GRE Complete Study Guide By

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Introduction

This Guide is meant to serve as an introduction to the revised GRE and combines information. If you're new to the GRE, and want to know what to expect and how to prepare, this eBook is for you!

If you're already familiar with the exam and are looking for in-depth study material.

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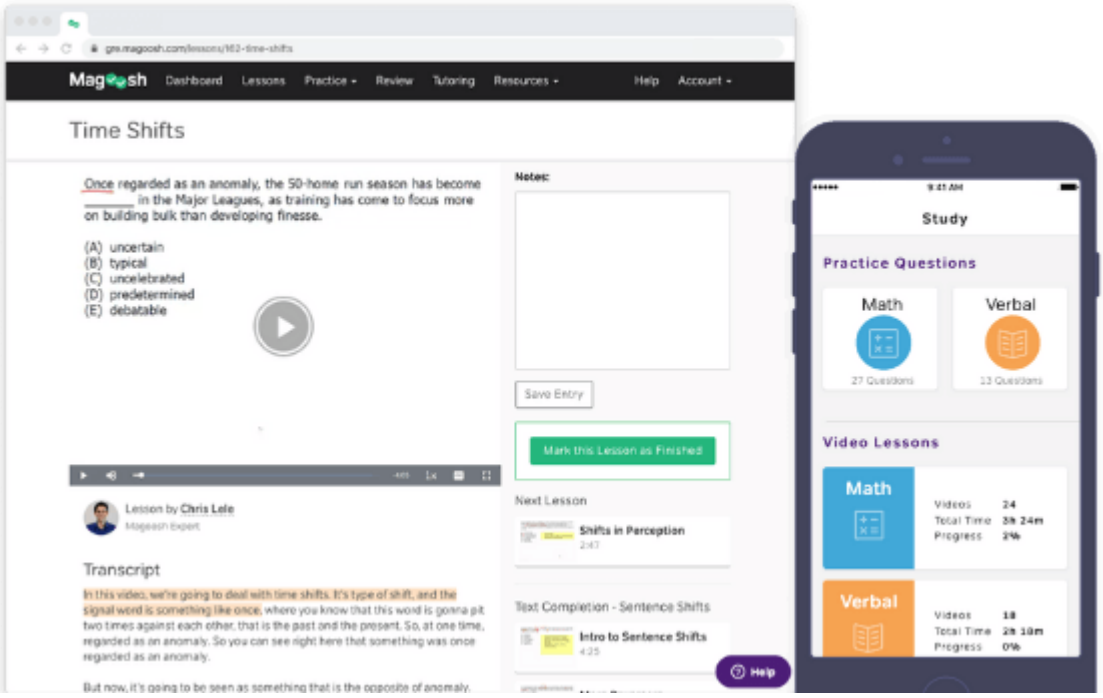

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Meet the Updated, Shorter GRE (Launched in 2023)

The Structure of the Exam

The latest version of the GRE consists of two Verbal sections, two Quantitative sections, and one Analytical Writing Assessment (AWA). The AWA will always be the first section of the GRE exam. After all is said and done, you will receive an overall Quantitative score in the 130 to 170 range, and an overall Verbal score, also from 130 to 170. The total GRE score is the sum of the Verbal and Quantitative scores, on a scale of 260-340. The AWA is scored on a separate scale of 0-6 in half-point increments.

Number of Questions and Time Limit

Section	Questions	Time Limit
AWA	1 Issue Essay	30 minutes
Verbal Section 1	12	18 minutes
Verbal Section 2	15	23 minutes
Quantitative Section 1	12	21 minutes
Quantitative Section 2	15	26 minutes

Total	1 Essay + 54 questions	~ 2 hours

A Few Important Notes!

- The AWA is always the first section, but the quant and verbal sections can appear in *any* order.
- There is no break given for this shorter version of the test.

Overview of the Quantitative Section

The Quantitative sections will include the following question types:

Multiple Choice is pretty standard—you'll just have to identify the one possible correct answer.

Multiple Answer can have up to 10 answer choices, and you'll have to "select all that apply", which means that the number of correct answers is also unknown.

Numeric Entry is an open-ended question type in which you will have to type in the correct value.

Quantitative Comparison will list two quantities, A and B (anything from algebraic expressions to the side length of a given geometric shape) and ask you to compare them and select one of the following:

- A is equal to B
- A is greater than B
- A is less than B
- The relationship between the two quantities cannot be determined from the information given

Here's how the two Quant sections will likely be broken down

Section 1 (question quantities can vary a bit)

Question Type	Quantity
Multiple Choice	5

Multiple Answer	1
Numeric Entry	2
Quantitative Comparison	4

Section 2 (question quantities can vary a bit)

Question Type	Quantity
Multiple Choice	7
Multiple Answer	2
Numeric Entry	1
Quantitative Comparison	5

Note: There is a basic on-screen calculator that you will have access to during the Quantitative sections.

Overview of the Verbal Section

The Verbal sections will include the following question types:

Text Completions can have one to three blanks. For two- and three-blank Text Completion, you must answer each blank correctly to receive full points—no partial credit!

Sentence Equivalence questions have six possible answer choices. For every Sentence Equivalence question, there will be two correct answers. To receive any credit, you must choose both correct answers.

Reading Comprehension passages range from 12 to 60 lines. Topic matter is usually academic in nature and covers areas such as science, literature, and the social sciences.

Question types include standard multiple-choice questions, highlight the passage questions, and multiple-answer questions, which require you to choose any one of three possible answer choices.

There is also a subtype of Reading Comprehension called Paragraph Argument, which asks you to analyze a particular component of a standard argument.

Here's how the two Verbal Sections will likely be broken down

Section 1 (question quantities can vary a bit)

Question Type	Quantity
Text Completion	3
Sentence Equivalence	4
Reading Comprehension	6 (2 will be Paragraph Arguments)

Section 2 (question quantities can vary a bit)

Question Type	Quantity
Text Completion	4
Sentence Equivalence	3
Reading Comprehension	8 (4 will be Paragraph Arguments)

Overview of the Writing Section

To begin the test, you'll be given 30 minutes for The Analyze an Issue Essay. The AWA is not part of your 130 – 170 score. The essay is scored separately on a scale ranging from 0 – 6.

The next section will go over scoring, but after that we'll go over information, examples, and strategies for the Verbal, Quant, and Writing sections.

How is the Revised GRE Scored?

What are raw scores, scaled scores, and percentile rankings?

Raw scores: On the GRE your raw scores are simply the number of questions you get correct in each of the Verbal and Quantitative sections. Each question within a section has the same point value as any other question. After your test, when you view ETS's Diagnostic Service,

you'll be able to see the exact number of questions you got right in each section. This is your raw score.

Scaled scores: If your raw scores are simply your number of correct answers, how do we get a score of 130-170? And why? Since not everyone takes the exact same GRE, ETS has to account for variations in difficulty caused by different tests and via section-level adaptability. Again, you may be asking why. But there's a very good reason for this: to ensure that graduate schools can evaluate test takers on a level playing field.

Through a process called equating, ETS turns your raw score into a scaled score to better measure your performance against all other test takers in a given time period. Here's how ETS explains equating: "The equating process accounts for minor variations in difficulty among the different test editions as well as the differences in difficulty introduced by the section-level adaptation. Thus, a given scaled score for a particular measure reflects the same level of performance regardless of which second section was selected and when the test was taken." Basically, it's ETS's way of explaining why we can all trust its scoring system.

Percentile rankings: The final piece of the scoring puzzle is the percentile ranking. Your percentile shows directly how your scaled score stacks up against all other test takers during a specific time window.

For example, a Verbal score of 156 has a percentile rank of 70. This means achieving a 156 Verbal puts your performance above 70% off all other test takers.

There's a wide disparity between sections though! The same scaled score of 156 on the Quant section has a percentile rank of only 49. Meaning that 156 on Quant only puts you above 49% off all other test takers.

Computer Adaptive Testing (CAT)

The GRE uses an adaptive testing approach known as Computer-Adaptive Testing (CAT).

The GRE CAT is section adaptive

What this means is that the questions within a section do not change depending on whether you answer them correctly. Rather, the computer assesses your performance on the entire first

section and uses that information to select the level of difficulty of the second section in that same subject (verbal or quantitative).

If you perform well on the first section, the second section will be more challenging. Conversely, if you struggle with the first section, the second section will be less difficult.

Your final score takes into account the number of questions you answered correctly and the difficulty level of each section. What does this mean? Well, you cannot achieve an upper echelon score unless your second section is difficult. A second "easier" section locks you into a lower range for your overall exam score.

The level of difficulty of questions within a section is random

The questions do not become progressively harder as you navigate from start to finish. Technically, the first question could be the hardest and the last question could be the easiest. Thus, you've got to stay on your toes--flexibility is the word of the day!

Each question is weighted the same

Do not spend 5 minutes trying to answer a question in which four circles are wedged inside some octagon. Each question is weighed the same. So the question that gives you the radius and asks for the area, which should take no more than 15 seconds, is worth the same raw point as the one about the monstrous polygon.

Scoring takeaways

- The Revised GRE does not adapt within a section, only between sections
- Your performance on the first section for both quant and verbal will, to a great extent, determine the range of your overall GRE exam score
- Each question is weighted the same; they are all worth one raw point
- Difficult questions and easy questions are randomly mixed throughout the section

The Quantitative Section

Multiple Choice

Just a regular multiple choice question, with only one right answer! Here's an example—try it out for yourself before checking the explanation on the next page.

Which of the following equations is true for all positive values of x and y?

A. $\sqrt{x}+\sqrt{y}=\sqrt{x+y}$

B. $\sqrt{x^4y^{16}}=x^2y^4$

C. $\left(x\sqrt{y}\right)\left(y\sqrt{x}\right)=x^2y^2$ D.

$y\sqrt{x}+y\sqrt{x}=\sqrt{4xy^2}$

E. $\left(x^y\right)\left(y^y\right)=(xy)^{2y}$

Which of the following equations is true for all positive values of x and y?

~~(A)~~ $\sqrt{x}+\sqrt{y}=\sqrt{x+y}$

~~(B)~~ $\sqrt{x^4y^{16}}=x^2y^4$

~~(C)~~ $\left(x\sqrt{y}\right)\left(y\sqrt{x}\right)=x^2y^2$

(D) $y\sqrt{x}+y\sqrt{x}=\sqrt{4xy^2}$

~~(E)~~ $\left(x^y\right)\left(y^y\right)=(xy)^{2y}$

(A) $\sqrt{x}+\sqrt{y}=\sqrt{x+y}$

$\sqrt{4}+\sqrt{9}\neq\sqrt{4+9}$

(B) $\sqrt{x^4y^{16}}=x^2y^4$

$\sqrt{x^4y^{16}}=x^2y^8$

Proof: $\left(x^2y^8\right)\left(x^2y^8\right)=x^4y^{16}$

(C) $\left(x\sqrt{y}\right)\left(y\sqrt{x}\right)=x^2y^2$

$xy\sqrt{xy}\neq x^2y^2$

(D) $y\sqrt{x}+y\sqrt{x}=\sqrt{4xy^2}$

$2y\sqrt{x}=\sqrt{4y^2}\sqrt{x}$

$=\sqrt{4xy^2}$

(E) $\left(x^y\right)\left(y^y\right)=(xy)^{2y}$

$\left(x^y\right)\left(y^y\right)=(xy)^y$

$\boxed{\left(x^n\right)\left(y^n\right)=(xy)^n}$

Multiple Answer Questions (MAQs)

Doesn't sound too complicated, right? Well, imagine a question that has ten possible answer choices, any number of which could be correct. Definitely a question structure that can prove frustrating for test-takers.

Most of these will probably only have five or six possible answer choices, not ten. The bottom line: if you know the concept being tested, and are careful and methodical, then you should be able to get this cumbersome question type correct.

Also, you will not encounter too many of these on the shorter GRE, so don't let these worry you. The thing to note is that they are likely time consuming and won't typically fall into the "low-hanging fruit" category (we'll cover that tactic in just a bit).

Depending on what order you encounter them in the quant section, you might want to mark and return later, seeking out easier, faster questions to solve first.

Here is an example of an MAQ that I think you should definitely be capable of getting right if you're careful:

If n is a two-digit number, in which $n = x^y$. If $x + y < 8$, and x and y are positive integers greater than 1, then the units digit of n could be which of the following?

A. 0

B. 1

C. 2

D. 3

E. 4

F. 5

G. 6

H. 7

I. 8

J. 9

As a side note, on the actual GRE, each answer choice will have a square around it. **When you see the square you know you're dealing with Multiple Answer Questions. If there is a circle around the answer choice, then it is business as usual—one answer only.**

As for the question above, the answers are B, C, E, F, G, and H.

If you missed the question, remember that x + y has to be less than 8. Also, make sure you write your work down when tackling Multiple Answer Questions. Trying to juggle all the information in your head will surely get you in trouble.

Numeric Entry

Two trains starting from cities 300 miles apart head in opposite directions at rates of 70 mph and 50 mph, respectively. How long does it take the trains to cross paths?

This is a classic problem that sends chills up students' spines. We're now going to add another bone rattling element: The Empty Box.

That's right—the GRE will have fill-in-the blank/empty box math problems, called Numeric Entry. There won't be too many, judging from the ETS Revised GRE book, but even a few should be enough to discomfit many.

Let's go back and attack the above problem the following way. When you have any two entities (trains, bicyclists, cars, etc.) headed towards each other you must add their rates to find the combined rate. The logic behind the combined rate is the two trains (as is the case here) are coming from opposite directions, straight into each other.

This yields 120 mph, a very fast rate (which accounts for the severity of head-on collisions).

To find the final answer, we want to employ our nifty old formula: D = RT, where D stands for distance, R stands for rate, and T stands for time.

We've already found R, which is their combined rate of 120 mph. They are 300 miles apart so that is D. Plugging those values in, we get 300 = 120T. Dividing 120 by both sides, we get T = 2.5 hrs.

Now we can confidently fill that box in, and let the trains continue on their respective ways.

Quantitative Comparison

Quantitative Comparison is a unique beast—while the math concepts are the exact same as those covered in Problem Solving, QC can be very tricky. In fact, the test writers work very hard to make these questions seem very straightforward. Yet, there is usually a trap or twist, waiting to ensnare the unsuspecting test-taker.

The format will always be the same: comparing two quantities (Column A vs. Column B), with the same 4 answer choices that evaluate the relationship between the two quantities. However, the quantities for Column A and B can be anything from expressions with variables to references to a quantity in a geometric shape.

Column A	Column B
The number of positive multiples of 49 less than 2000	The number of positive multiples of 50 less than or equal to 2000

A. The quantity in Column A is greater

B. The quantity in Column B is greater

C. The two quantities are equal

D. The relationship cannot be determined from the information given

First off, we must understand what a multiple is. A multiple is any number that results when multiplying an integer, x, by 1, 2, 3, 4…

If x is equal to 5, then the multiples of 5 would be:

5 x 1 = 5

5 x 2 = 10

5 x 3 = 15

5 x 4 = 20 5

x 5 = 25

5 x 6 = 30…

From the table above, we can see that any multiple of 5 is divisible by 5. For instance, 1000/5 = 200. Therefore, 1000 is a multiple of 5.

The question above asks us how many multiples of 49 are less than 2000. We can divide 2000 by 49 to see how many multiples of 49 are less than 2000. Doing so may take a while. A faster way is to note that 49 is very close to 50. Quick math allows us to determine that 50 x 40 is 2000. Therefore, 49 x 40 equals 40 less than 2000, or 1960. If we were to multiply 49 x 41, we are adding 1960 + 49, which takes us to 2009. This is greater than 2000. Therefore, we know that there are only 40 multiples of 49 less than 2000.

What about column B? Well, we've already figured out that 40 x 50 equals 2000. But, here is the tricky part. Whereas Column A stipulated that the number has to be less than 2000, Column B says the number has to be less than OR equal to 2000. Therefore, there are 40 multiples of 50 that are less than or equal to 2000. (I wrote this question, and I know it is evil. But sneakily adding a couple of words that changes the answer is a classic trick employed by the writers of the test).

Answer: C.

Tip: Double check your first instinct

There is a good chance that your first instinct was A. Clearly, 49 is lower than 50, so it has to have more multiples. Usually, when the answer to a Quantitative Comparison question appears obvious at first glance, there is some twist to the problem. In this case, the twist was

the wording in Column B: less than or equal to 2000. So, be wary of any QC questions that seem too easy. Look for a twist or a trap.

General Strategies for the Quant Section

Go for the low hanging fruit

You can skip around within whatever section you are working, so get those easier questions squared away first. Remember that your overall performance on the first section will determine the difficulty of your second section. Thus, it is in your best interest to answer the easy and medium questions first, get all those easier points secured, and then work the more difficult questions.

Think of it this way: in 12 or 15 minutes you want to score as many points as you can, and each question is worth the same.

If you were offered 1,000 dollars for every apple you picked from a tree in 15 minutes, what would you do? You would go for the low hanging fruit! You would not waste your time climbing to the very top of the tree to pluck an apple that is worth the same amount of money as an apple that you can simply reach out and grab with both your feet planted on the ground.

Of course, after a certain point—that is to get a high score—you must grab the fruit at the top, aka go for the difficult questions. But make sure you've answered the easy/medium ones first.

Pacing: How long should I spend on each question?

There are a total of 27 questions across both Quantitative Reasoning sections. One is 21 minutes. The other is 26 minutes. Given the number of questions in each section (12 and 15, respectively), you have about 1 minute and 45 seconds to answer each question.

Yes, you get less than 2 minutes per question; however, the amount of time a question takes really does depend on how difficult the question is.

There are easy questions, medium questions, and difficult questions.

- Easy questions should take between 45 seconds and 1 minute.

- Medium questions should take between 1:00 – 2:00.
- And difficult questions should take no longer than 3 minutes.

The ratio of easy, medium, and difficult questions varies per section, but you can generally expect to see a smattering of each type within any given section. Of course, the first section will always skew medium but will also have easy and difficult questions mixed in. If your second section is easier (based on your performance on the first), the ratio will skew towards easy. If your second section is difficult, the ratio will skew towards difficult.

Learn to let a question go

If you are staring at a question and have been unable to devise a solution after a minute, you should seriously consider moving on to the next question. Again, keep the low-hanging fruit metaphor in mind. You can always mark the question and circle back later if you have time remaining.

If, however, you are dealing with a difficult math question (and it is clear that it is difficult, and you're not just missing something obvious), then take a couple of minutes, as some questions will clearly take that much time. Do not freak out about a question that is clearly convoluted just because you've taken 2 minutes. As long as you are headed toward the solution, persevere.

Don't be sloppy with the easy questions

As mentioned above, some easy questions can take less than a minute. It is important to answer these questions confidently and move on. If you dither, then that is time lost that could have been spent on a more difficult question.

However, do not race through an easy question! That defeats the whole low-hanging fruit sermon—missing a question that you could easily have answered correctly had you spent that extra second does not make sense (especially if you are rushing to get to difficult questions that you may not even answer correctly in the first place).

No penalty for guessing!

You do not even have to approach every question, especially the difficult ones. But make sure at the very end that you guess on any questions remaining, because there is no penalty for

guessing. So if you've been skipping a lot of questions, give yourself enough time at the end to input an answer to any questions you left blank.

A little bit of luck can go a long way!

Calculator Strategies

For many students, the knowledge that there is an onscreen calculator is a huge relief. That's true to some extent, but too many students believe having access to a calculator will help them solve tons of questions. The truth of the matter is that almost all math questions on the exam can be solved without a calculator. Furthermore, in many cases, it will actually take longer to solve a question using a calculator than it will to use other techniques.

First off, many problems do not require a calculator. In fact, using a calculator may very well slow you down. The GRE's on-screen calculator is more awkward to use than a physical calculator, and it doesn't have very many functions. Yes, a calculator won't make a careless error (unless you enter in the wrong number); however, it also won't magically summon the answer to a difficult problem.

When to use a calculator

You should consider using the on-screen calculator when the problem you are working on includes, for example, a step that is simply too difficult to multiply on paper. Problems such as compound interest come to mind. Perhaps you have to find the hypotenuse of a right triangle with sides of 51 and 31. Figuring out the square root of a large number could also be very difficult without a calculator.

When to not (or cannot) use a calculator

Many GRE math problems appear– at a glance– to be sophisticated, multi-step problems. But in nearly every problem, there are shortcuts you can take to solve the problem fairly quickly. GRE problems tend to require far fewer steps than you might initially expect.

Reaching too often for the on-screen calculator can open the door to doing a lot of unnecessary steps, which wastes precious time. And, you could even open yourself up to more mistakes; the more steps you take before you get to the final answer, the more errors you can

make. In fact, it can be easier to make a mistake with a calculator than without. Even if your thinking is correct, it's easier to mistype a number than to mis-write one.

And sometimes, the calculator just isn't an option: If you were asked to figure out the units digit of 31000, then you'd have to come up with a clever way to approach the problem—a calculator does not hold that many digits.

The key is l knowing what you can handle and what you can't handle mathematically. In many cases, the challenge is not the math, but the approach to the problem. Practice techniques and strategies that help you find shortcuts, become as familiar as possible with the content and way the GRE tests that content, and remember that relying too heavily on the calculator is just not in your best interest, especially in terms of pacing.

Math Formula & Shortcut Cheat Sheet

While this is a very useful cheat sheet, do not just memorize formulas without actually applying them. Often students will see a question and will assume that a certain formula is relevant. This is not always the case. So make sure you practice using the formulas so you will know when they pertain to a question and when they do not.

Interest

Simple Interest: $V = P\left(1 + \frac{rt}{100}\right)$, where P is principal, r is rate, and t is time

Compound Interest: $V = P\left(1 + \frac{r}{100\,n}\right)^{nt}$, where n is the number of times compounded per year

Work Rates

$$\frac{1}{TotalWork} = \frac{1}{WorkRate_1} + \frac{1}{WorkRate_2}$$

Sets

$A + B - \left(A \bigcup B\right)$

Distance, Rate, and Time

$$D = rt$$

$$Distance = Rate \times Time$$

Circles

$$Area = \pi r^2$$

$$Circumference = 2\pi r$$

$$Arc\ Length = \frac{x}{360} 2\pi r$$

$$Area\ of\ sector = \frac{x}{360} \pi r^2$$

Squares

$$Perimeter = 4s$$

where s = side

$$Area = s^2$$

Rectangles

$$Area = l \times w$$

where l = length and w = width

$$Perimeter = 2l + 2w$$

Trapezoids

$$\frac{Base1 + Base2}{2} \times height$$

Polygons

$$Total\ degrees = 180\ (n - 2\ )$$

where n = # of sides

$$Average\ degrees\ per\ \ side\ or\ degree\ measure\ of\ congruent\ polygon\ = 180\frac{(n - 2\ )}{n}$$

The Distance Formula

$$\sqrt{\left(x_{2} - x_{1}\right)^{2} + \left(y_{2} - y_{1}\right)^{2}}$$

Prime numbers and integers

1 is not a prime. 2 is the smallest prime and the only even prime.

An integer is any counting number including negative numbers (e.g. -3, -1, 2, 7…but not 2.5)

Fast Fractions

$$\frac{1}{x} + \frac{1}{y} = \frac{x + y}{xy}$$

$$\frac{1}{2} + \frac{1}{5} = \frac{2 + 5}{2 \times 5} = \frac{7}{10}$$

Divisibility

3 : sum of digits divisible by 3

4 : the last two digits of number are divisible by 4

5 : the last digit is either a 5 or zero

6 : even number and sum of digits is divisible by 3

8 : if the last three digits are divisible by 8

9: sum of digits is divisible by 9

Combinations and Permutations

$$nCr = \frac{n!}{r!\,(n-r)!}$$

n is the total number, r is the number you are choosing

$$nPr = \frac{n!}{(n-r)!}$$

Probability

$$Probability\ of\ event = \frac{number\ of\ ways\ that\ fit\ the\ requirement}{number\ of\ total\ ways}$$

Concept Review: Algebra

The FOIL method is one that almost everybody remembers learning at some point, circa middle school. Though you may have forgotten the details, with a little practice, you should be able to use it effectively.

First off, FOIL stands for First, Outer, Inner, and Last, and refers to the position of numbers and/or variables within parenthesis. Let's have a look:

$(x-y)\times(x+y)=?$

Remember when parentheses are joined together, there is an invisible multiplication sign. The tricky part is how to multiply together a bunch of x's and y's. The answer: the FOIL method.

- F (First): The first term in each parentheses is x, so we multiply the x's together to get: x^2
- O (Outer): The term on the outside of the left parenthesis is 'x' and on the outside of the right parenthesis is 'y'. We multiply the two together to get: xy .
- I (Inner): Now we multiply the inner terms in each parenthesis: $(-y)(x)=-xy$

- L (Last): Finally, we multiply the terms that are the rightmost to get $(-y)(y)=-y^2$ Now we add together our results $F+O+I+L: x^2-xy+xy-y^2=x^2-y^2$

So $(x-y)(x+y)=x^2-y^2$.

Memorize this pattern. Do not spend time on the test actually completing the steps above.

Other important algebraic expressions to memorize are:

$(x-y)(x-y)=x^2-2xy+y^2$

$(x+y)(x+y)=x^2+2xy+y^2$.

Here are some examples in which we apply the above.

A. $(x-5)(x+5)=x^2-25$

B. $(a+3)(a+3)=a^2+6a+9$

C. $(b-2c)(b-2c)=b^2-4bc+4c^2$

Other applications of FOIL

$(98)(102)=?$

$(79)(81)=?$

These questions appear as though they would not relate to the FOIL method. But upon closer inspection, we can see that these numbers aren't random.

If we add them, instead of multiplying, we get 200, for the first question, and 160, for the second. Or $100+100$ and $80+80$.

Let's focus on the pair of hundreds: 100×100 vs. 98×102.

Notice that $(98)(102)$ can be written as $(100-2)(100+2)$. Now you should see the $(x-y)(x+y)$ form, which expressed correctly is $100^2-2^2=9,996$.

Solving in this way is much more effective, because $100^2=10,000$, a number you should know off the top of your head.

Other tips

Compare the following:

$(x-2)^2=4$ vs. $2=\sqrt{x-2}$

In the first case, there are two solutions: 0 and 4. Remember when you square a negative number, as in $(-2)^2=4$, you get a positive number.

With the equation on the right side, the one in which x is under the square root sign, if you get a negative number, you cannot take the square root of it (at least in GRE world, where imaginary numbers do not come into play).

In the case of $2=\sqrt{x-2}$, we square both sides to get $4=x-2$, so $x=6$.

Concept Review: Combinations and "Permutations"

It's common for test prep companies to label their counting sections as "Combinations and Permutations." Heck! We do that, too. But, know this: That is only for lack of a better term, and makes these questions seem more intimidating than they actually are. The truth of the matter is that true permutation and combination questions are exceedingly rare on the GRE.

Now, for those who are unfamiliar with permutations, a permutation is an arrangement of a subset of items in a set. To be more specific:

If we have n unique objects, then we can arrange r of those objects in ${}_nP_r$ ways, where ${}_nP_r$ equals some formula that even those who took several combinatorics courses in university and now teach the concept to their own students haven't memorized--brain space is too precious a commodity to devote to such an arcane concept.

It's not that the permutation formula is too complicated to remember; it's just that it's unnecessary to memorize such a formula for the GRE.

Here's an example of a true permutation question:

> Using the letters of the alphabet, how many different 3-letter words can be created if repeated letters are not permitted?

Here, we have a set of 26 letters in the alphabet, and we want to determine the number of ways we can arrange 3 of those letters. So, if we still feel compelled to use permutations to the answer the question, the answer would be ${}_{26}P_3$ at which point you would have to evaluate this.

Of course, you're not going to memorize the permutation formula, because you're going to accept that true permutation questions are exceedingly rare on the GRE. For the doubters out there, let's consider what we found when we dug into a version of the Official Guide to the GRE: In the Guide, there are 7 counting questions altogether. Of these 7 questions, not one was a true permutation question, and there you have it!

Given the rarity of permutation questions, it's dangerous to approach counting questions with the notion that all you need to do is determine whether you're dealing with a combination or a permutation, and then apply one of two formulas. If you do this, you will inevitably conclude that a question is a permutation question when it isn't. Notice how easy it is to turn a permutation question into a non-permutation question by simply changing a word or two. For example, see what happens when we change our original question to read:

> Using the letters of the alphabet, how many different 3-letter words can be created if repeated letters are permitted?

By allowing repeated letters, the question is no longer a permutation question, which means ${}_{26}P_3$ is not the solution (the solution is actually 26^3).

Rather than use the permutation formula to answer counting question on the GRE, we can use the Fundamental Counting Principle (FCP). The FCP is easy to use and it can be used to solve the majority of counting questions on the GRE.

So, my approach with all counting questions is as follows:

- First, determine whether or not the question can be answered using the FCP
- If the question can't be answered using the FCP, it can probably be solved using combinations (or a combination of combinations, and the FCP)

The Fundamental Counting Principle

If we have a task consisting of stages, where one stage can be accomplished in A ways, another stage in B ways, another in C ways . . . etc., then the total number of ways to accomplish the entire task will equal A×B×C×…

The great thing about the FCP is that it's easy to use, and it doesn't require the memorization of any formulas. So, whenever a counting question is encountered, first try to determine whether or not the question can be solved using the FCP. To determine this, ask, "Can I take the required task and break it into individual stages?" If the answer is yes, you may be able to use the FCP to solve the question.

To see how this plays out, let's solve the following question:

How many different 3-digit numbers are greater than 299 and do not contain the digits 1, 6, or 8?

A. 222

B. 245

C. 291

D. 315

E. 343

So, our task is to find 3-digit numbers that adhere to some specific rules. Can we take this task and break it into individual stages? Sure, we can define the stages as:

Stage 1: Choose a digit for the hundreds position

Stage 2: Choose a digit for the tens position

Stage 3: Choose a digit for the units position

Once we accomplish all 3 stages, we will have "built" our 3-digit number.

At this point, we need to determine the number of ways to accomplish each stage.

Stage 1: In how many different ways can we choose a digit for the hundreds position? Well, since the 3-digit number must be greater than 299, the digit in the hundreds position cannot be 0, 1 or 2. The question also says that the digits 6 and 8 are forbidden. So, when we consider the various restrictions, we see that the digit in the hundreds position can be 3, 4, 5, 7 or 9. So, there are 5 different ways in which we can accomplish Stage 1.

Stage 2: In how many different ways can we choose a digit for the tens position? Well, since the tens digit can be any digit other than 1, 6 or 8, we can see that the tens digit can be 0, 2, 3, 4, 5, 7 or 9. So, there are 7 different ways in which we can accomplish Stage 2.

Stage 3: The units digit can be 0, 2, 3, 4, 5, 7 or 9. So, there are 7 different ways in which we can accomplish Stage 3.

At this point, we can apply the FCP to see that the total number of ways to accomplish all three stages (and create our 3-digit numbers) will equal the product of the number of ways to accomplish each individual stage.

So, we get $5 \times 7 \times 7$, which equals 245.

There are 245 different 3-digit numbers that are greater than 299 and do not contain any 1's, 6's or 8's. The answer to the original question is B.

The big question: "Does the outcome of each step differ from the outcomes of the other steps?"

So, we just solved the question by taking the task of building 3-digit numbers and breaking it into individual stages. From there, we determined the number of ways to accomplish each stage, and then we applied the FCP.

During the course of that solution there was a very important step that we didn't mention and like to spend some time discussing that missing step, because it is very important.

Once we break a required task into stages, we should always ask, "Does the outcome of each step differ from the outcomes of the other steps?"

If the answer to this question is NO, we cannot solve the question using the FCP.

To illustrate this, please consider a new question:

> A manager must create a 2-person committee from a group of 4 employees. In how many different ways can this be accomplished?
>
> A. 2
>
> B. 6
>
> C. 8
>
> D. 12
>
> E. 16

First, we'll take the required task and break it into individual stages as follows:

Stage 1: Choose one person to be on the committee

Stage 2: Choose another person to be on the committee

At this point, if we continue solving this question using the FCP, we'll arrive at the wrong answer. But, don't believe me just yet. Let's just continue with this approach to see where things go wrong.

Stage 1: There are 4 employees, so we can choose the first person in 4 ways

Stage 2: At this point there are 3 people remaining, so we can choose the other person in 3 ways

When we apply the FCP, we get 4 x 3 = 12, which suggests that we can create 12 different two-person committees.

However, when we examine all 12 committees, we should see a problem with this answer. To list the committees, let's let A, B, C, and D represent the four employees. This means that the 12 committees are:

AB AC AD BA BC BD

CA CB CD DA DB DC

Can you see the problem?

Well, for one, we have counted AB and BA as two different committees, when they are clearly not different. Similarly, we have counted BC and CB as different committees, not to mention other pairs.

So, what's the problem here? The problem is that we're treating the outcome of Stage 1 (selecting the first person) as different from the outcome of Stage 2 (selecting the second person), when these two outcomes are the same. In each case, the selected person gets to be on the committee.

To apply the FCP, we need the outcomes to be different.

This is why we need to ask the question, "Is the outcome of each step different from the outcomes of the other steps?" If the answer is NO (which it is in this case), then we cannot solve the question using the FCP. We must find another approach. In this particular example, the approach will be to use combinations (a topic for another day).

Aside: When we use combinations to solve the question we see that the answer to the question is 6 (answer choice B)

BIG TAKEAWAY: Although the FCP can be used to solve the majority of counting questions on the GRE, it won't always work.

Okay, now let's examine a question that looks very similar to the last question:

> A manager must select 2 people from a group of 4 employees. One person will be the shop steward and the other person will be the treasurer. In how many different ways can this be accomplished?

A. 2

B. 6

C. 8

D. 12

E. 16

First, we'll take the required task and break it into individual stages:

Stage 1: Choose someone to be the shop steward

Stage 2: Choose someone to be the treasurer

Now we'll ask the all-important question, "Is the outcome of each step different from the outcomes of the other steps?" Here the answer is YES. The outcomes are definitely different. The outcome of Stage 1 is getting to be the shop steward. The outcome of Stage 2 is getting to be the treasurer. Since the outcomes are different, we can continue solving the question using the FCP.

Stage 1: There are 4 employees, so we can choose the first person in 4 ways

Stage 2: At this point there are 3 people remaining, so we can choose the other person in 3 ways

When we apply the FCP, we get 4 x 3 = 12. So, there are 12 different ways to select a shop steward and treasurer, which means the answer is D.

Finally, let's apply our latest step to the original question:

How many different 3-digit numbers are greater than 299 and do not contain the digits 1, 6, or 8?

A. 222

B. 245

C. 291

D. 315

E. 343

First we'll take this task and break it into individual stages as follows:

Stage 1: Choose a digit for the hundreds position

Stage 2: Choose a digit for the tens position

Stage 3: Choose a digit for the units position

Then, we'll ask, "Is the outcome of each step different from the outcomes of the other steps?"

Here the answer is YES. The outcomes are different. For example, selecting a 6 for Stage 1 is different from selecting a 6 for Stage 2. In one case, the 6 becomes the digit in the hundreds position, and in the other case, the 6 becomes the digit in the tens position – TOTALLY DIFFERENT OUTCOMES.

Since the outcomes of each stage are different, we can continue solving the question using the FCP.

Stage 1: In how many different ways can we choose a digit for the hundreds position? Well, since the 3-digit number must be greater than 299, the digit in the hundreds position cannot be 0, 1 or 2. The question also says that the digits 6 and 8 are forbidden. So, when we consider the various restrictions, we see that the digit in the hundreds position can be 3, 4, 5, 7 or 9. So, there are 5 different ways in which we can accomplish Stage 1.

Stage 2: In how many different ways can we choose a digit for the tens position? Well, since the tens digit can be any digit other than 1, 6 or 8, we can see that the tens digit can be 0, 2, 3, 4, 5, 7 or 9. So, there are 7 different ways in which we can accomplish Stage 2.

Stage 3: The units digit can be 0, 2, 3, 4, 5, 7 or 9. So, there are 7 different ways in which we can accomplish Stage 3. At this point we can apply the FCP to see that the total number of ways to accomplish all three stages (and create our 3-digit numbers) will equal the product of the number of ways to accomplish each individual stage.

So, we get $5 \times 7 \times 7$, which equals 245.

There are 245 different 3-digit numbers that are greater than 299 and do not contain any 1's, 6's or 8's. The answer is B.

Concept Review: Probability

If you're like most students, you probably struggle with the GRE's time constraints, and you probably have difficulties with probability questions.

That's why we're going to examine how probability questions can provide you with a convenient opportunity to make up lost time.

To set this up, please consider the following scenario:

It's test day, and halfway through one of the math sections, you find that you're 2 minutes behind.

At this point, you have two options:

1. Work faster on the remaining questions (and risk making careless mistakes)
2. Guess on one of the questions and immediately make up the lost time (but risk guessing the wrong answer)

Both options are less than ideal, but we argue that option #2 is better than option #1, especially if you encounter a probability question.

To illustrate this, answer the following question within 20 seconds:

From a group of 5 managers (Joon, Kendra, Lee, Marnie and Noomi), 2 people are randomly selected to attend a conference in Las Vegas. What is the probability that Marnie and Noomi are both selected?

A. 0.1

B. 0.2

C. 0.25

D. 0.4

E. 0.6

If you've already identified probability as one of your weaknesses, and if you typically fall behind time-wise, this question is a gift. You should be able to eliminate 2 or 3 answer choices and make an educated guess within seconds of reading the question.

The elimination strategy relies on the fact that most people have an innate ability to judge the relative likelihood of an event. So, for the Las Vegas question above, you can use your intuition to eliminate answer choices that just don't feel right.

To begin, you might ask, "Is the probability of selecting Marnie and Noomi greater than 0.5 or less than 0.5?" If it feels less than 0.5 (which it is), you can eliminate E. Of course, you'll want to eliminate more than one answer choice, so you'll need to be more aggressive. You might ask, "Does the event seem very unlikely or a little unlikely? Your answer will allow you to eliminate additional answer choices.

If you feel that the probability seems very unlikely, you might eliminate C, D and E, leaving yourself with a good chance of guessing the correct answer (all within seconds of reading the question). If you're less aggressive, you might eliminate just D and E. That's still fine. Remember that the goal here is not to ensure that you correctly answer the question; the goal is to make up your 2 minutes and maximize your chances of guessing the correct answer.

Please note that this guessing strategy can also be used if you just typically run out of time on the math sections, and you need a way to give yourself a buffer. Yet, bear in mind that probability questions are the best for this (counting questions are pretty good, too).

So, we used our intuition to eliminate two answer choices (D and E) in a matter of seconds. Here, we'll use another elimination technique to help further reduce the number of answer choices to guess from.

To begin, let's review the standard probability formula. It says that, if we have an experiment where each outcome is equally likely to occur, then:

P(A) = [# of outcomes where A occurs]/[total # of outcomes]

So, P(Marnie and Noomi are both selected)= [# of outcomes where they are both selected]/[total # of outcomes]

If we use this formula, it's always best to calculate the denominator first. The reason for this is twofold:

1. Calculating the denominator is typically easier than calculating the numerator. So, if we calculate the denominator first, we may gain some insight into how to calculate the numerator.

2. Calculating the denominator can help us quickly eliminate answer choices.

For the denominator in the above question, we need to determine the number of outcomes when 2 people are selected from a group of 5 people. Since the order of the selected people does not matter, this is a combination question. So, we can select 2 people from 5 people in ${}_5C_2$ ways. When we apply the combination formula, we see that ${}_5C_2 = 10$. This means that:

P(Marnie and Noomi are both selected)= [# of outcomes where they are both selected]/[10]

Now that we know the denominator equals 10, we can conclude that the probability cannot be 0.25, since it is impossible for a fraction with denominator 10 to equal 0.25

So, by calculating the denominator, we were able to eliminate one more answer choice.

At this point, we have quickly eliminated 3 answer choices (C, D and E), leaving us with a 50-50 chance of guessing the correct answer. Not bad if we don't know how to solve the question.

Now, we'll examine 2 different ways to find the correct solution to this question.

To begin, it's important to know that, when it comes to probability questions, we often have 2 distinct approaches to choose from:

- Apply various probability rules
- Apply counting techniques and the standard probability formula
- For some questions, it may be best to apply probability rules, and, in other cases, it may be best to use counting techniques. The approach you choose may also depend on your level of comfort with each strategy.

Applying Probability Rules

To apply probability rules, we first ask, “What needs to occur in order for both Marnie and Noomi to be selected?”

Well, the first person selected must be either Marnie or Noomi AND the second person selected must be the remaining person. At this point, I know that I can apply the AND probability rule to solve this question.

The “AND” probability formula looks something like this: P(A AND B) = P(A) x P(B)

Aside: Please note that there are different ways to represent this formula. One involves using conditional probability, which has some complicated notation. Rather than use this notation, we’ll just add an important stipulation to the above formula. The stipulation is when we calculate P(B), we must assume that event A has already occurred.

Okay, now let’s solve the question.

I know that P(Marnie and Noomi are both selected) = P(one of the two friends is selected first, AND the remaining friend is selected second)

When we apply the formula, we get:

P(M and N both selected) = P(one of the two friends is selected first) x P(the remaining friend is selected second)

Now, what is the probability that one of the two friends is selected first? Well, there are 5 people to choose from, and we want one of the 2 friends to be selected. So, the probability is 2/5 that one of the two friends is selected first.

Now, we need to find the probability that the remaining friend is selected second. Well, first we will assume that one of the friends was already chosen on the first selection. So, at this point there are 4 people remaining, and 1 of those 4 people is the remaining friend. So, the probability is 1/4 that the remaining friend is selected second.

This means that P(M and N both selected) = (2/5) x (1/4) = 1/10

So, the correct answer is A.

Applying Counting Techniques

To apply counting techniques, we will use the fact that if we have an experiment where each outcome is equally likely to occur, then

P(A) = [# of outcomes where A occurs]/[total # of outcomes]

So, P(M and N both selected)= [# of outcomes where both are selected]/[total # of outcomes]

As I explained in a preceding paragraph, it's always best to calculate the denominator first. So, for the denominator in our question, we need to determine the total number of outcomes when 2 people are selected from a group of 5 people. Since the order of the selected people does not matter in the given question, we can apply the combination formula. Thus, we can select 2 people from 5 people in ${}_5C_2$ ways. When we apply the combination formula, we see that ${}_5C_2 = 10$.

At this point, we need to determine the number of outcomes where Marnie and Noomi are both selected. In other words, in how many ways can we select 2 people such that both of those people are Marnie and Noomi?

Well, there's only 1 way to do this; select both Marnie and Noomi.

So, P(M and N both selected)= 1/10

Now, some readers may question whether or not there is only 1 way to select both Marnie and Noomi. This is a valid question. After all, we could select Marnie and then Noomi, or we could select Noomi and then Marnie. This would mean that there are 2 ways to select both Marnie and Noomi. Seems reasonable enough. However, the important point to keep in mind is that, when we determined the value of the denominator, we assumed that the order in which the people are selected does not matter. So, when we determine the value of the numerator, we must once again assume the order in which the people are selected does not matter. This means that selecting Marnie and then Noomi is the same as selecting Noomi and then Marnie, in which case we cannot consider them as two different outcomes. So, there is only 1 way to select both Marnie and Noomi.

Concept Review: Factorials

If you've ever come across a number with an exclamation mark after it, that's a factorial, e.g. 5!.

Factorials don't come up too often on the GRE, and when they do, it's usually on the more difficult problems. Still, you don't want to be faced with an exclamation sign next to a number and then exclaim to yourself, "What in the heck is that?!"

There's no need to worry about these—just think of the factorial sign as a countdown. Whichever number is next to the factorial just count down to 1, multiplying each number together. So if you see 5!, all this means is 5 x 4 x 3 x 2 x 1 = 120.

Factorials are sometimes seen explicitly (as in the problem below.) But, sometimes, you will need to use them when solving a difficult subset of math problems known as combination/permutations, which we discussed a few pages back.

For now, try this problem:

Column A	Column B
7!	6! + 6! + 6! + 6! + 6! + 6! + 6!

A. The quantity in Column A is greater

B. The quantity in Column B is greater

C. The two quantities are equal

D. The relationship cannot be determined from the information given

You can work this out the long way: 7! = 7 x 6 x 5 x 4 x 3 x 2 x 1. Then you can do the same for column B, multiplying out and then adding the 6!s. Of course, if you catch yourself doing too much math, always know there is a shorter way. In fact, quantitative comparison is testing your logical approach to a question, so do as little math as possible.

Here, we can see that column B is made up of seven 6!, or 7(6!), which equals 7 x 6 x 5 x 4 x 3 x 2 x 1 = 7!. Therefore the two columns are equal, and the answer is C.

Concept Review: Graphs & Charts

Within each Quantitative section, you should expect to see only a few of these. In fact, you likely won't see more than three spread across both quant sections--maybe two in one section and one or none in the other. When you do have one, you will encounter a set of data presented in some form (graph, table, etc.), and then you will have two or three consecutive questions on that data set.

Types of GRE Data Interpretation questions

Much of this question type is about your ability to read graphs & charts, and what the GRE is asking you to solve, for the most part, is quite straightforward. The vast majority of these questions revolve around one of the "big five" types of data display that you're probably already familiar with:

1. Pie chart
2. Column chart
3. Line chart
4. Bar chart
5. Numerical table

Sometimes, the Data Interpretation set might combine two types — for example, a Pie Chart showing the general breakdown of governmental expenses, and then another chart or table of numbers showing the detail in one category. In rare circumstances, Data Interpretation might be an entirely different kind of visual information, say, the floor plan of a house, but in those cases, the questions are often simpler to solve.

How to study for GRE Data Interpretation

Start looking for data displayed in graphs & charts. Any day's issue of, say, the New York Times is likely to have at least one chart or graph accompanying an article somewhere. That's even truer for any week's issue of the Economist, which some argue is the single most intelligent weekly magazine in print.

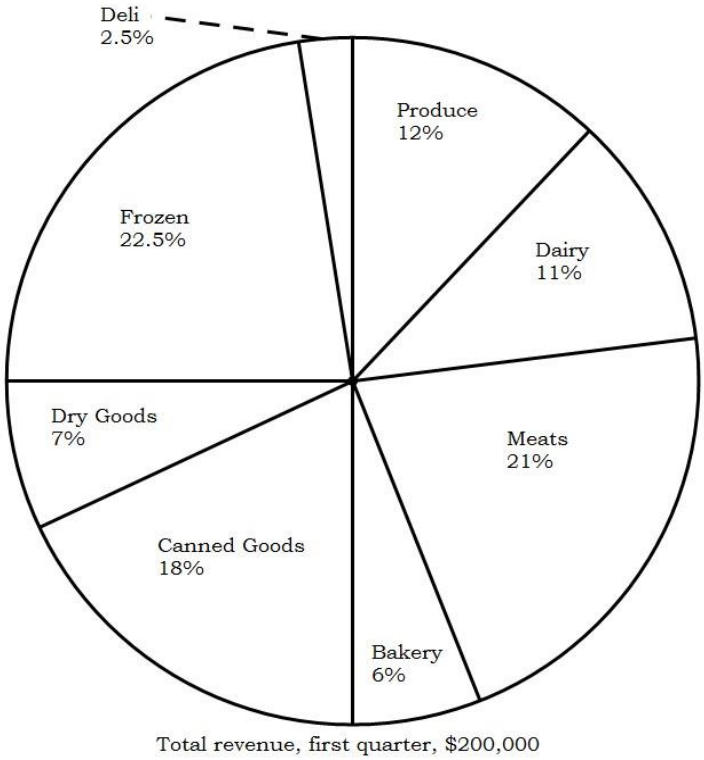
When you are faced with a graphic, ask yourself the following:

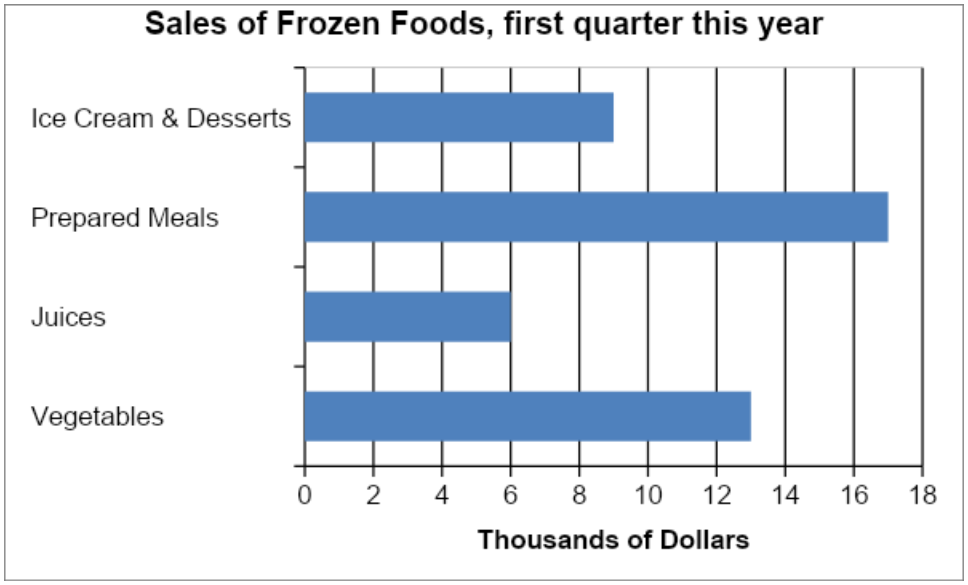
- Why does a chart or graph accompany that article?
- What information is given in the chart that is not given in the article? ● What aspects of the data does the chart make clear?

If you can understand what a graph or chart adds to a written article, you are more than well on your way toward mastering GRE Data Interpretation.

Sample Data Interpretation questions

The following pie chart shows the breakdown of revenues for a particular grocery store over the first quarter of this year. The bar chart shows the breakdown for frozen foods.





1. What is the dollar amount of sales of canned goods in the first quarter of this year?

A. $6,000

B. $9,000

C. $18,000

D. $36,000

E. $90,000

2. Frozen prepared meals constitute what percentage of the total sales for the first quarter this year?

A. 2%

B. 9%

C. 20%

F. 36%

D. 54%

3. During the first quarter this year, this particular grocery store was finishing its construction of an expanded bakery facility, which, when opened at the beginning of the second quarter, will offer dozens of new cakes and pies, a whole new line of pastries, and several flavors of gourmet coffee. Assume that in the second quarter, the bakery sales triple, and all other sales stay the same. The bakery would then account for what percentage of the total sales in the second quarter?

A. 8.7%

B. 12%

C. 16.1%

D. 18%

E. 25.3%

Answers & Explanations:

1. This is a straightforward read-data-off-the-chart question. The pie chart tells us canned goods sales constitute 18% of $200,000. Don't go to the calculator for such a straightforward percent question!

.018 x 200000 = 18/100 x 200000 = 18 x 2000 = $36000

Answer = D

2. From the bar chart, prepared meals account for about $18,000 in sales. This $18,000 is what percent of $200,000? Again, please don't jump to the calculator for this.

percent = $\frac{part}{whole} \times 100\% = \frac{18{,}000}{200{,}000} \times 100\% = \frac{18}{200} \times 100\% = \frac{2}{18}\ \% = 9\%$

3. This is a tricky question, because there's a tempting wrong answer. The bakery accounts for 6% of the total sales in the first quarter, so if you triple that, it's 18%, right? Wrong! The new amount would be 18% of the total sales in the first quarter, but we want to know what percent it would be of the total sales in the second quarter? That's a new total because, even though everything else stayed the same, bakery sales increased.

We don't need to consider the actual numbers: we can just work with the percents. Bakery sales tripled from 6% to 18% — that's the new "part." Since the bakery goes up 12% from 6% to 18%, and all other sales stay the same, the new total is 112% — that's the new "whole." percent = $\frac{part}{whole} \times 100\% = \frac{18}{112} \times 100\% = 16.0714\%$

You can use the calculator if you like, although you could also approximate that the answer will not be 18% but rather something a little below 18%, because the "whole" has increased a bit. Either way, the answer = C.

Quantitative Practice Questions

Multiple Choice

Directions: Choose the option that best answers the question.

How many positive integers less than 10,000 are such that the product of their digits is 210?

A. 24

B. 30

C. 48

D. 54

E. 72

How many positive integers less than 10,000 are such that the product of their digits is 210?

(A) 24
(B) 30
(C) 48
(D) 54
(E) 72

$$210 = 2 \times 3 \times 5 \times 7$$

Case i: 4-digit number with 2, 3, 5, and 7
➡ 4! (24) possibilities

Case ii: 3-digit number with 5, 6, and 7
➡ 3! (6) possibilities

Case iii: 4-digit number with 1, 5, 6, and 7
➡ 4! (24) possibilities

Total = 24 + 6 + 24 = **54**

Multiple Answer

Directions: Consider each of the choices separately and select all that apply.

If $x>0$, and two sides of a certain triangle have lengths $2x+1$ and $3x+4$ respectively, which of the following could be the length of the third side of the triangle?

Indicate all possible lengths.

A. $4x+5$

B. $x+2$

C. $6x+1$

D. $5x+6$

E. $2x+17$

If $x > 0$, and two sides of a certain triangle have lengths $2x+1$ and $3x+4$ respectively, which of the following could be the length of the third side of the triangle?

Indicate <u>all</u> possible lengths.

(A) $4x+5$

[B] $x+2$

(C) $6x+1$

[D] $5x+6$

(E) $2x+17$

Given 2 sides with lengths A and B,

difference between A and B $<$ length of third side $<$ sum of A and B

$x+3 <$ length of third side $< 5x+5$

Numeric Entry

Directions: Enter the answer in the blank.

If $\left(\frac{2^{-n}}{3}\right)\left(\frac{3^{-n}}{2}\right)=\frac{1}{36}$, what is the value of n?

If $\left(\frac{2^{-n}}{3}\right)\left(\frac{3^{-n}}{2}\right)=\frac{1}{36}$, what is the value of n?

1

$$\left(\frac{2^{-n}}{3}\right)\left(\frac{3^{-n}}{2}\right)=\frac{1}{36} \qquad a^n b^n=(ab)^n$$

$$\frac{6^{-n}}{6}=\frac{1}{36}$$

$$\frac{6^{-n}}{6^1}=6^{-2} \qquad \frac{x^a}{x^b}=x^{a-b}$$

$$6^{-n-1}=6^{-2}$$

If $x^a=x^b$ then $a=b$ $(x\neq 0,1,-1)$

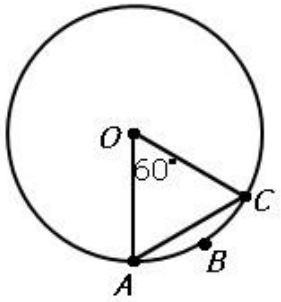
$$-n-1=-2$$

$$-n=-1$$

$$n=1$$

Quantitative Comparison

Directions: Choose the correct statement.



O is the center of the circle with radius 6.

Column A	Column B
Length of arc ABC	6

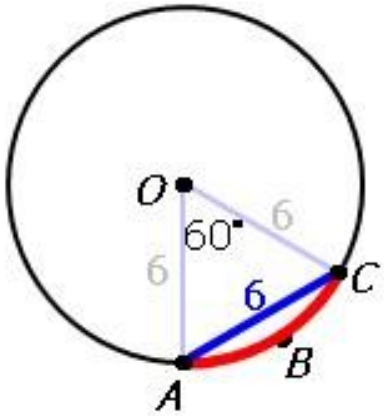
Choose the correct statement:

A. The quantity in Column A is greater

B. The quantity in Column B is greater

C. The two quantities are equal

D. The relationship cannot be determined from the information given



O is the center of the circle with radius 6.

Column A		Column B
Length of arc ABC ✓	A	6

6+

The Verbal Section

Text Completion

On the surface the Text Completion sounds deceptively easy: all you have to do is fill in the blanks in a sentence with a vocabulary word that, given the clues in the sentence(s), fits best. Notice the (s) in the preceding sentence? Well, that's because you might be called upon to fill in multiple blanks in one sentence.

In fact, the longest Text Completions can sometimes run an entire paragraph. Yikes! Also, recall that there is no partial credit. If one of the words you select for the blank is incorrect, you lose the entire raw point for that question.

A Text Completion can have anywhere from one to three blanks. Every one-blank Text Completion will be one sentence and will contain FIVE answer choices. The two- and three-blank Text Completions, on the other hand, can run anywhere from one to four sentences. Most importantly, each blank in a two- and three-blank Text Completion will always have THREE answer choices.

With a two- or three-blank text completion, your chances of guessing and getting lucky are quite low: for a three-blank TC, you have to get all three correct in order to get the question correct (that amounts to a 1 in 27 chance in guessing).

Below are five important strategies you should follow if you want to do well on Text Completions:

1. Don't dive in

Read the entire stem first. The reason for this strategy is that the first blank is often ambiguous, unless you have read the entire paragraph.

2. Breaking down the text completion

Text Completions are sometimes a paragraph long, so it is easy to get lost in them. A great strategy is trying to understand the "big picture". Breaking down the paragraph in your own words (paraphrasing the paragraph) will help you get a grasp on what the sentences are talking about. Then you're ready for step #3.

3. Use your own words

We want to use the strategy of putting in our own word(s) in the blank or blanks. To do so, you must always justify your answers based not just on the "big picture", but on some of the specific words or phrases in the sentence itself. I refer to these word(s) as keywords.

4. The second (or third) blank first

Because the first blank is often difficult to deal with (that's one of ETS's annoying tactics), try finding a word for the second or third blank first. Then work your way backwards to the first blank. The caveat: This technique only applies if you can come up with a word for the second or third blank. If you can't, then work with the first blank.

5. Use the entire text completion as context

When you've finally chosen your two/three answers, plug them back into the blanks. Does the completed sentence make sense with how you earlier paraphrased it? If yes, then you've most likely solved the puzzle and earned the point!

Sentence Equivalence

Sentence Equivalence questions have vague instructions ("select exactly two words that best complete the sentence and produce sentences that are alike in meaning"). These somewhat less than clear instructions leave many scratching their heads, wondering what the difference is between synonymous sentences and words that are synonyms.

Even if a Sentence Equivalence question is straightforward, you may still be unsure how to proceed. What if three answer choices work? Two of them are synonyms, and one of them isn't. You feel, however, that one of the synonyms somewhat works in the sentence, but the one lone word that does not have a synonym amongst the answer choices works even better. What, then, is the answer?

Let's take a look at a question that puts us in the aforementioned quandary:

The blitzkrieg of anti-smoking images has clearly had a(n) —- effect: both the number of total smokers and the rate of lung cancer has fallen in recent years.

A. salutary

B. lasting

C. dramatic

D. ephemeral

E. unremarkable

F. beneficial

There are a few answer choices that could conceivably work here: (A) salutary, (B) lasting, (C) dramatic and (F) beneficial. However, lasting is a bit suspect, because there is nothing in the sentence that implies that the changes in behavior are permanent.

So, now you are down to three answers. Let's say you really like answer choice (C) dramatic. Indeed, this is the very word you came up with for the blank. However, because answer choices (A) and (F) are synonyms that work for the blank, there is no way (C) dramatic can be the answer. This is an important statement, so I will repeat it again: if two synonyms work for the blank, then another word cannot be the answer.

Of course, in the world of the GRE, and Sentence Equivalence in particular, it is not always that straightforward. What if you did not know the definition of (A) salutary? Then would it make sense to choose (C)? No. The overwhelming majority of Sentence Equivalence answers are synonyms.

Even in those Sentence Equivalence questions, in which the two correct answers aren't strict, synonymous sentences result when you plug the words in. (C) dramatic and (D) beneficial, however, are very different words and create very different sentences.

Therefore, your best bet, probability-wise, is to choose (A) salutary, even though you do not know what it means. The assumption here is that (A) salutary is one of the two synonyms. Then you want to choose either dramatic or beneficial. One of them will most likely be the answer.

You may balk, thinking that the odds are 50/50. However, if you simply pick (C) and (F), while avoiding the word you do not know, your chances of answering the question correctly are slim

to none because these very different words clearly create very different sentences. Always remember that you need two sentences that convey the same meaning.

Here are some good strategies for dealing with Sentence Equivalence questions:

- Always look for synonyms.
- If you can't find any synonyms amongst the answer choices, given you know the definition of every word, then the correct answers will be words that aren't technically synonyms.
- If you do not know a few of the words, do not just pick two words because they are synonymous. The test writers throw false pairs of synonyms at you as a trap. The synonyms have to create synonymous sentences to work.
- One option when you are a little stuck: Choose a word you do not know, and match it with one of the answer choices that work.
- If the above sounds like a gamble, that's because approaching Sentence Equivalence, in terms of guessing, is incredibly complex, at least compared to the typical one in five answer choices. Essentially, you will want to do anything to increase the odds of guessing correctly. And, to do so, the steps above will be your most helpful strategy.

Reading Comprehension

When students struggle with Reading Comprehension, we ask them to do a little exercise. If this describes you, here's that exercise: Give yourself just two minutes to read an entire passage (P.S. On the GRE, you should almost always read the passage before attempting the questions).

Tip: Know the passage

When the two minutes are up, take your eyes off the text (don't look back at it for help) and try to articulate the main idea of the passage in your own words.

Let's say the passage was about three competing theories on dinosaur extinction. The author endorsed a meteorite impact theory because it could account for the uneven dispersal of iridium.

A student struggling with the passage will say the passage was about dinosaurs. They may throw in the word meteorite, or maybe mention something about iridium, but they will not capture a fully coherent synopsis because their understanding is fragmented.

The point of this exercise: While you may think trying to describe the passage in your own words after two minutes is frivolous and time-consuming, unless you try to understand the passage by describing it in your own words, you will find yourself struggling even more on the questions, easy prey for the traps the test writers have laid.

Tip: Slow down

So what should you do? Learn to read passages, slowly even, to make sure you can accurately paraphrase what the passage is talking about. In fact, you shouldn't even worry about the questions until you are able to understand how the passage is constructed.

Tip: Don't trust your gut

Many students balk, saying that slowing down to read the whole passage eats up time. The truth is students waste the most time on questions they don't know the answers to because they have an incomplete understanding of the passage. They will vacillate between two answer choices and pick one based not on logic but on "gut feeling".

So the key is to really understand the passage. One way to make sure you are doing so is to write down two or three main points after you're done reading the passage. Once you get in the habit of doing so, processing the passage in this way will become second nature and soon you will be able to dissect the passage in your head without having to write anything down.

Subtype: Argument Questions (Paragraph Argument)

On the GRE, a subset of the Reading Comprehension is called Paragraph Argument. Of course, the GRE doesn't call it this, but instead lumps the question type under Reading Comprehension. Those with GMAT experience will notice that this question type is the same in content and description as the Critical Reasoning questions on the GMAT.

Even for those with only GRE experience, you've seen something like this before – it's a short paragraph with only one question, typically asking you to think logically about information in the paragraph.

Here's something to note: For Paragraph Argument questions, you should read the question **before** you read the passage. Yes, that is different from the strategy for other reading passages and their associated questions. However, for this subtype, reading the question first will prepare you for how to evaluate the argument. You will already know whether you'll need to weaken, strengthen, find an assumption, resolve a paradox, etc…

Check out this excerpt:

The lower the tide, the less likely guppy fish are to come to the surface to feed. The tern, which feeds exclusively on the guppy, does most of its hunting in the evening, when the tide is low. It follows that the tern is going to have more difficulty hunting the guppy in the evening than during the daytime, because it expends more energy doing so. Slightly out to sea are outcrops of rock that terns usually land on while hunting. Therefore, an observer is more likely to see terns resting on the rocks in the evening than during the day.

Now, for the above excerpt, we are not going to answer a question, but are going to take apart the argument. This skill is essential to answering an argument question.

Premise

For an argument to be valid, it must be based on a fact (premise). In this case, we must accept as valid and true whatever the passage presents as the facts (premises of the argument). Thus, we must accept these sentences as true: "*The lower the tide, the less likely guppy fish are to come to the surface to feed. The tern, which feeds exclusively on the guppy, does most of its hunting in the evening, when the tide is low."* Now, in order to arrive at a valid conclusion, we must build off of these sentences.

Conclusion

In this case, we can logically conclude that the tern is going to have trouble hunting the guppy in the evening, because there aren't too many guppies breaking the surface during that time of day " It follows that the tern is going to have more difficulty hunting the guppy in the

evening than during the daytime, because it expends more energy doing so." This is a conclusion drawn from facts that we, the readers, take for granted are 100% valid based on the first two sentences.

But, hold on a second! We are not finished with this excerpt. Notice how there is another conclusion: "Therefore, an observer is more likely to see terns resting on the rocks in the evening than during the day."

You'll notice that this sentence is the final conclusion, which must be based on the first conclusion. Therefore, the first conclusion is not the main conclusion, but what is known as the intermediate conclusion. Without the intermediate conclusion, the passage would not be able to draw the main conclusion. That's one type of twist that the test writers use to add a layer of complexity to this question type.

Other twists

Sometimes, the main argument will not agree with the intermediate conclusion. For instance, the main argument could have said something to the effect of, "Therefore, the increase of birds on the outcrops during the day cannot fully be explained given the above information."

In this case, the main argument opposes the intermediate conclusion. That is, there has to be some other reason, besides resting, to account for the increase in terns. Perhaps the terns used the time on the outcrops to clean their feathers (or some other random explanation).

Lastly, not all Paragraph Arguments – in fact, very few indeed – actually deal explicitly with intermediate conclusions. But, because this terminology is not common, it tends to throw many people off. However, if you want more practice with Paragraph Arguments, you should not only look at GRE material--also look at GMAT and LSAT material. There will be plenty of practice there for this tricky kind of question.

Pacing Strategies for the Verbal Section

The first Verbal section consists of 12 questions in 18 minutes. The second consists of 15 questions in 23 minutes. Based on that breakdown, you have roughly 1.5 minutes per question. However, especially given the mix of verbal questions, there's no way you'll actually stick to 1.5 minutes per question.

So how do you allocate time amongst the different questions? Here's something to consider: In order of LEAST time-consuming to MOST time-consuming we have:

1. One-Blank Text Completions
2. Sentence Equivalence
3. Two-Blank Text Completion
4. Short Reading Passage
5. Three-Blank Text Completion
6. Paragraph Argument
7. Long Reading Passage

This ranking is a rough estimate, meaning that a difficult sentence equivalence question may cost you more time than a straightforward three-blanker. To simplify things even further, we'lll assign each of the sections above a different amount of time, giving a range to account for the difference in time for any given question type.

- One-Blank Text Completions 20 – 45 seconds
- Sentence Equivalence 20 – 60
- Two-Blank 30 – 75 sec
- Three-Blank 45 sec – 2 min
- Short Reading Passage (including time to read passage): 45 sec – 1:45
- Paragraph Argument – 1:00 – 2:15
- Long Reading Passage 1:00 – 3:00.

What does this all mean? On Sentence Equivalence and One-Blank Text Completions spend no more than a minute. On Two-Blank and Three Blank Text Completions spend an average of 1:00 – 1:30 minutes. The extra time you saved in One-Blank Text Completions and Sentence Equivalence use towards Reading Comprehension.

The low-hanging fruit

20 seconds to 3:00 minutes is a pretty vast range. Simply put, some questions are easy and others fiendishly diabolical. The shocking thing is each question, from the one that you get in a blink of an eye to one that has you scratching your head till long after the exam is over, are worth the same raw point.

The takeaway? Do not spend 3 minutes agonizing over a three-blank text completion when it includes words like hagiographic and pulchritudinous as answer choices. If it's a long paragraph with really difficult words SKIP IT!

That is, as soon as you see that the question is difficult, move on. Instead, find and answer the questions that are easier and take less time. Take advantage of your ability to scroll from question to question within a given section.

You do not need to attempt every question

Don't freak out if you are unable to attempt every question. As long as you just guess some random answer, that's fine. There is no penalty for guessing. There is, however, a penalty for rushing through a relatively easy question to try to answer every question.
And that penalty is you getting the easy question wrong.

Learning GRE Vocabulary

When learning GRE vocabulary, we need to arm ourselves with as many approaches as possible.

Reading to improve vocabulary - learning in context

Why is reading to improve vocab, compared to memorizing flashcards, so effective?

In the cozy flashcard milieu, words come to us a lot easier. But, the GRE is far from cozy. When we see a word we've seen before, the context — the GRE testing room — is very different. Likewise, when we are reading, we don't expect to see a given word. It is this element of surprise, this jolt of recognition that makes reading such an effective vocabulary-learning tool.

If you are going to use flashcards, we recommend using ones that have good example sentences.

Active word usage

Once you've exposed yourself to a plethora of new words through reading, you don't want to just look at them and put them in a notebook for safe keeping. A technique you can rely on is active usage – a highly effective way of embedding words into long-term memory. If you don't make active usage part of your arsenal, you are selling yourself short.

The key to active usage is to be creative. So, if vocabulary words start randomly popping into your head, think of where you can use them. For instance, if you see someone walking down the street arguing on his cell phone, words such as contentious, disputatious, and polemical should leap to mind.

Indeed, the zanier the connections you make with words, the more likely you are to remember them (this zanier-is-better approach applies to the next part of the vocabulary arsenal as well).

Mnemonics

Suppose there is a really pesky word that you just can't get into your long-term memory, no matter how many times you see that word. Okay, perhaps you don't have to suppose, as there are many words that fall into this category. But let's pluck a word at random from the GRE vocabulary tree: lambaste.

Let's say whenever you encounter this word, the first four letters, l-a-m-b, throw you off. You picture a docile creature bah-ing contentedly in a pen. When you see the definition — to reprimand harshly — it always surprises you.

Instead of trying to snuff out the image of a lamb, however, you should try using it to your advantage.

Imagine a boss, or anybody who has exerted some power over you in the past (a middle school gym teacher works perfectly). He or she calls you into their office (or lair) and is now berating you for something you did incorrectly. Now, I want you to imagine a large lamb's head in place of this person's head.

Or, if that doesn't quite do the trick, imagine you are cooking. You're not very adept in the kitchen, but you want to surprise your significant other with his/her/their favorite dish. Well, in the end, you end up ruining the lamb. Your significant other arrives and, witnessing your culinary debacle, gives you a stern lecture about just how you failed, "You don't baste a lamb, you fool! You roast one!"

The process of coming up with a creative—and often offbeat—way of remembering a word is called a mnemonic, and the best mnemonics are our own mnemonics. Students who devise their own wacky ones, tend to retain new vocabulary words pretty darn quickly.

As silly mnemonics may sound, the takeaway is that a good mnemonic is the one that works for you. And by good, I mean it is memorable. Case in point, you may have already forgotten the lambaste mnemonics from a few sentences back because you didn't think of them yourself. But, if you are struggling with a vocab word, a clever mnemonic will not only make the word easier to learn but will also — hopefully — make the word more fun to learn.

Vocabulary from magazines and newspapers

The GRE requires us to have a far greater sense of how words function in context. This is why we recommend learning vocabulary by reading voraciously from suggested sources. These sources include The New York Times, The Economist, The Atlantic Monthly, and The New Yorker. Most of the writing found within the pages of these august publications is not only replete with GRE-level vocabulary but is also similar in tone and style and reflects the same level of sentence complexity.

Below are actual articles from the aforementioned sources. We've highlighted the important vocabulary. **The Atlantic Monthly**

Outsider, non-founder CEOs are often overvalued because many corporate boards think the answer to their problems is a superstar CEO with an outsized reputation. This leads them to overpay for people who are good at creating outsized reputations through networking, interviewing, and taking credit for other peoples' achievements–all bad indicators of future success.

Rakesh Khurana has **amply** shown how this delusion of the charismatic savior creates a dysfunctional market for CEOs, allowing the small number of existing public-company CEOs to

demand and receive extravagant compensation. The myth of the generalist CEO is **bolstered** by the many **fawning** media portrayals where CEOs say that their key jobs are understanding, hiring, and motivating people–leading board members to believe that you can run a technology company without knowing anything about technology.

This passage is great because it is full of relatively difficult words, many of which are high-frequency GRE vocabulary (fawning, bolstered, ample/amply).

Perhaps reading business articles induces a meh, or worse yet a blah response in you. That's o.k. You really do need to force yourself to slog through some meh/blah subjects to train yourself to face them on test day. That being said, that's not all you have to read. Maybe you simply want to vary up your reading. A great field to draw from is science (or other subject you find interesting). Part of the reason is the GRE will typically have one (or more) science passage.

So let's take the article Bird Brain, which appeared in The New Yorker. It explores the development of language in human beings and whether language is the province only of humans. To do so, it tells the story of an African gray parrot, Alex, and his owner, Irene Pepperberg—namely how she trained Alex to say hundreds of words (though none, I believe, were GRE vocab) so that Alex, by the time he was an adult, was able to form relatively coherent sentences.

The New Yorker

Below is an excerpt from the article, which is about 15-pages long. In general I would recommend the entire piece, especially if the above sounds intriguing. The excerpt includes a few vocab words, and some reflection and analysis.

*All children grow up in a world of talking animals. If they don't come to know them through fairy tales, Disney movies, or the Narnia books, they discover them some other way. A child will grant the gift of speech to the family dog, or to the stray cat that shows up at the door. At first, it's a **solipsistic** fantasy—the secret sharer you can tell your troubles to, or that only you understand. Later, it's rooted in a more philosophical curiosity, the longing to experience the **ineffable interiority** of some very different being. My eight-year-old daughter says that she wishes the horses she rides could talk, just so she could ask them what it feels like to be a horse. Such a desire **presumes**—as Thomas Nagel put it in his 1974 essay "What Is It Like to Be*

a Bat?"—that animals have some kind of ***subjectivity,*** *and that it might somehow be* ***plumbed****. In any case, Nagel explained, humans are "restricted to the resources" of our own minds, and since "those resources are inadequate to the task," we cannot really imagine what it is like to be a bat, only, at best, what it is like to behave like one—to fly around in the dark, gobble up insects, and so on. That inability, however, should not lead us to dismiss the idea that animals "have experiences fully comparable in richness of detail to our own." We simply can't know. Yet many of us would be glad for even a few glimpses inside an animal's mind. And some people, like Irene Pepperberg, have dedicated their lives to documenting those glimpses.*

Though you may already know a few of these words, you should definitely look them up, especially if you are inferring the meaning based on the context. Always validate your hunch, don't assume you can always glean the exact definition of the word simply by looking at context.

After looking up these words, you'll notice a word with a secondary meaning, plumbed, and a couple of words from philosophy – subjectivity and solipsistic. After consulting a dictionary, the flashcards or other vocabulary lists, you'll notice that subjectivity (or subjective) is a very important word; solipsistic, on the other hand, is not as likely to pop up on the test. But if you already have a strong vocabulary, and are looking to score in the top 10%, then definitely learn solipsistic.

You will notice that the definition of interiority isn't very surprising, as it is directly related to interior. You may also notice that it is similar to subjective. Finally, you learn the word ineffable, which - say you've never seen before - and you also find it on a few GRE word lists. Write it down on a flashcard along with an example sentence (oh, the irony of ineffable – for to say something is ineffable is contradicting the very essence of the word).

Following a process similar to the one above is important. You don't want to simply underline the words and look them up. You want to digest them, so that, much like Alex the parrot, you will be able to use them in a coherent sentence.

Reading the entire article is also a good idea for general comprehension skill building. Essentially you are training your brain to read through a long, relatively challenging piece, a skill that is indispensable for the GRE.

New York Times Book Review

Let's say that you read *Bird Brain* and enjoy it. You are already familiar with a number of words and want something more challenging, maybe something couched in academic jargon or that oozes literary style. (I'm assuming that if you fall into this category, you are also looking to get the difficult verbal section).

A good resource is the New York Times Book Review. Here you will find the truly erudite waxing literary on a recently published novel/book that is just as scholarly as the review.

You may even ask yourself if The New York Times writers are the very writers who craft byzantine Text Completions for ETS.

Below are two excerpts from the same book review of a biography of Joseph Heller, the reclusive, and frequently irascible, author of *Catch-22*, one of the great novels of the 20th century.

#1)

But again, Daugherty is often perceptive about Heller's place in the larger culture, even if the novelist himself rarely comes into focus. For the human aspect, one turns to Erica Heller's frank but loving memoir of her father, "Yossarian Slept Here," which comes as close as possible, I dare say, to deciphering the ***enigma*** *behind the obsessive, pitch-black fiction. Joseph Heller, the opposite of* ***demonstrative****, was given to* ***oblique*** *ways of showing affection…*

#2)

That was the year Heller published his second novel, "Something Happened," which Daugherty commends as follows: "Joe stepped beyond Wilson's sentimentality and Yates's bitterness to ***eviscerate*** *modern America's success ethic." Such a* ***pat*** *comparison to Sloan Wilson, the author of "The Man in the Gray Flannel Suit," and Richard Yates, the author of "Revolutionary Road," is the sort of thing Daugherty might have* ***emended*** *given a bit more time to think about it; at any rate, "Something Happened" is perhaps the one work of postwar American fiction that makes Yates seem positively* ***Panglossian****.*

Erica Heller, for her part, describes the novel (probably her father's best) as "569 pages of hilarious but ***mordant, caustically*** *wrapped,* ***smoldering*** *rage" — though of course it's*

personal in her case. Primary among the targets of the protagonist Bob Slocum's paranoid, ***solipsistic*** *rant is his family…*

This article is clearly the most challenging of all the ones printed here. There are many difficult words, some that may give even the literate amongst us pause (Panglossian is derived from a character in Voltaire's Candide, Dr. Pangloss. The doctor was always optimistic, regardless of the circumstances).

Interestingly, **solipsistic** makes another appearance (maybe it's not such an arcane word after all!). Higher-frequency words—GRE-wise—include **mordant, caustic, emend, enigma,** and **oblique**.

Also, you want to be careful not to rely too much on assumptions. **Demonstrative** does not simply mean to demonstrate (it means to express one's emotions outwardly). And **pat**, such a diminutive word, so folksy-sounding and innocuous, has many meanings. The adjective form, which is employed in the book review, could easily pop up on the GRE, and cause you to answer a Text Completion incorrectly. So be sure to look up such words (if an explanation is **pat** it is superficial/cursory and unconvincing).

Surprisingly, difficult vocabulary words and highfalutin prose aren't only found in the esoteric niche of the book review. Let's take an opinion piece we are far more likely to read: the movie review.

The New York Times

At a certain point, though — to say exactly when would ruin a fairly stunning surprise — the cat-and-mouse psychology is **jettisoned** *in favor of something more* **procedural**. *The two halves of "Love Crime" divide according to the words of the title: the first explores the* **knotty, feverish, ambiguous** *bond between Christine and Isabelle, while the second is all about guilt, innocence, evidence and motive. It is interesting and* **ingenious**, *even if some of the kinky,* **queasy** *fascination that had been so intoxicating in the earlier scenes* **ebbs** *away.*

While the words here aren't as recondite as **Panglossian**, the prose style is relatively challenging and echoes that of harder GRE Text Completions. In fact, this article is at a perfect reading level for those aiming to score between 150 and 160 on the Verbal section.

Verbal Practice Questions

Text Completion

Directions: For each blank select one word from each column that best completes the sentence.

The movie is comprised of several vignettes, each presenting a character along with his or her foil: a staid accountant shares an apartment with a (i)_____ musician; a tight-lipped divorcee on a cross-country roundtrip picks up a (ii)_____ hitchhiker; and finally, and perhaps most unconvincingly, an introverted mathematician falls in love with a (iii)_____ arriviste.

Blank (i)	Blank (ii)	Blank (ii)
A. colorful	D. garrulous	G. unpredictable
B. insatiable	E. untrustworthy	H. gregarious
C. eminent	F. forlorn	I. bumbling

Answers: A, D, H

'Foil' is an opposite. Therefore, each time a person is mentioned we want to come up with a person who exhibits opposite qualities. For instance, in the first blank we have 'staid accountant.' 'Staid' is boring and dull. Thus, the opposite would be (A) colorful. For the second blank, (D) garrulous is the opposite of 'tight-lipped.' Finally, (H) gregarious is the opposite of 'introverted.

Sentence Equivalence

Directions: Select exactly two words that best complete the sentence and produce sentences that are alike in meaning.

A knack for _____, it can be argued, allows one access to a whole range of careers, many of which require one to forsake direct, honest speech.

A. eloquence

B. prevarication

C. equivocation

D. abbreviation

E. discernment

F. openness

Answers: B, C

'...to forsake...speech' means to not speak truthfully. Thus the word in the blank should be a synonym with dishonest

A. eloquence has a positive connotation

B. prevarication is speaking in an evasive fashion

C. equivocation means to speak vaguely as to avoid revealing the truth

D. abbreviation is not supported by context

E. discernment is the ability to judge

F. openness is the opposite of the blank

Reading Comprehension

Directions: Consider each of the choices separately and select all that apply.

What little scholarship has existed on Ernest Hemingway--considering his stature--has focused on trying to unmask the man behind the bravura. Ultimately, most of these works have done little more than to show that Hemingway the myth and Hemingway the man were not too dissimilar (Hemingway lived to hunt big game so should we be surprised at his virility, not to mention that of many of the author's--chiefly male--protagonists?). In the last few years, several biographies have reversed this trend, focusing on Hemingway near the end of his life: isolated and paranoid, the author imagined the government was chasing him (he was not completely wrong on this account). Ironically, the hunter had become the hunted, and in that sense, these latest biographers have provided--perhaps unwittingly--the most human portrait of the writer yet.

With which of the following would the author of the passage agree?

A. The prevalence of scholarship on Hemingway is commensurate with his renown as a writer.

B. The latest Hemingway biographies consciously intended to show Hemingway's vulnerabilities.

C. Until recently, Hemingway biographies had shown a similar trend.

Answer: C only

(A) is wrong because the first sentence clearly states the opposite: for someone of Hemingway's stature, few biographies have resulted.

(B) is wrong because the passage says, "perhaps unwittingly", meaning the biographies did not consciously set out to depict Hemingway's vulnerabilities.

(C) is clearly supported in the passage: "What little scholarship…bravura."

Reading Comprehension - Paragraph Argument

Directions: Choose the option that best answers the question.

The waters off the coast of Iceland are filled with pods of killer whales, which migrate there during the summer. Wildlife parks that rely on the killer whales for entertainment hunt the killer whale almost exclusively in the water of Iceland, because strict sanctions forbid them from doing so off the coast of North America, an area also abundant in killer whales. Since Iceland recently gave into pressure from international groups opposed to the hunting of killer whales, it too will forbid the hunting of killer whales off its coast. Therefore, all wildlife parks will be forced to end their shows featuring killer whales once their current killer whales are unable to perform.

All of the following cast doubt on the conclusion of the argument EXCEPT?

A. The recent ban only extends to within one hundred miles of Iceland, though killer whales are plentiful along the shores of Greenland, which fall outside this range.

B. The incoming prime minister of Canada, who is more conservative, is planning on lifting the ban on hunting killer whales off the coast of Canada.

C. In-park killer whale births have become increasingly common, especially in those wildlife parks that harbor a large number of killer whales.

D. Some wildlife parks are involved in the illegal trade of killer whales.

E. It is nearly impossible to catch killer whales in deep waters, so hunters typically rely on luring killer whales into coves.

Answer: E

The argument states that the only place wildlife parks can find killer whales is off the coast of Iceland, yet, with an imminent ban there, wildlife parks will be unable to replenish their respective in-park killer whale populations. Eliminate all the answer choices that call this question into conclusion.

(A) provides a source of killer whales (Greenland), thereby weakening the conclusion.

The argument states that North America is also abundant in killer whale. If Canada lifts its ban, then wildlife park can find killer whale there. (B) is out.

(C) provides a great place to replenish the killer whale population: the park itself.
Therefore, (C) directly attacks the argument that wildlife parks will run out of killer whale.

(D) provides a clear means by which parks will acquire killer whales despite all the bans.

(E) does not provide a new means by which parks will acquire new killer whales. It only describes how killer whales are generally caught. Therefore (E) is the answer.

Analytical Writing Assessment

Meet the AWA

Many people give the AWA short shrift – after all, it is not included in the 260 – 340 score range. However, a very low writing score could hurt your chances of getting accepted to certain graduate programs. That being said, most programs really do not pay a whole lot of attention to your AWA score. In fact, it's in your best interest to do the research yourself to determine just how much each of the programs you're applying to care about the AWA. The answers will, in turn, tell you how much you need to care about the AWA.

Scoring just enough?

The AWA is scored on a scale from 0.0 to 6.0, in 0.5 increments. While very few people are able to get a perfect 6, most graduate programs aren't too concerned about your score, as long as you are able to get a 4.0 and above. Of course, you know best whether your graduate program falls into that range. Are you looking to go to journalism school? Well, then anything less than a 5.0 is problematic. Looking to do computer science or engineering? For most programs, a 4.0 should be sufficient.

A 4.0 translates to roughly the 50% mark, and tells programs that you are capable of writing an adequate (checks all the boxes) essay.

Just one essay?

Yes, the AWA is just one long, taxing essay, which will always come first on test day. The essay you will write is an Issue Essay. You will have to take a side on a complex issue and craft a 4 – 6 paragraph essay, offering supporting examples and logic to support your position.

So what does it take to get a 4.0? Well, you will want to write an essay that is each of the following:

Well-structured: The essay should have an Intro, Body Paragraphs and Conclusion. Your intro should end with a clearly defined thesis, so the person reading your essay knows what you are trying to prove.

Well-reasoned: Your body paragraphs should contain examples, either actual or hypothetical, that cogently defend your position.

Well-Expressed: The GRE wants to get a sense of how well you write. And by write, I mean, do you use relatively sophisticated speech? Do you vary up your sentences? Do grammar issues interfere with your expression?

Together, the above three points will give the GRE reader an overall impression (what they call a holistic approach) of your writing ability. Again, this score will be based on a scale from 0.0 – 6.0.

Strategies for the Issue Essay

The Issue Prompt requires you to respond to a simple statement, by developing a position, and supporting it with convincing examples. To be able to do so you will want to "keep" the following points in mind.

Keep it organized

Nothing reflects strong essay writing skills like organization. Even an impassioned, cogent response falls apart if it is not bundled into essay form: the introduction, a few body paragraphs, and a conclusion.

The Intro should not be needlessly long. The Intro serves, and should only serve, to briefly introduce the topic. Most importantly, the Intro must have a clearly defined thesis statement. Often it is easiest for the writer—and the reader—if the last sentence in the Intro is the thesis.

The body paragraphs should develop your thesis with relevant, supporting examples.

Finally, the conclusion should recap what've you said (don't try to add any new information).

Keep it focused

Within the body paragraphs, it is easy for us to lose our way. Perhaps we summarize needlessly, forgetting that the essay requires our analysis of an issue. Maybe our sentences do not link together logically, and we find ourselves rambling. Or, we may find ourselves juggling several hypothetical examples, never really making a compelling case.

Try your best to stay focused on analyzing the issue. Make sure your sentences link together, and be sure to develop an example, so that by the end of the paragraph you can persuasively—and clearly—show how your example supports your thesis.

Keep it engaging

Repetitive sentence structure makes for repetitive reading. Vary up the way you write—don't be afraid to use a colon (or a dash), drop in a semi-colon, and vary up the syntax. Noun followed by verb followed by adjective implies that you are a hesitant writer. Regardless of your analysis and organization, the overall impression your essay leaves on the graders is a resounding meh.

Keep it specific

Hypotheticals are fine, if you can use them to convincingly back up your point. However, that's the tough part; "some people," "mankind," or "you" are dull, vague abstractions. If you're trying to show that knowledge can sometimes be used for destructive ends, "Oppenheimer's knowledge of nuclear fusion allowed him to create the most destructive weapon the world had ever known" is far more impactful than, "scientists can sometimes use knowledge to hurt us."

Keep it on topic

Perhaps the most important (lest you wonder why you received a '1' on your essay) is to keep your essay on topic. Imagine you had to write on the mock prompt on knowledge I used above. If you begin talking about how technology is destructive because smartphones cause us to become insular, you have totally forgotten to answer the question, "Knowledge can sometimes be used for destructive ends."

Keep practicing

Writing well is very difficult. It takes a lifetime of diligent practice. Luckily, the GRE essays graders are not judging whether we could be New Yorker staff writers. Even '6' essays are not perfect; while commanding and sophisticated, these essays are not beyond the grasp of many native speakers.

Even as a non-native speaker, with a little practice you can go from a '3' to a '4' and from a '4' to a '5'. But the key is practice. Writing an essay and feeling utterly deflated because it would score below a '3' is fine…as long as you can pick yourself up and tackle another essay prompt, knowing that you can—and will—improve with more practice.

Actual Writing Practice

Okay, enough with the pep talk. set yourself a goal (say, an essay per week or even two per week) and practice. And remember, your mood coming out of the essay will affect your performance on the other sections. Don't let the essay get you down. For most programs, it's really not going to have much of an impact.

GRE Prep Resources

Study Schedules

Whether you're studying for 1 month or 6 months, it definitely helps to add some structure to your study plan to keep you accountable and motivated.

Error Log

Think of an error log as your personal GRE diary. It keeps track of all the questions you got wrong during your prep. It shows you your weak spots, the type of mistakes you make, and any patterns that might emerge. Like a trusty sidekick, it helps you tackle your specific challenges head-on, making your prep more focused and effective.

Your Personal Study Strategy

Once you've spotted your mistake patterns, it's time to build your battle plan:

- Back to Basics: If you're struggling with understanding, revisit the relevant concepts or look for additional resources.
- Target Practice: Spend more time practicing questions related to your weak areas. Official GRE practice tests are great for this.

- Beat the Clock: If time pressure is your nemesis, try timed exercises to improve your speed.
- Word Power: If vocab is your Achilles heel, work on expanding your word bank. Learn high-frequency GRE words and their context.

Also, make sure to celebrate your wins. Take notes on questions you answered correctly. What strategies worked? Use these insights to replicate your success.