection. You can infer that the author would approve of such a demand, but issuing the demand is not the main point of the selection you just read. (D) can be eliminated for a similar reason. Though the author might elsewhere offer a specific proposal, he or she does not do so in the selection you just read. (E) also is wrong since no such attempts are ever discussed. Finally notice how well (B) does describe the main point. The author is concerned to identify a problem and discuss its causes.

The best answer to the second question is (A). This asks about the tone of the passage, and *concern* very neatly captures that tone. You can eliminate (B) as an overstatement. Though the author condemns the piracy, the tone is not so violent as to qualify as rage. (C) must surely be incorrect since the author does express concern. The author is not disinterested. (D) also is incorrect since he or she specifically disapproves of the piracy. And finally, (E) is wrong because condescension is not the same thing as disapproval.

Sentence Correction

Sentence corrections test your ability to recognize clear and concise expression by presenting a sentence, part or all of which is underlined, and various ways of rendering the underlined part.

Example: Beautifully sanded and revarnished, Bill proudly displayed the antique desk in his den.

- (A) Beautifully sanded and revarnished, Bill proudly displayed the antique desk in his den.
- (B) Beautiful, sanded, and revarnished, Bill proudly displayed the antique desk in his den.
- (C) An antique, and beautifully sanded and revarnished, in his den Bill proudly displayed the desk.
- (D) Bill, beautifully sanded and revarnished in the den, proudly displayed the antique desk.
- (E) Bill proudly displayed the antique desk, beautifully sanded and revarnished, in his den.

The correct answer is (E). The sentence as originally written suggests that it was Bill who was sanded and revarnished. Only (E) makes it clear that it was the desk, not Bill, that was refurbished.

Critical Thinking

A critical thinking question presents an argument or an explanation that you are asked to analyze. You may be asked to describe the argument, draw further conclusions from it, attack or defend it, or just find the assumptions of the argument.

Example: Wilfred commented, "Of all the musical instruments I have studied, the trombone is the most difficult instrument to play."

Which of the following statements, if true, would most seriously weaken Wilfred's conclusion?

- (A) The trombone is relatively easy for trumpet players to learn to play.
- (B) Wilfred has not studied trombone as seriously as he has other instruments.
- (C) Wilfred finds he can play the violin and the cello with equal facility.
- (D) The trombone is easier to learn as a second instrument than as a first instrument.
- (E) There are several instruments which Wilfred has not studied and which are very difficult to play.

The best choice is (B). The question asks you to identify a possible weakness in the argument. The conclusion of the argument is that the trombone is intrinsically more difficult than other instruments. The question asks you to find another explanation for Wilfred's impression. Choice (B) suggests the fault is not in the

trombone but in Wilfred. The seeming difficulty of the trombone stems from the fact that Wilfred did not study it as diligently as he has other instruments.

MATH QUESTIONS

The GMAT uses two different kinds of math questions: problem solving and data sufficiency. The math sections test your knowledge of arithmetic, basic algebra, and elementary geometry.

Problem Solving

If you have taken any other standardized exam that included math questions (such as the SAT), then you have probably already seen examples of problem-solving questions. These are your typical word-problem questions. Some test arithmetic.

Example: Betty left home with \$60 in her wallet. She spent $\frac{1}{3}$ of that amount at the greengrocer's, and she spent $\frac{1}{2}$ of what remained at the pharmacist's. If Betty made no other expenditures; how much money did she have when she returned home?

- (A) \$10
- (B) \$15
- (C) \$20
- (D) \$40
- (E) \$50

A quick calculation will show that the correct answer is (C). Betty spent $\frac{1}{3}$ of \$60, or \$20, at the greengrocer's, leaving her with \$40. Of the \$40, she spent $\frac{1}{2}$ or \$20 at the pharmacist's, leaving her with \$20 when she returned home.

Other problem-solving items test your knowledge of basic algebra.

Example: If $2x + 3y = 8$ and $y = 2x$, then what is the value of x ?

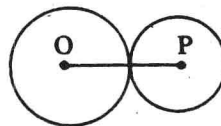
- (A) -6
- (B) -4
- (C) 0
- (D) 1
- (E) 4

The best answer is (D). To answer the question you need to solve for x . Since $y = 2x$, you can substitute $2x$ for y in the first equation:

Multiply:	$2x + 3(2x) = 8$
Add:	$2x + 6x = 8$
	$8x = 8$
Divide:	$x = 1$

Problem-solving items also test your knowledge of elementary geometry.

Example:



In the figure above, circle O and circle P are tangent to each other. If the circle with center O has a diameter of 8 and the circle with center P has a diameter 6, what is the length of segment OP?

- (A) 7
- (B) 10
- (C) 14
- (D) 20
- (E) 28

The correct answer is (A). The segment OP is made up of the radius of circle O and the radius of circle P. To find the length of OP, you need to know the lengths of the two radii. Since the length of the radius is one-half that of the diameter, the radius of circle O is $\frac{1}{2}(8)$ or 4, and the radius of circle P is $\frac{1}{2}(6)$ or 3. So the length of OP is $3 + 4 = 7$.

Data Sufficiency

The second type of math question is data sufficiency. Without trying to understand all of the subtleties of the type, you can get the general idea of data sufficiency by reading the instructions.

Directions: Each question below is followed by two numbered facts. You are to determine whether the data given in the statements is sufficient for answering the question. Use the data given, plus your knowledge of math and everyday facts, to choose between the five possible answers.

- (A) if statement 1 alone is sufficient to answer the question, but statement 2 alone is not sufficient
- (B) if statement 2 alone is sufficient to answer the question, but statement 1 alone is not sufficient
- (C) if both statements together are needed to answer the question, but neither statement alone is sufficient
- (D) if either statement by itself is sufficient to answer the question
- (E) if not enough facts are given to answer the question

Here are some examples of data sufficiency questions:

- What is the value of x ?
 - x is 3 more than 5.
 - $x^2 = 64$.

2. If n is an integer greater than 5 and less than 10, what is n ?
 - (1) $2n$ is less than 18.
 - (2) n is a prime number.
3. A flight from New York to Miami, stopping only in Atlanta, left New York carrying 60 passengers. How many passengers were on the flight when it landed in Miami?
 - (1) Exactly 15 passengers deplaned in Atlanta and did not reboard.
 - (2) 27 new passengers boarded in Atlanta.
4. What is the remainder when the positive integer n is divided by 3?
 - (1) n is a multiple of 6.
 - (2) n is a multiple of 18.
5. Is Bob older than Sue?
 - (1) Bob is younger than Tim.
 - (2) Tim is older than Sue.
1. (A) Statement (1) establishes that x is 8. Statement (2) is not sufficient since x might be $+8$ or -8 .
2. (B) Statement (2) establishes that x is 7, since 7 is the only prime number between 5 and 10. (1), however, is not sufficient since 6, 7, and 8 are all less than half of 18 and between 5 and 10.
3. (C) Neither statement alone is sufficient, but both taken together establish that the flight picked up a net gain of 12 passengers in Atlanta. So it was carrying 72 passengers when it landed in Miami.
4. (D) Each statement is by itself sufficient to answer the question. As for (1), since n is a multiple of 6, n is evenly divisible by both 3 and 2. As for (2), since n is a multiple of 18, n is evenly divisible by 3, 2, and 6.
5. (E) The two statements establish:
 - (1) $B < T$
 - (2) $S < T$
 But that is not enough information to answer the question asked.

THE MYSTERY SECTION

Each edition of the GMAT includes three verbal sections and three math sections plus one mystery section. A mystery section can be another math section, another verbal section, or something not even discussed in this book. But the mystery section is a non-counting section. It does not affect your GMAT score.

The mystery section contains questions that are being tested for future use. It's not possible for the test writers to know in advance whether a particular question really fits the design specifications of the test. They can determine that only by having a large number of responses to a question. Then they can ascertain whether the question is of the correct level of difficulty, whether the right answer and wrong answers are clearly distinguishable, and so on. So they put new questions in the mystery section, testing their validity for future use.

The identity of the mystery section has to remain a mystery. Since the mystery section is not used in computing scores, if test-takers could identify a section as a mystery section, they might just take a 30-minute break. In that case, the test-writers would learn nothing about the validity of the questions being tested.

Can you guess which is the mystery section? Perhaps; perhaps not. And if you think you've found one, what will you do? Put down your pencil and hope that it really is a mystery section? Obviously, you do not want to take a chance that it will turn out to be one of the "live" sections that will determine your score.

The general rule to observe regarding the mystery section is to answer the section to the best of your ability, but if you see something that is a total surprise while answering, don't let the presence of that section interfere with your performance on subsequent sections.

SCORING THE GMAT

Your score report for the GMAT will show three scores: a verbal score, a math score, and a composite score. The verbal and math scores are reported on a scale ranging from 0 to 60 (although scores at the extremes are very rare). The composite score ranges from 200 (the minimum) to 800 (the maximum).

The scoring procedure for the GMAT consists of three steps.

1. Total the number of questions answered correctly. Ignore questions that were omitted, and ignore questions to which more than one response was given.

2. Subtract from the total in step 1 the product of $\frac{1}{4}$ and the number of questions answered incorrectly. Ignore questions that were omitted, and ignore questions to which more than one response was given. (This is the adjustment for guessing.) The result of this step is called a corrected raw score.

3. Convert the result of step 2 (the corrected raw score) to a scaled score using the tables provided by ETS.

Suppose, for example, that a test-taker correctly answers 100 out of 140 questions on a test, leaving 20 questions unanswered, and answering incorrectly on the remaining 20 questions. The test-taker's composite score would be

1. 100 correct answers
2. $100 - (\frac{1}{4} \times 20) = 100 - 5 = 95$
3. Using the table shown, the composition scaled score is about 590.

Selected Scaled Scores (Composite)

Corrected Raw Score	Scaled Score
140	800
130	780
120	720
110	650
100	610
90	570
80	520
70	480
60	440
50	400
40	360
30	310
20	270
10	230

Part Two

Test Busters

TEST BUSTERS

GENERAL METHODS



Even though the GMAT uses several different question types, there are some tactics that are applicable to the test as a whole.

STARTING TO WORK



TAKE A BRIEF OVERVIEW OF A SECTION BEFORE BEGINNING TO WORK ON IT.

This is just a matter of caution. Some small adjustments in test format are always possible, so do not get caught off guard. When time is announced for you to begin work on a section, take five to ten seconds to look through the pages of that section. If there are unexpected changes, you can readily adjust your plan of attack.



DON'T STOP TO ASK DIRECTIONS.

Your allotted 30 minutes is all the time you get for a section. No additional time is given for reading instructions. If you spend 30 seconds reading directions each time you begin a new question type, you could lose three or four questions in each section.

The solution to this problem is to be thoroughly familiar with the directions for each question type and the format in which it is presented *before* the exam. Then you will

recognize the format and already know what is required without having to review the directions for that part.

COVERING GROUND

The scoring mechanism for the GMAT is the formula "score = correct answers - $\frac{1}{4}$ incorrect answers".



MOVE AS QUICKLY AS POSSIBLE WITHOUT UNNECESSARILY SACRIFICING ACCURACY.

Consider the cases of three test-takers: Peter Goodstudent, Paul Haphazard, and Mary Testwise. On a certain GMAT, of the "live" 140 questions, Peter attempted only 60, but he was very accurate, missing only 4 questions. Paul worked very quickly, too quickly, attempting all 140 questions, missing 60 of them—over half. Mary attempted 120 questions, and she missed 32. Their score reports would show:

Peter:

Corrected Raw Score = $56 - \frac{1}{4}(4) = 55$ /Scaled Score: 420

Paul:

Corrected Raw Score = $80 - \frac{1}{4}(60) = 65$ /Scaled Score: 460

Mary:

Corrected Raw Score = $88 - \frac{1}{4}(32) = 80$ /Scaled Score: 520

The following Test Buster will help you find the right trade-off:



DON'T SPEND TOO MUCH TIME ON ANY QUESTION.

All questions are given equal weight. No extra credit is given for a difficult question. Thus, there is no reason to keep working on a question after you have given it your best shot. Instead, once you realize that you are spinning your wheels, make the decision to guess and move on to the next question.



BRING YOUR OWN WATCH TO THE TEST.

The proctors in charge of administering the test are supposed to keep you advised of the passing time, for example, by writing on a blackboard how many minutes remain. But you should not rely on their diligence. In the first place, it's easy for a proctor to forget to mark the passing time at exactly the right moment. So when you see the proctor write "5 minutes left," you might have only 4 minutes left or as much as 6 minutes left. Further, the proctor might mark the correct time at a moment when