Study Guide Zone

CAAP Test Study Guide

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CAAP Overview

The Collegiate Assessment of Academic Proficiency (CAAP) test is indeed a difficult examination, and as such, it was required that media be chosen by which intellectual ability could be measured. In the case of the CAAP, reading, writing skills, writing essay, math, science and critical thinking were the selected media. While there is an ongoing, low-profile controversy about whether or not this test truly measure's your abilities with regards to what you'll need for future success, that is not the purpose of this book. The purpose is, however, to make sure that you're able to achieve the best possible state of preparation, allowing you to maximize your score potential - no matter if your actual aptitude has been measured.

As no test can measure all aspects of a person's intelligence, the CAAP measures those skills deemed most critical to a new student. Then again, if any admission test, no matter how cleverly assembles, is inherently inadequate, why perform this type of testing at all? This is a question posed by every student who sees the CAAP looming ahead of him/her. Nevertheless, the answer to this question is quite simple, and quite reasonable; to make school acceptance a more fair experience, by expanding the basis approval beyond your grades.

Your CAAP score is one of the most critical elements to your qualification for school, so it is naturally much too important for you to take this test unprepared. The higher your CAAP score, the better your chances of admission will be for a respected, competitive program.

While different programs assign a different weight or importance to your CAAP scores, it is safe to assume that your CAAP will be a major determining factor when it comes to the final admission decision made by each school to which you've applied.

Careful preparation, as described in this expert guide, along with hard work, will dramatically enhance your probability of success. In fact, it is wise to apply this philosophy not only to your school applications, but to other elements of your life as well, to raise you above the competition. Your CAAP score is one of the areas in the admission process over which you have a substantial amount of control; this opportunity should not be taken lightly. Hence, a rational, prepared approach to your CAAP test as well as the rest of the admission process will contribute considerably to the likelihood of acceptance.

Keep in mind, that although it is possible to take a CAAP test more than once, you should never take the test as an "experiment" just to see how well you do. It is of extreme importance that you always be prepared to do your best when taking the CAAP.

Testing and Analysis

It won't take you long to discover that the CAAP is unlike any test you've taken before, and it is probably unlike any test you will ever take again in your academic career. The typical high school or college test is a knowledge-based test. The CAAP, however, is skills-based.

What does this mean to you? It means that you'll have to prepare yourself in a completely different way! You won't simply be reciting memorized facts as they were phrased in some textbook.

The CAAP requires you to think in a thorough, quick and strategic manner…and still be accurate, logical and wise.

This test is designed to judge your writing, verbal and mathematical ability in the ways that schools feel is vital to the success of students.

To some extent, you have already gradually obtained these abilities over the length of your academic career. However, what you probably have not yet become familiar with is the capability to use these abilities for the purpose of maximizing performance within the complex and profound environment of a standardized, skills-based examination.

There are different strategies, mindsets and perspectives that you will be required to apply throughout the CAAP. You'll need to be prepared to use your whole brain as far as thinking and assessment is concerned, and you'll need to do this in a timely manner. This is not something you can learn from taking a course or reading a book, but it is something you can develop through practice and concentration.

This guide provides you with the professional instruction you require for understanding the traditional CAAP test. Covered are all aspects of the test and preparation procedures that you will require throughout the process. Upon completion of this guide, you'll have the confidence and knowledge you need for maximizing your performance on your CAAP.

Introduction to the CAAP

The purpose of the CAAP is to establish a standard method of measurement for the skills that have been acquired by school applicants. These skills are considered critical to schools for a student to be able to succeed. The principle behind the CAAP is similar to the ACT's that are required for application to American colleges. Although these tests are similar experiences, the CAAP is much more challenging and complex.

The CAAP Scoring Scale

CAAP scoring is not hard to comprehend when it is properly explained.

There is no “passing” score to the CAAP, but you will need to know what the cut off average score is for the schools to which you’re looking to apply. For this information, check their website, or call, and they’ll tell you the average score of students who are accepted.

Each school has a different policy for weighing CAAP scores with your GPA. The majority of schools will weigh your CAAP score more heavily than your GPA. In fact, some schools will weigh your CAAP at 70% and your GPA at 30%, which means that this one examination is worth more than your academic career.

It’s up to you to look into the schools to which you’ll be applying, so that you’ll have this information, and know the exact value of your CAAP. Many schools will make their calculation structure for the combination of CAAP and GPA available to the public.

Knowing this information before you enter the CAAP examination means that you know exactly what you’re facing that day. You will have a realistic perception of the worth of the test, and you will have the proper motivation to fully apply yourself to reach your maximum potential.

You’ll also be able to realistically judge the type of school to which you should be applying, and you can better set out your future plans in your mind.

Reading

The CAAP Reading test measures a test taker's ability to understand, analyze and evaluate written passages. The passages will contain material that will be from a variety of sources and on a number of different topics.

Each of the passages and statements in the Reading test will be followed by a series of questions covering the content of the passage or statement, in which you will have to answer questions, which will demonstrate how well you understand the passages and are able to draw conclusions about the material.

Flying Over the Passage

A topic that is hotly debated among test taking circles is whether or not you should read the reading passages before you read the question. One theory is that you can save time if you read the questions first and then go back and read over the passage. Another theory is that you should read the passage first and then go into the questions. Both theories have their own individual merit and due to the differences in ability and preferences among test takers, one method may work better than another for you.

Our recommended theory is the flyover. You want to spend some time on the passage, at a bare minimum so that you have a general idea about what the questions are going to ask and get your mind into the proper mindset for the series of questions. However, you don't want

to waste too much time on reading the passage, because much of the detail will be forgotten by the time you get to the questions anyway. Therefore, you should fly over the passage. You should read it very quickly for a high-level overview (hence the flyover) understanding of what is contained in the passage.

In part, this is a compromise between the theories that gains most of the benefits of each. You won't waste time on the details and yet will have a general idea of what the passage is about and what to expect.

Creating a Tentative Summary

After you've finished your flyover of the passage, take a few seconds and compose a tentative mental summary of what you've just read. Try to sort out the details you picked up on and arrange them into a loose organizational pattern that describes the passage. Remember that your goal in the flyover is not to check it off of a test-taking list of things to do. You want there to be some purpose behind the flyover and having the definite goal of being able to put together a brief mental summary will allow you to maintain some focus and gain benefit from the flyover – as opposed to just skimming it for the sake of skimming it without actually picking up on anything.

As you begin going through the questions and answer choices, if you get good enough at putting together your mental summaries from practice, you should be able to eliminate a number of answer choices that are immediately contrary to your summary. Note, however that if you find yourself without any good answer choices remaining (because you've eliminated them all) you obviously had to have eliminated the

right answer choice. Don't hesitate to reopen an answer choice that you've already "eliminated" from consideration and reconsider it as a possibility. If you think an answer choice contradicts your initial summary, you're probably right, but are not infallible.

Openings and Endings

A main focus of this flyover will be the opening and ending sentences in each paragraph. These are likely to contain the main ideas of the paragraphs and should be mentally tagged for future reference. Try to remember a vague idea of what the different paragraphs are about, because this will save you time when answering questions later.

For the most part, make sure you never try to just answer the questions from this first flyover. Always try to go back and confirm the answer, as your memory will play tricks on you and the writers of the test questions may deliberately have planted a trap for you – remember that they don't exactly have your best interests at heart.

Using Kitchen Logic

When a question asks the test taker to identify a main idea, you should first focus on the opening and ending sentences of the passage and each individual paragraph. If you can't find the main idea from these key sentences, then ask yourself how you would describe the passage to someone who had never read it. Which words and phrases would you use to explain the principle ideas of the passage?

This is called “Kitchen Logic” - when you explain something the way you would if you were talking to your friends and family, while sitting at your kitchen table. So, when faced with identifying the main idea of a difficult passage, make it easier on yourself by backing away from the passage and thinking about it in terms of using easy “kitchen logic”.

Getting into the Author’s Mind

A number of questions become much easier when you place yourself into the mind of the author of the passage. Ask yourself a few different questions:

“Why did the author write this passage?”
“What was the author trying to say?”
What angle is the author taking?”
“What is the single most important point the author is trying to make?”

Put yourself in the shoes of the author and imagine that you wrote the passage and try to identify what you were trying to describe and how you were trying to describe it. If you take on the opinions and ideas expressed by the author as your own, then it becomes easier to answer questions that would be easy for the author to answer.

Emotional Words

Each question will be about a different angle of the passage. For questions asking about the author's emotions, find words in the passage that are adjectives describing emotions.

So, if a question asks what sort of attitude an author had towards the passage or subject, then look throughout the passage for attitude words that might convey a positive or negative attitude. Are words such as brilliant, excited, delightful used, or are words such as depressive, gloomy, disappointing used?

A lot of questions could be answered correctly simply by going through and circling all the adjectives in a passage. Without looking at anything else except for the adjectives in a passage, most questions about attitude or emotion could be answered correctly.

Another way of handling these situations is to arrange all of the answer choices in a list going from most negative to most positive.

Example:
Question: The author's attitude on this topic is best described as:

A. indignation
B. eagerness
C. impartiality
D. fear

Now arrange these in order from negative to positive:
(-) indignation, fear, impartiality, eagerness (+)

This will help sort out the different choices and keep you from overlooking an answer choice and making an easy mistake.

Finding the Key Words

The strategy of finding certain “give-away” words does not only apply to adjectives in questions about emotions or attitude. Many questions about specific details will have key words that hold the “key” to finding the right part of the passage to look in for the answer.

Rather than answering based on your memory of the passage, you always want to have support for your answer choice rooted in a specific part of the passage. To gain that support, it follows that you have to identify which part of the passage to look in. While reading back over the entire passage may be the most foolproof method of finding that important part of the passage, it definitely is not the most time economical method of finding that part of the passage.

A better route is to find key words in the question or answer choices that are likely to stand out in the passage and will enable you to quickly narrow your search down. These key words will be nouns or verbs in the question or answer choices. Once you’ve identified possible key words, then you should scan through the passage quickly looking for either those key words to be repeated in the passage, or their synonyms to appear in the passage. Once you find a particular part of the passage that either has the exact key word repeated or a synonym of the key word, you have probably identified the particular part of the passage that will contain the support or justification that

you need to correctly answer the question and will allow you to be confident in your answer choice selection.

One warning that should be made here is that often question writers may use the exact same word or wording in their answer choices that are used in the passage, but have done so in such a way as to mislead you. So, simply because a particular word or phrase appears in an answer choice and also appears exactly the same in a passage does not make that answer choice correct. Be sure that you reread the answer choice and consider the context that it is in, to ensure that you are not misled by a cheap trick.

In conclusion, always try to connect the question to the right words in the passage that will allow you to save time in finding the right part of the passage to look in for the answer and will give you the key to the correct answer choice.

Making Proper Inferences

Questions that ask you to make an inference from the passage will require you to use your own personal judgment. Anything directly stated by the author is not an inference. You will need to understand the main idea of the passage in order to make a proper inference about the author's intent and mindset.

The obvious will not be enough to answer an inference question. You must logically deduce what follows from what the author has stated in the passage. You are looking for what can be inferred by the passage, not what is directly stated in the passage.

Applying Ideas for Generalizations

Generalization questions are similar to inference questions in that you have to go beyond what is directly stated in the passage by the author. It helps to put yourself again in the author's shoes. If you were the author and believed in what you had just written, how would you feel about another similar situation? What would either strengthen or weaken your argument. How would you apply the information you have just expressed to a completely different situation?

Using Context Clues

Context clues are a valuable aide in helping you understand difficult phrases or words in the passage. A number of questions will ask you about the meaning of words as they are used in a given passage.

If you already know the definition of the word, or have some familiarity with it, a common mistake is to go with your first impulse and choose the answer that you immediately recognize. However, the reason the test writers may have chosen that particular vocabulary word is because it is used in an unusual context. Therefore, return to the passage and find where the word is used and make sure that you understand how it is being used in the passage.

Once you've made your choice of a good definition go back again to the passage and reread that particular section, but mentally replace the answer choice you've chosen for the word being asked about.

Example:
A passage states: “He was notorious for making decisions on the spur of the moment…”

Question: Which of the following words, if substituted for the word “notorious” would introduce the LEAST change in the meaning of the sentence?

A. evil
B. disturbed
C. famous
D. despised

If you knew that the most common definition for “notorious” meant being known in an unfavorable sense, then you might be tempted to choose choice A, “evil.”

But once you review back over the passage, choice C, “famous” fits in better into the context of the sentence of passage. Read the sentence again and substitute your chosen answer choice for the word it replaces. This gives you:

““He was famous for making decisions on the spur of the moment…,” which makes sense and is correct.

Breaking Down Passage Organization

In trying to understand the author’s perspective, you will sometimes be asked about how the passage is organized. Many times, the

simplest way to find the answer is to note how the opening sentence in a passage or paragraph relates to the rest of the passage. How does the author's main idea get developed and broken down into supporting ideas and statements?

As you go through the answer choices for these organization problems, quiz yourself on each answer choice.

Example:
Question: Which of the following best describes the organization of the author's discussion of this topic?

A. He provides an example – Ask yourself, is there an example in the question? Don't work exclusively from your memory. Make sure you can go back and actually find the example in the passage.
B. He makes a comparison – Ask yourself, is there a comparison in the question? Again, go back to the passage and actually find the comparison being made and verify that it exists.
C. He makes an acknowledgement – Ask yourself, where is the acknowledgement made and to whom?
D. He discusses a theory – Ask yourself, which theory is being discussed?

After each of these initial questions, remember that it is not enough for them simply to be true, they have to answer the question. Simply because the author provided an example, doesn't make choice A correct. The example provided may have been to support a comparison that he was making and the comparison may be the main method of organization, which in this case would make answer choice

B correct. So always read all the answer choices and only choose the one that is the best, not just the first one you read that is factually correct.

First Word Analysis

When asked for main ideas that best summarize the passage, an easy strategy is to look at the first words in each answer choice and without looking at the rest of the answer choice, see if you could make a decision based on those first words alone.

Example:
Question: Which of the following best explains the author's primary purpose?

A. dispute…
B. describe…
C. condemn…
D. convince…

If you know that the passage is fairly neutral about the subject, then even if you know nothing else, you can probably eliminate the stronger verbs used in answer choices A, C, and D, leaving you with "describe" or answer choice B as being correct.

Understanding the Intimidation

The test writers will generally choose passages that will be completely foreign to most test takers. You can't expect the passages to be on a topic with which you have any familiarity. If you do happen to come

across a passage that you are familiar with, consider yourself lucky, but don't plan on that happening.

The passages will also frequently be drawn from longer passages in books, articles, journals, etc. Therefore, the passage that you will face on the test may almost seem out of context and as though it begins in the middle of a thought process. You won't have a nice title overhead explaining the general topic being covered but will immediately be thrown into the middle of a strange format that you don't recognize.

Also, while the topics chosen may have originally been interesting reading in their original state, after a particular section is pulled and used for the test passage, it will likely be dry and boring.

Getting hit by strange reading topics that you don't recognize, of which you may only have a small part of the original selection, and that are dry and boring can be a bit intimidating if you're not adequately prepared. Just remember that the passages themselves will contain all the information necessary to answer the questions and you don't need any prior knowledge of the topic in order to succeed and do well on the test.

Finding your Optimal Pace

Everyone reads at a different rate. It will take practice to determine what is the optimal rate at which you can read fast and yet absorb and comprehend the information. This is true for both the flyover that you should initially conduct and then the subsequent reading you will have to do as you go through and begin answering the questions. However,

on the flyover, you are looking for only a surface level knowledge and are not trying to comprehend the minutia of details that will be contained in the passages.

You can practice with any form of reading material. Read an article at your normal pace and then after you're finished, ask yourself some questions about what you just read and see how well you can comprehend. Experiment with reading articles faster and slower and always gauge how well you comprehended what you read at the end. Train your brain to remember the details and absorb the facts.

With practice, you will find the pace that you should maintain on the test while going back through passages. It should be a comfortable rate. This is not a speed reading exercise. If you have a good pace, and don't spend too much time on any question, you should have a sufficient amount of time to read the different sections of the passages at a comfortable rate. The two extremes you want to avoid are the dumbfounded mode, in which you are lip reading every word individually and mouthing each word as though in a stupor, and the overwhelmed mode, where you are panicked and are buzzing back and forth through the passage in a frenzy and not comprehending anything.

You must find your own pace that is relaxed and focused, allowing you to have time for every question and give you optimal comprehension. Note that you are looking for optimal comprehension, not maximum comprehension. If you spent hours on each word and memorized the passage, you would have maximum comprehension. That isn't the goal though, you want to optimize how much you comprehend with

how much time you spend reading. Practice will allow you to determine that optimal rate.

Don't be a Perfectionist

If you're a perfectionist, this may be one of the hardest strategies, and yet one of the most important. The test you are taking is timed, and you cannot afford to spend too much time on any one question.

If you are working on a problem and you've got your answer split between two possible answer choices, and you're going back through the passage and reading it over and over again in order to decide between the two, you can be in one of the most frustrating situations possible. You feel that if you just spent one more minute on the problem, that you would be able to figure the right answer out and decide between the two. Watch out! You can easily get so absorbed in that problem that you loose track of time, get off track and end up spending the rest of the test playing catch up because of all the wasted time, which may leave you rattled and cause you to miss even more questions that you would have otherwise.

Therefore, unless you will only be satisfied with a perfect score and your abilities are in the top .1% strata of test takers, you should not go into the test with the mindset that you've got to get every question right. It is far better to accept that you will have to guess on some questions and possibly get them wrong and still have time for every question, than to work on every problem until you're absolutely confident in your answer and then run out of time on the last few problems.

Factually Correct, but Actually Wrong

A favorite ploy of question writers is to write answer choices that are factually correct on their own, but fail to answer the question, and so are actually wrong.

When you are going through the answer choices and one jumps out for being factually correct, watch out. Before you mark it as your answer choice, first make sure that you go back to the question and confirm that the answer choice answers the question being asked.

Different Viewpoints

Some passages will express the author's viewpoint on a topic, along with the viewpoint of other experts or other individuals. This can lead to trouble in answering questions though. If asked for the viewpoint of the author, you might go back to the passage, find where a certain viewpoint is expressed, answer the question based on what you read and move on.

For most passages, that would be fine, but when other viewpoints besides the author's are expressed, you have to discern who is expressing their opinion in the passage. Make sure that if multiple individuals are giving their viewpoint on a topic, that you sort them out for any questions and associate the right viewpoint with the right individual.

Extraneous Information

Some answer choices will seem to fit in and answer the question being asked. They might even be factually correct. Everything seems to check out, so what could possibly be wrong?

Does the answer choice actually match the passage, or is it based on extraneous information not even contained in the passage. Just because an answer choice seems right, don't assume that you overlooked information while reading the passage. Always try to go back and find the support for the answer choice in the passage. Your mind can easily play tricks on you and make you think that you read something or that you overlooked a phrase.

Unless you are behind on time, always go back to the passage and make sure that the answer choice "checks out."

Mathematics

The CAAP Mathematics test measures a test taker's ability to solve problems representing some of the key concepts in mathematics. Some problems will only test one concept, while others will involve multiple concepts integrated together in a single problem.

The problems will have few technical terms, aside from basics, such as area, perimeter, integer, and ratio, which are expected to be common mathematical knowledge. All figures shown will be drawn accurately and lie in a single plane, unless noted otherwise.

Number Types

Integers, Odd and Even Numbers, Prime Numbers, Digits

- **Integers**..., -4, -3, -2, -1, 0, 1, 2, 3, 4, ...
- **Consecutive Integers**: Integers that follow in sequence; for example, 22, 23, 24, 25. Consecutive Integers can be more generally represented by n, n + 1, n + 2, n + 3, ...
- **Odd Numbers**..., -9, -7, -5, -3, -1, 1, 3, 5, 7, 9, ...
- **Even Numbers**..., -8, -6, -4, -2, 0, 2, 4, 6, 8, ... (Note: zero is an even number)
- **Prime Numbers**..., 2, 3, 4, 7, 11, 13, 17, 19, ... (Note 1 is not a prime and 2 is the only even prime)
- **Digits:** 0, 1, 2, 3, 4, 5, 6, 7, 8, 9

Addition and Multiplication of Odd and Even Numbers

Addition	Multiplication
even + even = even	even x even = even
odd + odd = even	even x odd = even
even + odd = odd	odd x odd = odd

Percent

Percent means hundredths or number out of 100. For example, 40 percent means 40/100 or .40 or 2/5.

Percent less than 100

Problem 1: If the sales tax on a $30 item is $1.80, what is the sales tax rate?

Solution: $1.80 = n/100 x $30

n = 6, so 6% is the sale tax rate

Percent Greater than 100

Problem 2: What number is 250% of 2?

Solution: n = 250/100 x 2

n = 5, so 5 is the number

Percent less than 1

Problem 3: 3 is 0.2 percent of what number?

Solution: 3 = 0.2/100 x n

n = 1,500, so 1,500 is the number

Percent Increase/Decrease

Problem 4: If the price of a computer was decreased from $1,000 to $750, by what percent was the price decreased?

Solution: The price decrease is $250. The percent decrease is the value of n in the equation 250/1000 = n/100. The value of n is 25, so the price was decreased by 25%.

Notes: n% increase means increase/original = n/100;
n% decrease means decrease/original = n/100.

Average

An average is a statistic that is used to summarize data. The most common type of average is the *arithmetic mean.* The average (arithmetic mean) of a list of n numbers is equal to the sum of the numbers divided by n. For example, the mean of 2, 3, 5, 7, and 13 is equal to

2 + 3 + 5 + 7 + 13 / 5 = 6

When the average of a list of n numbers is given, the sum of the numbers can be found. For example if the average of six numbers is 12, the sum of these six numbers is 12 x 6, or 72.

The *median* of a list of numbers is the number in the middle when the numbers are ordered from greatest to least or from least to greatest. For example, the median of 3, 8, 2, 6, and 9 is 6 because when the numbers are ordered, 2, 3, 6, 8, 9, the number in the middle is 6. When there is an even number of values, the median is the same as the mean of the two middle numbers. For example, the median of 6, 8, 9, 13, 14, and 16 is

$$9 + 13 / 2 = 11$$

The *mode* of a list of numbers is the number that occurs most often in the list. For example, 7 is the mode of 2, 7, 5, 8, 7, and 12. The numbers 10, 12, 14, 16, and 18 have no mode and the numbers 2, 4, 2, 8, 2, 4, 7, 4, 9, and 11 have two modes, 2 and 4.

Note: The mean, median, and mode can each be considered an average. On the test, the use of the word average refers the arithmetic mean and is indicated by "average (arithmetic mean)." The exception is when a question involves average speed (see problem 2 below). Questions involving the median and mode will have those terms stated as part of the question's text.

Weighted Average

Problem 1: In a group of 10 students, 7 are 13 years old and 3 are 17 years old. What is the average (arithmetic mean) age of these 10 students?

Solution: The solution is not the average of 13 and 17, which is 15. In this case the average is

$$7(13) + 3(17) / 10 = 91 + 51 / 10 = 14.2 \text{ years}$$

The expression “weighted average” comes from the fact that 13 gets a weight factor of 7, whereas 17 gets a weight factor of 3.

Average Speed

Problem 2: Jane traveled for 2 hours at a rate of 70 kilometers per hour and for 5 hours at a rate of 60 kilometers per hour. What was her average speed for the 7-hour time period?

Solution: In this situation, the average speed is:

$$\text{Total Distance/Total Time}$$

The total distance is $2(70) + 5(60) = 440$ km.
The total time is 7 hours. Thus the average speed was

$440/7 = 62\ 6/7$ kilometers per hour.

Note: In this example the average speed is not the average of the two separate speeds, which would be 65.

Properties of Signed Numbers

positive x negative = negative

negative x negative = positive

negative x positive = negative

positive x positive = positive

Factoring

You may need to apply these types of simple factoring:

$x^2 + 2x = x(x + 2)$

$x^2 – 1 = (x + 1)(x – 1)$

$x^2 + 2x + 1 = (x + 1)(x + 1) = (x + 1)^2$

$x^2 – 3x – 4 = (x – 4)(x + 1)$

Probability

Probability refers to the chance that a specific outcome can occur. It can be found by using the following definition when outcomes are equally likely.

$$\frac{\text{Number of ways that a specific outcome can occur}}{\text{Total number of possible outcomes}}$$

For example, if a jar contains 13 red marbles and 7 green marbles, the probability that a marble selected from the jar at random will be green is

$$7 / 7 + 13 = 7/20 = \text{or } 0.35$$

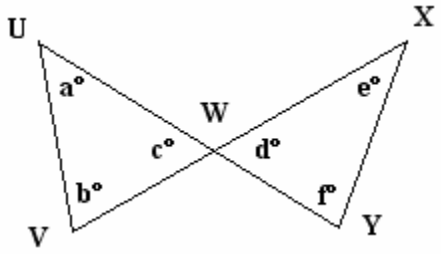
If a particular outcome can never occur, its probability is 0. If an outcome is certain to occur, its probability is 1. In general, if p is the

probability that a specific outcome will occur, values of p fall in the range $0 \leq p \leq 1$. Probability may be expressed as either a decimal or a fraction.

Geometric Figures

Figures that accompany problems are intended to provide information useful in solving the problems. They are drawn as accurately as possible EXCEPT when it is stated in a particular problem that the figure is not drawn to scale. In general, even when figure is not drawn to scale, the relative positions of points and angles may be assumed to be in the order shown. Also, line segments that extend through points and appear to lie on the same line may be assumed to be on the same line. The text "Note: Figure not drawn to scale." is included on the test when degree measures may not be accurately shown and specific lengths may not be drawn proportionally. The following examples illustrate the way different figures can be interpreted.

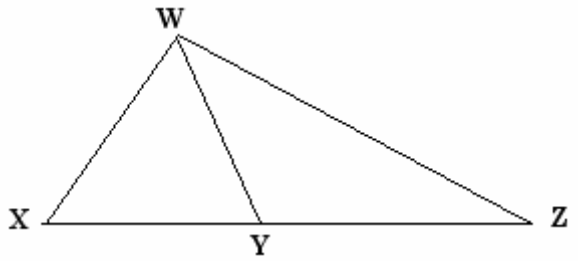
Example 1



Since UY and VX are line segments, angels UWV and XWY are vertical angles. Therefore, you can conclude that c° = d°. Even though the figure is drawn to scale, you should NOT make any other assumptions without additional information. For example, you should NOT assume

that VW = WY or that the angle at vertex Y is a right angle even though they may look that way in the figure.

Example 2



A question may refer to a triangle such as XWZ above. Although the note indicates that the figure is not drawn to scale, you may assume that:

(1) XWY and YWZ are triangles.
(2) Y is between X and Z.
(3) X, Y, and Z are points on a line.
(4) The length of XY is less than the length of XZ.
(5) The measure of angle XWY is less than the measure of angle XWZ.

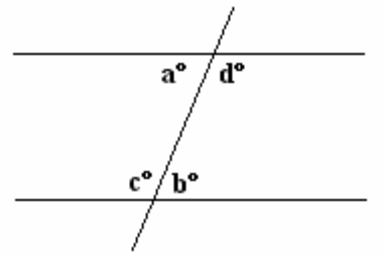
You may *not* assume the following:

(1) The length of XY is less than the length of YZ.
(2) The measures of angles WXY and WYX are equal.
(3) The measure of angle XWY is greater than the measure of angle WYX.
(4) Angle XWZ is a right angle.

Geometric Skills and Concepts

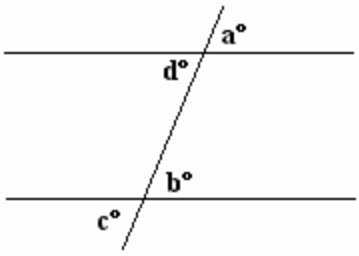
Properties of Parallel Lines

1. If two parallel lines are cut by a third line, the alternate interior angles are equal.



a° = b° and d° = c°

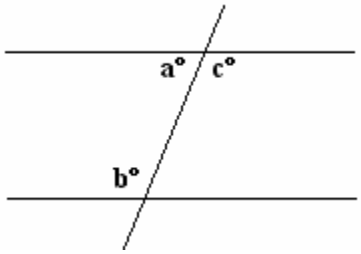
2. If two parallel lines are cut by a third line, the corresponding angles are equal.



a° = b° and d° = c°

Note: Words like “alternate interior” or “corresponding” are generally not used on the test, but you do need to know which angles involving parallel lines are equal.

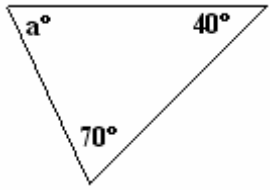
3. If two parallel lines are cut by a third line, the sum of the interior angles on the same side of the third line is 180 degrees.



a° + b° = 180°, because a° + c° = 180° and b° = c°

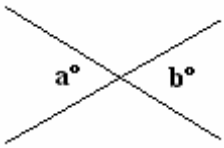
Angle Relationships

1. The sum of the interior angles of a triangle is 180 degrees.



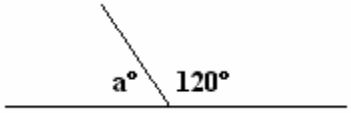
a° = 70° (Because 70° + 40° + a° = 180°.)

2. When two lines intersect, vertical angles are equal.



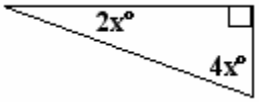
a = b

3. A straight angle measures 180 degrees.



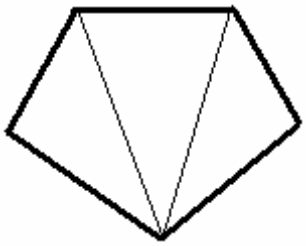
a° = 60 (Because a° + 120° = 180°.)

4. The sum of the two acute angles in a right triangle is 90 degrees.



x = 15 (Because 2x + 4x = 90.)

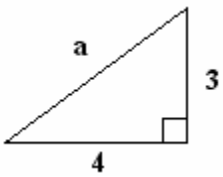
5. The sum of the interior angles of a polygon can be found by drawing all diagonals of the polygon from one vertex and multiplying the number of triangles formed by 180 degrees.



Since the polygon is divided into 3 triangles, the sum of the angles is 3 x 180° or 540°.

Side Relationships

1. Pythagorean Theorem: In any right triangle, $a^2 + b^2 = c^2$, where c is the length of the longest side and a and b are the lengths of the two shorter sides.



a = 5

(By the Pythagorean Theorem,

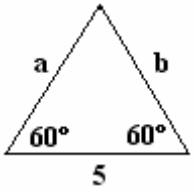
$a^2 = 3^2 + 4^2$

$a^2 = 9 = 16$

$a^2 = 25$

a = square root of 25 = 5

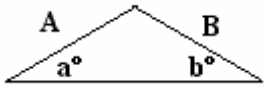
2. In any equilateral triangle, all sides are equal and all angles are equal.



a = b = 5

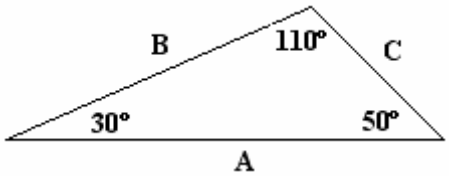
(Because the measure of the unmarked angle is 60°, the measure of all angles of the triangle are equal, and therefore, the lengths of all sides of the triangle are equal.)

3. In an isosceles triangle, the angles opposite equal sides are equal. Also the sides opposite equal angles are equal.



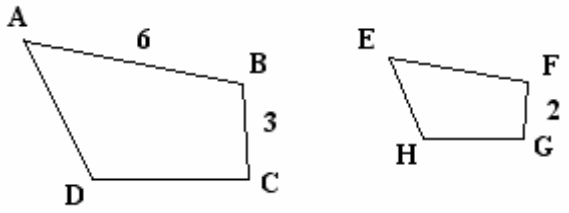
If A = B, then a° = b°. Also, if a° = b°, then A = B.

4. In any triangle, the longest side is opposite the largest angle (and the shortest side is opposite the smallest angle.)



A>B>C

5. Two polygons are *similar* if the lengths of their corresponding sides are in the same ratio and their corresponding angles are equal.



If polygons ABCD and EFGH are similar, and if BC and FG are corresponding sides, then BC = 3 and FG = 2.

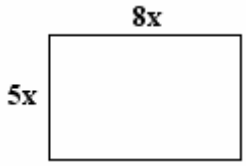
Therefore, the ratio is 3:2 and since AB = 6, EF = 4

Area and Perimeter

Rectangles

Area of a rectangle = length x width = l x w

Perimeter of a rectangle = 2(l + w) = 2l x 2w



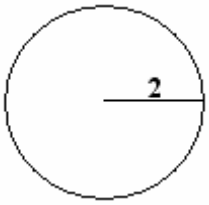
Area = 5x X 8x = $40x^2$

Perimeter = 2(5x + 8x) = 10x + 16x = 26x

Circles

Area of a circle = Πr^2 (where r is the radius)

Circumference of a circle = $2\Pi r = \Pi d$ (where d is the diameter)



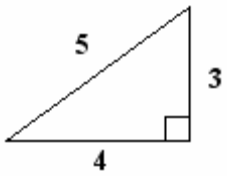
Area = $\Pi 2^2 = 4\Pi$

Circumference = $2\Pi 2 = 4\Pi$

Triangles

Area of a triangle = ½ (base X height)

Perimenter = Sum of lengths

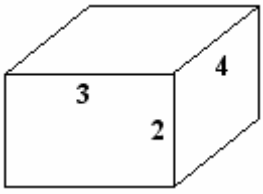


Area = ½ (4 X 3) = 6

Perimeter = 5 + 4 + 3 = 12

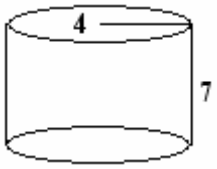
Volume

Volume of a rectangular solid or cube = length X width X height = l X w X h



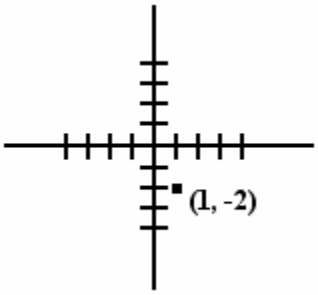
Volume = 3 X 2 X 4 = 24

Volume of a cylinder = $\Pi r^2 h$ (where r is the radius of the base and h is the height of the cylinder)



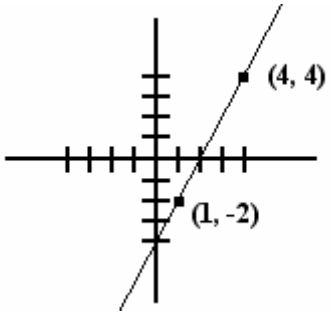
Volume = Π X 4^2 X 7 = Π X 16 X 7 = 112Π

Coordinate Geometry



In questions that involve the x and y axes, x values to the right of the y axis are positive and x values to the left of the y axis are negative. Also, y values above the x axis are positive and y values below the x axis are negative. In an (x,y) ordered pair, the x value is written first, and the y value is written second. For example, in the ordered pair (1,-2), the x coordinate is 1 and the y coordinate is -2.

Slope of a line = rise/run or vertical distance/horizontal distance.



This line runs through points (1,-2) and (4,4). The slope = (4 – (-2))/(4 – 1) or 6/3 = 2.

Any line that slopes upward from left to right has a positive slope. Any line that slopes downward from right to left has a negative slope.

Writing Skills

Apostrophes

An apostrophe is used to form a possessive or a contraction. Check for the following common apostrophe errors. The bracketed parenthetical demonstrates the correct use.

Possessive Nouns

1. Singular possessive nouns. Use 's to show that a singular noun is possessive [the defendant's motion]. You can apply this rule even when the singular noun already ends in "s" (Charles's costume) though many writers add only the apostrophe [Charles' shoes].

2. Plural possessive nouns not ending in "s." Use 's to show that a plural noun not ending in "s" is possessive [the children's toy].

3. Plural possessive nouns ending in "s." Add only an apostrophe to make plural nouns possessive [the boys' game].

4. Nouns that are not possessive. Do not add an apostrophe to a noun that is not possessive [the teachers (not teacher's or teachers') have claimed; the Joneses (not Jones' or Jones's) did not attend].

Possessive Personal Pronouns vs. Contractions

Apostrophe errors with possessive personal pronouns are common because possessive personal pronouns indicate possession and we are used to using apostrophes to indicate possession. Also possessive personal pronouns are easily confused with contractions. Here are the basic rules:

5. Possessive personal pronouns. Do not add an apostrophe to a possessive pronoun [the problem is hers (not her's); the corporation must disclose its (not it's) assets.]

6. Contractions. Do use an apostrophe in a contraction (it's time to go; you're the one).

* Watch especially for errors in using "it's" or "its." Remember that "it's" means "it is" and "its" indicates ownership. Confusing these two words is the most common apostrophe error.

Comma Errors

Commas are also major troublemakers. Watch for these situations:

1. Use a comma to separate two independent clauses joined with a coordinating conjunction (and, or, but, nor, so, for). [The child agreed, but the parent objected].

2. Use a semicolon or a period, not a comma, to separate two independent clauses not joined by a coordinating conjunction [The child agreed; however, the parent objected.]. The

following transitional words and phrases are conjunctive adverbs, not conjunctions:

accordingly	however	also	moreover
consequently	on the other hand	for example	otherwise
for instance	similarly	furthermore	therefore
hence	thus		

Therefore, do not use a comma to separate two independent clauses on either side of one of these words.

Incorrect: The city must increase its tax base, however, the citizens must be able to accept the additional tax burden.

Correct: The city must increase its tax base; however, the citizens must be able to accept the additional tax burden.

3. Conjunctive adverbs signal the relationship between the point(s) made in the material before their sentence and the material of that sentence. The words and phrases in the list above are examples. When you begin an independent clause with a conjunctive adverb or when you use it in the middle of a sentence, set it off with a comma.

Moreover, the defendant has not yet established a proper foundation for this testimony.

The student, moreover, has not yet turned in an acceptable project to meet his assignment's requirements.

4. Use commas to set off the year if you also identify the day [The birth of Norma Kelly on June 2, 1974, brought the . . . .], but omit the commas otherwise [The birth of Norma Kelly in June 1974 brought . . . .].

5. Use commas to separate three or more simple items in a list. If the descriptions of the items are long or complex, use semicolons to separate them.

6. Use a comma to separate two independent clauses connected by a coordinating conjunction unless the two independent clauses are short and simple:

Correct: The sunlight helped the flowers to grow, but they require frequent watering in order to stay alive.
Correct: Yours is timely and mine is late.

Problems With References

A referent is a word or phrase that refers to something else (an antecedent). Problems with referents can cause confusion and, sometimes, unintended humor. Problems with references occur primarily (1) when sentences have more than one possible antecedent (often caused by placing the referent too far from the intended

antecedent); or (2) when the antecedent is only implied. Here are examples problems with references.

More than one possible antecedent

The doctors told their patients that they had serious problems.
[Who had problems?]
To prevent children from sucking their thumbs, some parents soak them in tabasco sauce. [Do the parents soak the children or the thumbs?]

The corporate officers had failed to disclose the serious conflicts of interest caused by their ownership of several of T&J's suppliers. The possibility of a bankruptcy was a disaster for them.
[Was the possibility a disaster for the officers, the conflicts, or the suppliers?]

Referring to an antecedent that is only implied:

The corporate officers had failed to disclose the serious conflict of interest raised by the possible bankruptcy of T&J's primary supplier. This was a disaster for the officers.

[What was a disaster -- the failure to disclose, the conflict, or the possible bankruptcy?]

Notice that the confusing reference in this last example is caused by using "this" alone. Using the pronoun "this" or "that" without a noun following immediately is usually inadvisable. Here, for instance, the

confusion could be resolved easily by adding the clarifying noun after "this":

The corporate officers had failed to disclose the serious conflict of interest raised by the possible bankruptcy of T&J's primary supplier. This failure was a disaster for the officers.

The three primary strategies for solving reference problems are: (1) repeating the antecedent (as in the prior example); (2) re-arranging the material to place the referent close to the antecedent; or (3) re-arranging the material to eliminate the need for the referent. For instance, here is another possible solution to the reference problem above:

The possibility of a bankruptcy was a disaster for the corporate officers. They had failed to disclose the serious conflicts of interest caused by their ownership of several of T&J's suppliers.

Problems With Agreement

Here are the most common errors in agreement:

1. The following indefinite pronouns are singular and take a singular verb:

anyone	Anyone is welcome.
each	Each is an expert.
either	Either supports the argument.
everyone	Everyone has problems.
neither	Neither sings in tune.

The singular verb is correct even when the indefinite pronoun is followed by a prepositional phrase with a plural noun:

Each of these peaceful alternatives was [not "were"] ignored.

Either of the twins is [not "are"] available.

However, the following indefinite pronouns are either singular or plural, depending on the nouns or pronouns they refer to:

all
any
none
some

For example:
All [singers] are permitted . . . .
All of the money is counted . . . .

None of them are satisfied . . . .
None of the royalty was present . . . .

2. "The court" is a singular term, taking a singular pronoun:

The court overruled the traditional rule originally announced in December. It [not "They"] held that . . . .

3. This same kind of error can slip in when referring to any institution or business:

He said that he is very grateful to St. Catherine's Hospital. They treated him with respect.

The problem sometimes occurs because the writer is avoiding the awkwardness of attributing a human action to an "it." For instance, in the St. Catherine's example, the writer is probably avoiding "It treated him with respect." That problem can usually be solved by changing the antecedent to the humans who actually performed the action:

He said that he is very grateful to the staff at St. Catherine's Hospital. They treated him with respect.

4. Watch for both verb agreement and pronoun agreement when a singular subject is modified by a phrase or clause containing a plural noun:

The confidence of several families was [not were] attained.

Each of the groups agrees [not agree] to resolve the problem peacefully.

Every student who had already taken both courses is [not are] excused from this requirement.

5. Use a possessive pronoun before a gerund phrase. A gerund is an "ing" verb that serves as a noun. The gerund can stand alone

or can begin a gerund phrase, but either way, the word or phrase functions as a noun:

Running is good for you.

Coming to work late can result in disciplinary action.

Since a gerund or gerund phrase functions as a noun, it takes a possessive pronoun:

We'll go to their house for the party instead of their [not them] coming to ours.

Lack of Parallelism

Where possible, similar ideas should be expressed in a similar (parallel) structure and grammatical form. Parallelism makes for easier reading and clearer meanings. It also improves sentence rhythm and cuts down on verbiage.

Parallel structure:

Parallelism makes for easier reading and clearer meanings.

"easier reading" and "clearer meanings" are parallel.

Non-parallel structure:

Problems occur when the business conceals relevant documents or by deluging the auditors with irrelevant documents.

In the non-parallel example, the writer identifies two situations in which problems occur; however, the two situations are phrased in non-parallel structure. A parallel structure would be:

Problems occur when the business conceals relevant documents or when they deluge the auditors with irrelevant documents.

Now that the structure is parallel, extra words can go:

Problems occur when the business conceals relevant documents or deluge the auditors with irrelevant documents.

Parallel structure is especially important in a list.
When the new commander arrived at the post, he immediately posted a new list of orders: no leaves were to be granted, and no leniency was to be given.

Miscellaneous Problems

1. Use the subjective case for a pronoun that functions as the subject of an understood verb. The subjective case is the form the pronoun takes when used as the subject of the sentence ("I," "we," "they"). For example, consider these two sentences:

The corporation's president worked harder than me.

The corporation's president worked harder than I.

Which is correct? The second version is correct, because "I" is the subject of an understood verb "worked." In other words, the sentence is actually a shortened version of "The corporation's president worked harder than I worked."

This is an easy mistake to make because the correct case may sound wrong. If so, the best solution is to add the understood verb or to re-phrase the sentence completely to avoid the awkwardness.

2. Use the subjective case for a pronoun that functions as the complement of a subject. A pronoun is a subjective complement when it actually equals the subject of the sentence. For example, consider these two sentences:

The person least anxious after the test was her.
The person least anxious after the test was she.

Which is correct? The second version is correct, because the pronoun in the predicate, "she," actually equals the subject, "the person least anxious after the test." In other words, the sentence is like an algebra equation: The person least anxious after the test = she. In a sentence like this one, the noun or pronoun in the predicate functions like the subject of the sentence. The sentence should read the same as if you turned it around:

She was the person least anxious after the test.

Once again, this is an easy mistake to make because the correct case may sound wrong. In spoken English we often hear "It's him," or "It's

me." Again, the best solution may be to reverse the sentence or to re-phrase the sentence completely to avoid the awkwardness.

3. Use "try to" and "sure to" rather than "try and" or "sure and."

Incorrect: Ms. Thompson wanted to try and finish the project by Friday.

Correct: Ms. Thompson wanted to try to finish the project by Friday.

Incorrect: Be sure and pick up the baby from daycare.

Correct: Be sure to pick up the baby from daycare.

This rule makes sense if you think about it. The proper function of the word "and" is to connect two different things. Thus, the "and" in the first sentence should mean that Ms. Thompson wanted to do two different things, but she didn't; she only wanted to do one thing – finish the project. The same is true for the third sentence. The "and" seems to tell the reader that the sentence is an instruction to do two different things, but it isn't. The reader is only to do one thing – pick up the baby.

4. "Hopefully" is an adverb that explains how someone does something, as in "She asked hopefully." Often "hopefully" is misused in this or a similar fashion: "Hopefully the storm will pass." This use actually asserts that the storm's passing will be

full of hope. The writer actually means "I hope that the storm will pass."

5. Watch out for one more common error with adverbs: the difference between "I feel bad" and "I feel badly." In the first sentence, the writer is commenting on how she feels, either physically (perhaps she has the flu) or emotionally (perhaps she is sad). The first sentence is the proper use of "bad" as an adjective.

However, the second sentence uses "bad" in its form as an adverb. The writer is commenting on her ability to feel; perhaps her fingers are numb. Sometimes writers use the adverbial form "badly" when they mean "bad," perhaps believing that "badly" sounds more elevated.

6. Watch for errors in using "myself" instead of using "I" or "me." "Myself" is used as a reflective pronoun or as a device for emphasis.

Correct: I injured myself.
used as a reflective pronoun

Correct: I will draft the interrogatory answers myself.
used for emphasis

Each time "myself" is used, test the use by asking whether "I" or "me" could substitute for "myself." If so, using "myself" is incorrect.

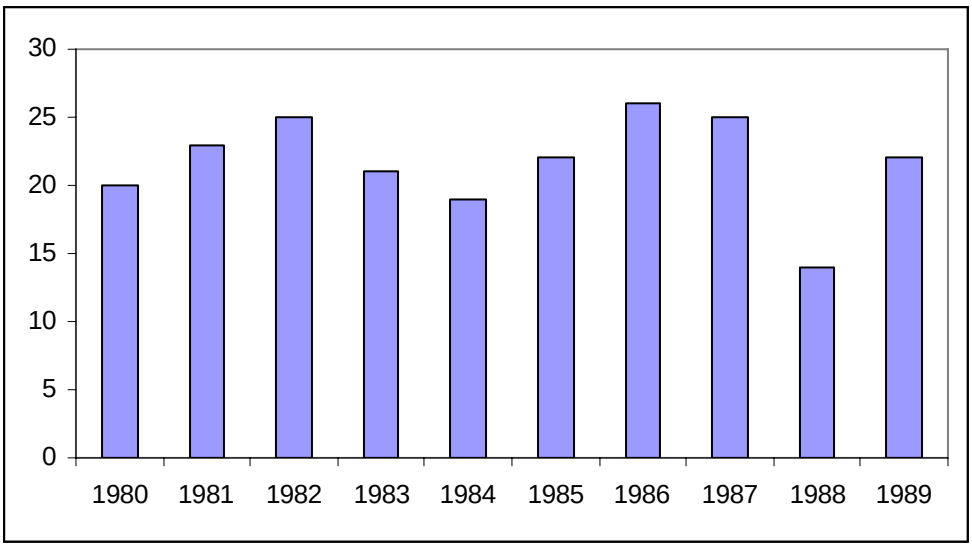
Incorrect: Ms. Alpha and myself will meet you for lunch.

Incorrect: If you have any questions about this demonstration, contact Mr. Jones or myself.

Science

Understanding Charts and Tables

Much of the difficulty that most test takers have with this section of the test is the charts, tables and graphs that are referenced in its questions. Properly understanding how to read each of these is critical to succeeding on the test.



Question 1: Ask yourself what is being shown in the data presented? In this chart a decade's worth of data is displayed, showing varying amounts of some quantity each year.

Question 2: Ask yourself if any trends can be detected? As you review the chart, you can see that it appears that there is a 4 year cycle in occurrence. Every 4 years, the data increases, then decreases again, with cycle highs and lows each separated by 4 year intervals.

Question 3: Ask yourself if there is anything remarkable about any of the data points? It appears that there was an extremely low point in 1988. Odds are one of the questions will ask about this data point and any other unusual features of the chart.

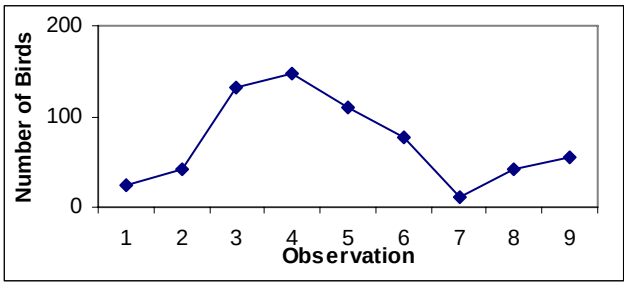
Mixture	Average mass
A	2g
B	4g
C	1g
D	6g
E	2g
F	3g

You can ask yourself the same questions concerning a table. What's being shown? What are the trends? What is unusual?

If you know what to expect and are familiar with using them, charts and graphs are actually quite simple and easy to use. They contain information contained horizontally along the x-axis, and other information contained vertically along the y-axis. When you find the point along the x-axis and y-axis that you are looking for and then identify their intersection, you will find the information that you need to solve the question.

When Vagueness is Clear

When a graph doesn't have exact measurements that are easily identifiable, odds are you will not need to differentiate between two close data points.



Example: Bird watchers are interested in seeing rare birds. According to the figure above, during which observation period, would one be LEAST likely to see a rare bird.

A. period 2
B. period 4
C. period 7
D. period 8

In this graph, the y-axis only lists three data points (0, 100, and 200). This makes it difficult to determine whether close observations actually differ. For example, period 2 and period 8 appear to have approximately the same number of birds and it is difficult to determine if either has more or less. Therefore, you will typically NOT be asked to make such a differentiation. So, as you go through the answer choices, you don't have to worry about choosing between choice A and D, since choice C clearly had the fewest number of birds, making it the least likely opportunity for an observer to see a rare bird.

Avoiding Definites

Answer choices that make definite statements with no "wiggle room" are often wrong. Try to choose answer choices that make less definite

and more general statements that would likely be correct in a wider range of situations and aren't exclusive.

Example:

A. Some of the highest values occurred during periods of low activity.
B. The highest values occurred at an activity level of 5 throughout the observed period.
C. The lowest values occurred at an activity level of 2 throughout the observed period.
D. The activity level remained at the same throughout the observed period.

Without knowing anything about the question, answer choice A uses the term "some," which has wiggle room, meaning there could have been a few data points that had high values that didn't occur during periods of low activity. All of the other answer choices have a more definite sense about them, implying a more precise answer choice without wiggle room that is often wrong.

Using Common Sense

The questions on the test are not intended to be trick questions. Therefore, most of the answer choices will have a sense of normalcy about them that may be fairly obvious and could be answered simply by using common sense.

While many of the topics will be ones that you are completely unfamiliar with, there will likely be a couple of topics that you have

some prior indirect knowledge about that will help you solve the problems.

Example:
Which of the following conclusions about the length of day is consistent with the information provided in the passage?

A. the longer the day, the more photosynthesis takes place
B. the length of day has no affect on photosynthesis
C. the length of day was the most important variable tested
D. further trials need to be conducted to determine the true effect of the length of day

You probably have a vague understanding of day length and photosynthesis and can probably put together this commonsense equation:

Length of day = more sunlight = more photosynthesis

Choice A passes the test with this equation and is correct.

Instincts are Right

When in doubt, go with your first instinct. This is an old test-taking trick that still works today. Oftentimes if something feels right instinctively, it is right. Unfortunately, over analytical test takers will often convince themselves otherwise. Don't fall for that trap and try not to get too nitpicky about an answer choice. You shouldn't have to twist the facts and create hypothetical scenarios for an answer choice to be correct.

Example: If scientist 1 is correct, the larger the ant colony, the:

A. less frequently foraging will occur
B. more frequently foraging will occur
C. larger the size of the foraging area
D. smaller the size of the foraging area

Your first instinct is that the size of the ant colony would affect the size of the foraging area allowing you to choose choice C.

Making Notes

Don't be afraid to make notes in the answer booklet. If drawing lines on the charts will help you understand the data and keep track of the answer choices, then take advantage of this technique. Adding additional information in the form of notes, circles, or lines on the answer booklet may be a big help to more visual learners and test takers.

No Fear

The science test can be a bit intimidating to a lot of people as it can deal with topics that have never been encountered before and are highly technical. Don't get bogged down by the data presented. Don't try to understand every facet of the experiment. Only read the passages for an overall general understanding that will help you on the questions. You won't have to write an essay about the topics afterwards, so don't memorize the facts. These experiments and passages are technical and are likely to be in an area that you have no

background. Don't get overwhelmed. After you briefly read over the experiment, go straight to questions.

Looking for the Changes

Anything odd is likely to be asked about. Any differences that occur between experiments or scientists are guaranteed to have questions to make sure you understand those differences. Make sure that as you review the information, you are on the lookout for changes.

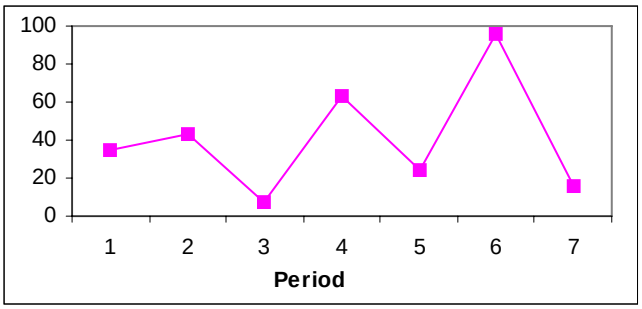
If one of the experiments deals with the duration of lifetimes for various materials – make sure you take note of the ones that were extremely short or extremely long. Circle them in your answer booklet, and be ready to go back and identify them in later questions.

Quick Checks

Many of the questions will require you to examine each answer choice, return to the graph or chart and see where it falls and then compare it to the other answer choices.

Remembering that questions will typically focus on the differences, the extremes, the outliers in a series of data, this can help you quickly hone in on the correct answer.

Example: Which period would be MOST likely to have….?



Rather than looking at each answer choice and then comparing them to see which was best, odds are the correct answer choice will not just be the period in the graph that is highest among the provided answer choices, it will likely be the period that has the highest of any period.

A. period 2
B. period 4
C. period 6
D. period 7

Without looking at the answer choices, the period that is MOST likely to contain anything is probably going to be period 6, because it is the highest peak on the graph. Now look and see if period 6 is among the answer choices. It is, making answer choice C correct.

For questions that ask about the MOST or LEAST, the highest peak or lowest valley on the graph will probably be the correct answer choice, meaning you can look first at the graph, and then at the answer choices, saving you time.

The question above could have the following answer choices:

A. period 2
B. period 4
C. period 5
D. period 7

This would make answer choice B correct, as period 4 is greater than the others listed. Since period 6 isn't a viable choice, you would be forced to choose period 4. However, rarely will you be faced with a question like this in which the period or point on a graph that is the absolute MOST or LEAST is not listed as a possible answer choice.

Making Summaries

As you go over the experiments, make sure you have a high level understanding of what each one was about.

Example:
Experiment 1 – what did they change? Temperature
Experiment 2 – what did they change? Pressure
Experiment 3 – what did they change? Volume

As you review the experiments, the main goal is to get a general understanding of what they were about and what were the key variables that were being changed in each. That will allow you to save time while answering the questions by being quickly able to go to the right experiment depending on what you need to find out.

Looking for Matches

Questions that have long answers will often give away the right answer choice. Test writers will try to trick up the test taker, but a smart test taker can often use those tricks in their favor to point to the correct answer choice.

Example:

Which of the following combinations of characteristics would create the optimal living conditions?

A. 50 ft of depth at 30°
B. 100 ft of depth at 20°
C. 100 ft of depth at 40°
D. 150 ft of depth at 20°

Without knowing anything about the living conditions or experiments, you can see that 20° is listed twice, making it the most popular, and 100 ft is listed twice, making it the most popular. Therefore, look for an answer choice that combines the most popular of each characteristic, which makes answer choice B correct.

Professional Experiments

The experiments explained in the test are conducted by professionals that know what they are doing. If a question asked if the conditions or variables should have been changed, the answer is usually NO. The professionals conducting the experiment have already optimized the conditions and variables used.

Example: The scientist made 10 measurements from each of 100 machines. Would it have been better to make 100 measurements from each of 10 machines?

A. No,...
B. No,
C. Yes,
D. Yes,

Typically the scientist did his job right and you can eliminate answer choices C and D from consideration.

Information is Provided for a Reason

Passages and experiments contain a lot of information. When a question offers new information to consider, remember that it is given for a reason. Look for the correct answer choice to include the new information in what form or another.

Example: Burrowing animals create spots of bare earth in the meadow. On the basis of the experimental results, one would predict that over several years the wildflowers would:

A. not grow or reproduce in the meadow
B. not grow in the meadow but their seeds would be found in the meadow
C. grow in the meadow and reproduce in the cleared areas created by animals
D. grow in the meadow and reproduce only in the areas containing woody plants

Only choice C contains a phrase that actually links to the question "cleared areas created by animals."

Watching for Similar Rewording

In order to increase the difficulty of otherwise simple questions, test writers will often reword the correct answer using similar wording that is somewhat different but still means the same thing. Don't get

distracted in trying to find the perfect match, as a similarly worded answer choice may likely be the correct answer choice.

Example: Which of the following factors was controlled by the Scientist in Experiment 1?

A. plant mass
B. soil moisture
C. presence of rabbits
D. presence of neighboring plants

Choice D “presence of neighboring plants” means the same as clearing the ground of vegetation, which is what was described in the experiment and was the exact wording of the answer choice you were expecting.

Don’t Get Thrown Off by New Information

Sometimes test writers will include completely new information in answer choices that are wrong. Test takers will get thrown off by the new information and if it seems like it might be related, they could choose that answer choice incorrectly. Make sure that you don’t get distracted by answer choices containing new information that doesn’t answer the question.

Which conclusion is best supported by the experiments?

A. unable to reproduce due to the absence of bee pollination

Was bee pollination even discussed? NO – then don’t consider this answer choice, it is wrong.

Looking for Key Words

When you have to refer back to the passage or experiment to find an answer, make sure that you identify the key words in the passage that you expect to find in the answer choice.

Example: The passage contains the statement, “the comets are composed mainly of ice that vaporizes when it enters the atmosphere, creating a cloud of water vapor”
Question: According to the information provided, the transformation of a small comet from ice to water vapor is cause by:

A. collisions between comets
B. sunlight falling on the comet’s surface
C. a chemical reaction caused by lightning
D. friction between the atmosphere and the comet

After reviewing the passage to find the answer, you expect that the word “atmosphere” should be found in the correct answer choice. Going back to the answer choices, you can immediately jump to answer choice D, which contains the word “atmosphere.” Even though friction wasn’t discussed in the passage, it’s the only answer choice that makes a connection between the vaporization of the comets and the role the atmosphere plays in the process.

Narrowing the Search

Whenever two answer choices are direct opposites, the correct answer choice is usually one of the two. It is hard for test writers to resist

making one of the wrong answer choices with the same wording, but changing one word to make it the direct opposite in meaning. This can usually cue a test taker in that one of the two choices is correct.

Example:

A. There would be more holes visible in images taken on days when thunderstorms are present
B. There would be fewer holes visible in images taken on days when thunderstorms are present.

These answer choices are direct opposites, meaning one of them is likely correct. You can typically rule out the other two answer choices.

What About the Opposite

Some difficult answer choices may be hard to understand and properly analyze. A technique that can often make them easier to interpret is to consider would they be correct, incorrect, or not matter if they were the direct opposite.

Example: Which of the following observations would support Scientist 1's view?

A. Ground based telescopes observe comets entering the atmosphere
B. The receiving station cannot collect data during a thunderstorm
C. Atmospheric holes appear in the same location in all images
D. A number of very dark pixels are seen in the images

As you read each answer choice, change it around in your mind to represent the opposite view. This may help clarify whether it is right or wrong.

Example:

A. Ground based telescopes do NOT observe comets entering the atmosphere
B. The receiving station CAN collect data during a thunderstorm
C. Atmospheric holes appear in DIFFERENT locations in all images
D. A number of very LIGHT pixels are seen in the images

By mentally reversing each of the answer choices, sometimes it will make it easier to determine which ones are correct and incorrect.

You're not Expected to be Einstein

The experiments should contain all of the information that you need to know in order to answer the question. You aren't expected to be Einstein or to know all related knowledge to the topic being discussed. Remember, these experiments may be about obscure topics that you've never heard of. If you would need to know a lot of outside knowledge about a topic in order to choose a certain answer choice – it's usually wrong.

Example: Which of the following explanations would also account for the presence of holes in the images?

A. Unexpected solar eclipses
B. Lightning storms on Venus
C. Flaws that occurred while converting the electronic data to visible images

D. A uniform thinning of Earth's atmosphere

If the passages don't discuss solar eclipses or lightning storms on Venus, you aren't expected to know what their effect would be. You can typically rule out these answer choices that would require a specialist's knowledge of the topic.

Identifying the Key Component

As you look for the right answer choice, bear in your mind what the key component that the answer choice will have to have.

Example: Which of the following procedures would be most helpful in establishing the rain-producing abilities of the five compounds?

A. Repeating Experiments 1 and 2 with five new compounds
B. Repeating Experiment 2 but performing 100 trials
C. Repeating Experiment 3 but seeding at 6,000 ft
D. Repeating Experiments 2 and 3 on each compound

After reading the question, but before going through the answer choices. You know that since you are interested in establishing the abilities of the five compounds used in the experiments, the answer choice is going to have to affect all five compounds. That is the key component.

Now go through the answer choices armed with that key component.

A. discusses five NEW compounds – ruling it out
B. repeating Experiment 2 with 100 trials – going back to Experiment 2, you see that it only involved one of the five compounds, ruling it out

C. repeating Experiment 3 by seeding at 6,000 ft – going back to Experiment 3, you see that it only involved one of the five compounds, ruling it out
D. Repeating Experiments 2 and 3 on each compound – note the key component "each compound," clearly referring to all five of the original compounds, making answer choice D correct.

Fulfilling all the Requirements

Example: How many of the trial sets in the three experiments would the scientist call *successful*?
Notice that "successful" is in italics. This makes it a direct quote from the passage or experiments, so you can go straight back to the passage and find where it is referenced. Make sure that you answer every part of the question.

Your first impulse might be to look at the trial set in experiment 1 and see how many of the trials met the criteria for success. But remember that the question asked about all three experiments, so you have to count the ones that are successful in experiments 2 and 3 as well as experiment 1. Just before you make your final answer choice selection, glance back over the question and confirm that you have satisfied all the question requirements.

When It Doesn't Make Sense – Check It Systematically

Sometimes the answer that you're looking for isn't listed in the answer choices. When this happens, you need to go back over the question in a systematic fashion and determine where you made a mistake.

Example: The question asks about bromthymol blue and you find information from a table about bromphenol blue instead.

When you look for the answer choice that you expect, it isn't there. Don't panic and just put the closest answer to what you expect. Take a moment to go back through and check everything in the question and you'll catch the simple mistake that you made in confusing bromphenol blue for bromthymol blue on a table that contained them both. When your only choice is an answer choice that isn't what you expected, but might be "good enough," go back through and see if you made a simple mistake in understanding the question. This is particularly true when you have an answer choice of numbers that you found on a table or graph. Number answers should be exact, not just "good enough."

Writing Essay Test

The Essay section is a 20 minute test that measures your ability to write an effective essay.

You need to know that in evaluating your essay, readers are looking for your essay to be well organized and properly developed. All of the main ideas should be clearly outlined and explained. It should be error free and contain a variety of examples and reasoning to explain your ideas.

Planning Stage

You should spend about 3 minutes planning and jotting down a few quick notes. Consider the position you are taking, determine a few good reasons for making your choice, some evidence or explanation that support the choice, some effective details you might include, and what order you should use to effectively present your points.

Sticking to the Plan

You should spend about 24 minutes writing your essay. Refer back to your plan, remembering that the topic requires you to make a choice or take a position, and explain your reasoning in some detail. You should also consider the criterion specified so that your essay is convincing to the addressed audience. Make sure that the language you choose communicates your ideas clearly and appropriately.

Reviewing the Plan

You should spend about 3 minutes reviewing your writing, adding or removing as necessary and making any changes needed to enhance clarity.
You should make clear the answer and angle you will choose for your essay, offering a few good reasons for your choice and explaining your reasoning in some detail. As you explain the reasons for your choice, you should develop explanations for each, including such things as evidence, examples, or observations.

Brainstorming Smart

Brainstorming is a process of directing your mind toward idea generation.
Every book on essays will advise you to brainstorm. It's a method proven to be successful for several reasons. This is the point at which different writers will begin to disagree about how to brainstorm.

The method of brainstorming that is recommended here is two-tier. First you have to brainstorm about what you are going to write about. You want to determine what is going to be the focus of your essay.

Example:
Sample topic: "If you could change one thing about yourself, what would it be? Discuss why."

Example Brainstorming Level 1: What should I write about?

Intelligence, looks, personality, wealth, family, friends, time, fame, etc.

Your first impulse, and honest reaction, might be to respond with something such as making yourself more beautiful, more intelligent, or more popular. But remember that you want to be able to write at length about this topic. If you choose an answer that while truthful, may sound shallow to an essay reader, such as to become more beautiful and better looking, then you probably won't win any points with the reader.

Don't automatically go with your first impulse. The scorer is not giving points for essays that are the most honest, but for essays that are the best written. A well-written essay needs substantial support to explain the reasoning behind your choice.

A choice such as more intelligence could sound shallow, but with a little creativity, you can turn this into an excellent essay. Instead of stating that you want to be more intelligent in order to get better grades, use deeper reasoning. Explain what you would do with that added intelligence. Give examples of how your side research into molecular biology and genetics would be greatly improved with added intelligence and enable you to have a greater chance at your goal of contributing to finding a cure for cancer or diabetes.

If you choose "more popularity" as your topic, you could discuss how you would use your popularity in order to persuade more people to support your humanitarian causes and to be a positive role model for others.

After you've decided which topic you are going to write about, then you should begin the second wave of brainstorming, which will be about what you want to discuss about your chosen topic, which examples you want to use and which observations you hope to present.

Example Brainstorming Level 2: You've chosen to write about having more free time. Now you brainstorm about what you should say to support that choice.
spend more time with friends and family, work at a local homeless shelter, write a novel, open a new business, adopt some children, enjoy your hobbies, etc.

You have to have a proper balance at each level. If you spent too much time at brainstorming level 1, then you won't have time to decide on what you want to use as examples in level 2. But if you spend too little time at brainstorming level 1, then you may not come up with a really good topic to use for your essay. A good strategy is to practice using this two level brainstorming process until you get comfortable with using it and quickly generating lots of ideas.

Making the Cuts

Once you've finished the brainstorming level 2 process, you should look over the supporting ideas you hope to use and the examples you've written down from the brainstorming process. Look back over the ideas and see which ones look the best. Which ones could you

write the most about and would give you the most sound reasoning and logic to back up your initial decision of what to write about?

Make mental notes about which supporting ideas from brainstorming level 2 you hope to use, because those will be the ones that will comprise your successive body paragraphs.

Your goal is to hit the high notes. Pick the best ideas you've developed and write about those. You only need 3-5 good ideas to write about and may have a loss of focus if you try to write about more than a few important supporting topics.

Ending at the Start

Many essay writers will start off by writing their introductory paragraph, along with the main ideas and supporting ideas that will be used, and then force fit the essay into the guidelines that they have predetermined for their essay.

The problem with this is that many of the best ideas will occur to a writer while writing the essay. Rather than immediately jumping into writing your introductory paragraph, take the brainstorming ideas that you've developed and begin writing your essay, by expanding on each of the supporting ideas that you've chosen and writing your body paragraphs first.

As you write your body paragraphs, new ideas may occur to you that you would prefer to use. Rather than having to go back and make changes to your introductory paragraph, since you haven't written it

yet, you can just adopt the new ideas as you write and incorporate them into your body paragraphs.

When you're finished writing your body paragraphs, which should each include at least one primary supporting idea, then you can go back and write your introductory paragraph and make sure that it matches up with each of your body paragraphs and covers the overall topic you are discussing.

Additionally, don't make the mistake of writing too much in your introductory paragraph. The introduction is not where you explain your reasoning. Save your logic for the body paragraphs, and only use the introductory paragraph in order to briefly outline what you are going to discuss. Brevity is better than wordiness in an introduction.

Staying Consistent

A lot of writers write their introductory paragraph, then their body paragraphs, and then their conclusion at the end. The problem with this is that often the whole focus of the essay may have morphed as the writer wrote the essay and the conclusion seems to have a completely different focus than the introduction and the body paragraphs seem to lead take the reader through a tortuous path that changes course with every sentence.

It is vitally important that the introductory and concluding paragraphs are consistent with each other and that the body paragraphs match the introduction and conclusion. You want your paper to be consistent throughout.

Writing your introduction at the end, after you've written your body paragraphs, and then following it with your conclusion will be a huge help in maintaining the consistency, but always look back over your essay when you're finished and make sure that the essay keeps the same focus all the way through.

Maintaining the Flow

Part of maintaining consistency in your essay is the proper use of transition words while you're writing. Use transition words to maintain the essay's flow. Transition words such as first, second, third, finally, also, additionally, in conclusion, in summary, and furthermore all give the reader an understanding of how the paragraphs flow together.

Example:
Paragraph 1: Introduction
Paragraph 2: First of all, …
Paragraph 3: Secondly, …
Paragraph 4: Finally, …
Paragraph 5: In summary, …

Backing up Your Points

If you make a point or statement in your essay, make sure that you back it up with clear examples from your personal experience or observation. Don't let your points remain unsupported, but ensure that they are provided with some back up substance.

Example: You make the statement, “Renovating older downtowns can be expensive, but is definitely a worthwhile endeavor.”

While many readers may agree with this statement, it shouldn’t be made without backup support:

Consider the following as backup for that example statement: My own hometown created a ten year plan to renovate their downtown area. A higher sales tax was passed in order to pay for the renovation, which ultimately cost $1 million dollars. But once it was finished, the sales tax was removed and the antique shops, which now fill much of the downtown, attract tourists and collectors from hundreds of miles away. The downtown is now completely self-supporting and is a constant source of both pride and new tax revenue to the town’s residents.

Using Proper Grammar

Remember that this essay is your chance to write and make yourself look good and well educated. It is not a test of your knowledge of grammar rules. You don’t have to demonstrate knowledge of every nuance of grammar. Therefore, if you find yourself wondering whether a given phrase should have commas around it or not, rewrite the phrase such that you’re confident it doesn’t need commas or does need commas. There is no need to have any punctuation in your essay that you are only 50% confident of being correct and conforming to the rules of grammar.

Example: You write, “Each of us must choose which path to take in life, whether to strive for improvement, or to settle in to their surroundings.”

You aren’t sure whether you need a comma or a colon after the phrase “to take in life” in the preceding sentence.

Simply rewrite the sentence until you are confident in how it is phrased. Change it to something such as:

“There are two paths: strive for improvement, or settle into surroundings.”

At this point you know you are using the colon properly, and so you can feel free to move on in your essay without fear of having made a grammar mistake.

Watching Your Vocabulary

Many essay writers feel that they have to impress the reader with the vocabulary that they have at their disposal. While a good vocabulary can be impressive, and the right word used at the right time can make an essay appear much more professional, they should only be used with caution.

Often a big vocabulary word will be used out of context and it will have the reverse effect. Rather than looking impressive, a vocabulary word used improperly will detract from the essay. So, if you think of a word that you don’t commonly use, only use it if you are absolutely positive

of its meaning and are sure that you are using it at the right place. Most of the time, you will be safer by sticking with words you are familiar with and accustomed to using.

Avoiding Tunnel Vision

Remember that the goal of your essay is to properly cover a topic and write an essay that is somewhat exhaustive in showing every angle and perspective. A lot of writers get tunnel vision. One particular angle occurs to them as the most important and they hammer away at that angle of the topic throughout the entire essay.

Discussing the same angle of a topic at length is considered essay depth. Discussing different angles of the same topic is considered essay breadth. Your goal is to have greater breadth than depth. This isn't a 20-page thesis written on a specific, obscure topic. Your topics will be fairly generic and broad-based and should have lots of different angles to consider and write about. You want to touch on as many different angles as you can, while still providing supporting backup for each statement you make.

Don't get stuck in a rut with tunnel vision. Be sure you are spending proper amounts of time on each angle you intend to discuss and not spend the entire essay writing about the same angle.

Example: The topic is whether or not athletics represents too much a part of today's academic institutions, and you intend to take the side that athletics is not too much of a part.

Your main angle is that an education is far more than simply academics and that athletics programs foster a richer, more diverse education. However, don't get stuck talking about that one angle. Consider writing about how athletic programs create ties to the community that academics does not. Discuss how athletic programs also encourage donations that benefit academics, as well as athletics.

Always try to consider multiple angles and avoid getting tunnel vision.

Just Do It

Some writers will begin their essay by rephrasing the question and talking about the different possibilities. Rather than stating what you're going to do: just do it.

Don't use the introduction as a chance to expose your mental ramblings. The introduction should be concise and to the point.

Example – Bad introduction: In this essay, I am going to discuss the thing that I consider to be the most important quality in an individual. It was a difficult decision to make, because there were so many qualities to choose from. Good looks is only skin deep, but intelligence, character, and personality run much deeper. I think the one that is most important is character. Character is the most important because it defines a person, exposes their true nature, and provides strength to overcome any obstacle.

Example – Good introduction: While every characteristic in an individual is important, one stands alone: character. Character defines

individuals, and exposes their true nature. When obstacles arise, character provides the strength to overcome them.

Notice how this second example is clear, concise, and does not ramble on about the decision or ideas that are occurring to the writer.

Conclusion is Review

A conclusion is just that: a conclusion. It wraps everything that you've written thus far up into a neat summary paragraph. This is not the time to begin introducing new arguments and new reasoning. You want to make sure that you are quickly and concisely reviewing what you've written and have a solid ending in which you come across as having proved your point, and made your case effectively.

So, when you're ready to begin your conclusion, make sure that you've flushed out all the new angles you want to cover. Then go back over what you're written and tie it all together at the end, hitting briefly on all the angles that you've discussed.

Additionally, a conclusion is not an apology. You should never apologize for not knowing more or writing more. End your essay with purpose and definitively summarize what you have stated.

Communicating Reason, not Passion

The readers that read and score your essay are not looking for passionate essays that are full of hot air and lacking in reason. They are interested in well thought out essays that communicate reasonable

arguments and logic, backed up by sound examples and observations. If the topic you choose is one that you are passionate about, make sure that you present more than just heated emotion, but also cool logic.

Example: The topic is about school uniforms, and you are passionately opposed.

Rather than writing, “School uniforms is a stupid idea, and will never work,” try writing, “School uniforms have been an admitted failure by their original sponsors in all three implementation efforts during the last decade.”

The first statement may be full of passion, but clearly lacks reason, while the second statement contains solid facts as examples.

Answering the Why?

While it’s important that you communicate reason, misguided reason is ineffective. Always make sure that the examples you are providing and the reasoning you are using is being directed at answering the topic question.

Flawless logic that doesn’t answer the question and doesn’t contribute to the point you’re trying to make is completely useless. As you think of main ideas and supporting ideas to use, take a few seconds and confirm that they will adequately answer the topic and veer off down a tangent that is not directly related.

Example: The topic is about what was the most important thing you have ever learned in school and asks you to discuss why.
Your answer is a quest for knowledge. Your supporting ideas include having been forced to work on large projects and do exhaustive research into topics that you normally wouldn't read about, which expanded your mind.

A tangent that you would not want to pursue might be to provide statistics on how many hours you worked on a research paper in elementary school. While factual, those facts do not help answer why a quest for knowledge is the most important thing you have ever learned in school.

Make sure that the facts and reasons you are stating directly help you in your goal of answering the topic question.

Critical Thinking Test

The questions of the Critical Thinking section typically present an entire argument within the span of a few sentences or paragraphs. It's your job to dissect these arguments to find the assumptions that have been made. It is the flaws within the arguments that are the logical fallacies, such as the *ad hominem fallacy* - the attack of an opponent as opposed to the argument itself).

Most commonly, the questions will involve flawed arguments, where you must identify the flaw. Other times, you will need to locate the conclusion of the valid argument, and again sometimes, you'll experience deductive arguments that are closer to logic games.

The text may be substantially shorter than the Reading section, but it is extremely dense and will require very careful reading. Most questions contain some sort of error, which will fall into one of ten error types (including *ad hominem* or *fallacy of equivocation*).

Next you will need to locate and identify the different ways in which the questions have been phrased. Practice CAAP tests will give you an extremely substantial advantage when it comes to this portion of the test, as they will train you to identify the logical error in the question, and then properly understand the question that is being posed regarding this error in logic.

Plan of Attack

Next you'll need to work on your plan of attack; a process that allows you to work on each question by:

☑ Identifying the logical error.
☑ Finding out what the question is asking.
☑ Choosing the correct answer from the list of choices.

As far as the CAAPs are concerned, an argument is defined as a presentation of facts and opinions with the purpose of supporting a position. What the CAAP wants to prove, is that you can not only comprehend the arguments, but can also locate any fallacies that may occur within the argument; therefore testing your ability to think logically. Logic, according to the CAAP, is the study of the relationship that occurs among statements, and not the truth of the statements themselves. Therefore, if you over-concern yourself by trying to find the truth, it can be detrimental to your CAAP score.

When you create a good, though inaccurate answer-choice is much more challenging than producing the correct answer. Hence, only one attractive wrong answer choice will normally be presented to you. To those "in the know," this little trick is called the "Two Out of Five Rule." What it means to you, is that only two of the five choices presented to you will have any real merit. So even if you don't completely understand the argument, you should be able to eliminate the 3 fluff choices, which dramatically increases your odds of selecting the correct answer.

The theory behind the CAAP Critical Thinking section questions is designed to be answered without any reference to actual formal logic;

therefore it is a true test of logic and not an understanding of logic as a study. However, this is not to say that some fundamentals of logic will not give you an advantage, because an understanding of logic basics will provide you with definite benefits.

Identifying Premises and Conclusions

The majority of argument questions are centered - either directly or indirectly - on establishing the conclusion of the argument itself. The conclusion is defined by the CAAP as the main purpose and idea of the argument. The conclusion is what the writer of the argument is attempting to persuade the reader into believing. Often, the conclusions of an argument are located at the very end; this is because writers aim to organize facts and opinions so they build-up to a climax for the arguments ending. Occasionally, however, the conclusion will be located closer to the beginning; though rarely will you find it in the middle.

If you're uncertain as to where the argument is specifically located, you can look for certain words that writers utilize for indication that the conclusion is about to occur. These conclusion indicators include:

- ☑ Hence
- ☑ So
- ☑ Thus
- ☑ Follows that
- ☑ Conclude that
- ☑ As a result
- ☑ Therefore

☑ Accordingly
☑ Consequently
☑ Shows that
☑ Implies
☑ Means

Scope of Conclusion

As you determine the scope of the conclusion, take care not to read further into the conclusion than the author has stated and intended. Frequently CAAP authors will create wrong answer choices by forming a slight overstatement or understatement of the passage author's conclusion. Several words are employed to limit the scope of a statement; these are called quantifiers and should be carefully watched for. The following is a list of the most common and important quantifiers:

☑ All
☑ Some
☑ Only
☑ Never
☑ Probably
☑ Except
☑ Most
☑ Could
☑ Always
☑ Must
☑ Likely
☑ Many

☑ No
☑ Everywhere
☑ Alone

Argument Premises

Once the conclusion has been determined, almost everything else in the argument will comprise either of premises or "noise." The premise is the portion that offers evidence for the conclusion of the argument. The premise is the foundation upon which the conclusion is built. To discover whether or not a particular statement within an argument is a premise, you must simply ask yourself if it supports the conclusion. There are many words used by writers that should be considered to be flags of premises. These premise indicators are:

☑ Because
☑ Is evident that
☑ Since
☑ In that
☑ If
☑ Owing to
☑ As
☑ In as much as
☑ Suppose
☑ May be derived from
☑ Assume

Most commonly, an argument is dependent upon either one or more than one premise which is unstated. This will frequently indicate the

weakness of an argument, as it may be an oversight made by the writer. More often, though, some premises are left unstated because there are too many of them, and the writer is assuming that the reader is aware of these assumptions; or that the writer wishes for the audience to include their own premise, so that they will be more likely to believe and/or agree with the conclusion.

These suppressed premises within an argument are often sought out within questions on the CAAP. The location of these tacit premises and assumptions can be quite challenging, though you will have an advantage with the CAAP, as you will know that the implicit premise is listed for you as one of the five choices of answer. To test whether or not a possible answer-choice is the correct one, simply ask yourself whether or not the answer-choice makes the argument more believable. If it does, then it is likely to be the underlying premise.

Counter-Arguments

Of course, while presenting a position within an argument, the writer will not wish to present a counter-argument to their own conclusion; however, it is often an accepted technique for efficacy to concede certain negligible points that weaken the argument. This functions to demonstrate the open-mindedness of the writer, and that the writer's ideas have been well considered. It also works to disarm potential arguments that might be made against the argument's position. This type of statement is called a counter-premise, and it, like premises also have word indicators which will help you in their location. These words include:

☑ But
☑ Admittedly
☑ Even though
☑ Nevertheless
☑ However
☑ Despite
☑ Except
☑ Nonetheless
☑ Although
☑ In spite of the fact

Of course, as you have likely guessed, the writers of the CAAP passages and questions will frequently use counter-premises for the purpose of baiting wrong answer choices for selection. These wily answer-choices are frequently quite tempting, as they refer directly to a passage within the text, and they are partially true. However, when selecting your answer, you should ask yourself whether or not it is the main point that the author is trying to make, or is it merely a slight matter?

Diagramming Conditional Statements

In reality, the term "diagramming" itself, is rather a misnomer. After all, it is extremely rare that you will ever be required to actually draw a diagram. Instead, you will represent the arguments symbolically.

Almost every argument is based on one variation or another of an *if-then* statement. However, the *if-then* is not always obvious, as it may be embedded within other similar structures.

The following is an explanation of the principles of an *if-then* statement:

The premise of an *if-then* statement is that if the statement is true, then the conclusion must also be true. This is the typical, defining feature of a conditional statement; you may illustrate it in the form of a "diagram" like this:

A→B
A
Therefore, B

To explain this diagram, it works as follows. The *if-then* statement itself is contained in "A→B," where the affirmed premise is "A," and the obligatory conclusion is "B." This may seem very simple, but simply laying it out in this fashion can be extremely helpful in demonstrating the logical structure within a given argument.

Please consider this example:

If Ashley doesn't study for the CAAP examination, then a good score will not be achieved. Ashley will not study for the CAAP, and therefore a poor score will be achieved.

When symbolizing an argument, a letter represents one element of the argument. This could be an entire sentence, or simply a phrase or a clause. For the preceding example, the clause "Ashley will not study for the CAAP" can be represented with "C," and "a poor score

will be achieved," can be symbolized with a "D." By substituting these symbols for the statement of argument, the following diagram will occur:

C→D
C
Therefore, D

What this demonstrates, is that the argument includes a valid *if-then* structure. The conditional statement is illustrated with "C→D", with its premise affirmed as C, and the obligatory conclusion D then stated.

However, the *if-then* statement is not always obvious, as the *if-then* thought is frequently embedded within other structures of the argument. This will require you to learn to spot these structures.

Here is an example of an embedded *if-then* statement:

Amy will be accepted to school only if she does well on her CAAP.

At first glance, this statement does not appear to contain a standard *if-then* statement, but essentially, it says that if Amy is accepted to school then she must have done well on her CAAP. Be very careful with this type of embedded statement. This statement does *not* mean that "if Amy does well on her CAAP, she will be accepted to school." The original statement does not make such a guarantee. It only says that if she does not do well on the CAAP,

then she will not be accepted to a school. This is an extremely common mistake among students.

To create the diagram, take your re-written argument, which demonstrates the *if-then* statement, "if Amy is accepted to school, then she must have done well on her CAAP." The clause "if Amy is accepted to school," can be replaced with the term "E," and the clause "then she must have done well on her CAAP" can be substituted with "F." Therefore:

E→F
E
Therefore, F

Keep in mind that an *if-then* statement will tell you only two things:

1. If A is true, then B is also true
2. If B is false, then A is also false (contra-positive)

If, however, we know that the conclusion is true, the *if-then* says nothing with regards to the premise. Moreover, if we know that the premise is false, the *if-then* statement says nothing with regards to the conclusion.

Classification

The bulk of the arguments that you will see on the CAAP will be inductive. Therefore, the understanding of inductive statements is

a natural part of your preparation process. Here you will learn to classify and understand the major types of inductive arguments.

An argument can only be deductive if its conclusion follows from its premises - in any other case, it is an inductive argument. Within an inductive argument, its writer presents the premises as evidence or reasons for the accuracy of the conclusion. The validity of an inductive argument's conclusion depends wholly on how convincing the premises are.

Unlike deductive arguments, where the conclusion is relatively easy to locate, an inductive argument's conclusion is never quite certain. In fact, the truth of the conclusion of an inductive argument can range from being highly likely to highly unlikely. Naturally, within a reasonable argument, the conclusion is likely. However, within fallacious arguments, the conclusion is bound to be improbable. To be prepared for the CAAP, you will need to be able to recognize both reasonable and fallacious arguments.

To begin, there are 3 major types of inductive reasoning:

1. Generalization
2. Analogy
3. Casual

Each of these types of inductive reasoning has their own strengths, though they also have associated fallacies. Hence, it is beneficial to you to be able to classify the type of reasoning within an inductive

argument, to more easily allow you to recognize the type of fallacy you may find within.

Generalization and analogy are the primary tools with which we amass knowledge and analyze this knowledge within our world. In fact, generalization itself is often referred to as “inductive reasoning,” as it associated with the term “to generalize.” This, unfortunately, carries a negative connotation in terms of effective argument, though in reality, argument by generalization is neither inherently good nor is it bad. The validity of a generalization is dependent upon the context of its argument, and the likelihood of the accuracy of the conclusion; and the less comprehensive a conclusion is, the more likely it is to be a valid conclusion.

Please consider the following example:

During the late seventies when Japan was rapidly expanding its share of the American auto market, GM surveyed owners of GM cars and asked them whether they would be more willing to buy a large, powerful car or a small, economical car. Seventy percent of those who responded said that they would prefer a large car. On the basis of this survey, GM decided to continue building large cars. Yet during the '80s, GM lost even more of the market to the Japanese.

Which one of the following, if it were determined to be true, would best explain this discrepancy?

A) Only 10 percent of those who were polled replied.

B) Ford which conducted a similar survey with similar results continued to build large cars and also lost more of their market to the Japanese.
C) The surveyed owners who preferred big cars also preferred big homes.
D) Eighty percent of the owners who wanted big cars and only 40 percent of the owners who wanted small cars replied to the survey.

The argument makes a generalization from the survey with regards to the general car-buying population; hence, the reliability of the prediction is dependent upon the representativeness of the sample.

At first, the choice (A) seems like the obvious answer, as 10% does seem like a large enough amount. However, political opinion polls are, on average, based only upon 0.001% of the population. Even more important is the fact that we don't know what percentage of GM vehicle owners actually received the survey.

Option (B) states simply that Ford has erred in the same way as GM.

Choice (C) is entirely irrelevant.

Selection (D) demonstrates that part of the survey did not represent the entire public.

Therefore, the correct answer is (D).

The next classification of inductive reasoning is analogy, where a claim is made, stating that as two things are similar in some respects, they will also be similar in other respects. The nature of this classification makes it so that the greater the similarity between the two factors of comparison, the stronger the argument. Additionally, the less ambitions the conclusion is, the stronger the argument. The argument will be weakened, however, if dissimilarities are illustrated.

Consider the following example:

Just as the fishing line becomes too taut, so too the trials and tribulations of life in the city can become so stressful that one's mind can snap.

Which one of the following most closely parallels the reasoning used in the argument above?

A) Just as the bow may be drawn too taut, so too may one's life be wasted pursuing self-gratification.
B) Just as a gambler's fortunes change unpredictably, so too do one's career opportunities come unexpectedly.
C) Just as a plant can be killed by over watering it, so too can drinking too much water lead to lethargy.
D) Just as the engine may race too quickly, so too may life in the fast lane lead to an early death.

The argument is making a comparison of the tautness of fishing lines with the stress in city life. The conclusion states that the mind can snap in a similar way to a fishing line. Thus, you are seeking an answer-choice that makes a comparison between these two things, while drawing a conclusion based on their similarity. You will look for an argument that utilizes similar reasoning, though not necessarily concepts that are similar. In fact, you should probably be suspicious of any answer-choice that utilizes the words tautness or stress, as they will likely be baited same-language traps.

The choice (A) utilizes the same-language, baited trap “too taut.” Additionally, the analogy between the taut bow and self-gratification is a weak one, if even existent at all.

Option (B) presents a good analogy, however it hasn’t a conclusion.

Answer-choice (C) proffers both a good analogy and a good conclusion; although the conclusion “leads to lethargy,” is an understatement of the scope of the analogy’s implication.

Selection (D) gives a strong analogy and a strong conclusion. The same scope as the original is also utilized as: “The engine blows, the person dies,” similar to “The line snaps, the mind snaps.” This is a very probable selection for the best answer, though you should still examine every answer choice to see if a better option presents itself.

Thus, the best answer is (D).

Of all three classifications of inductive reasoning, causal reasoning is the most prone to fallacy and is the weakest overall. Nevertheless, it is still a common method of thought. Arguments of causation make claims that one thing causes another. A causal argument does have the potential to be a strong one, but it all depends on the context.

There are two primary fallacies that are associated with causal reasoning.

- The confusing of correlation with causation - This fallacy can be represented by stating that A caused B, because A occurred immediately before B. This is clearly a questionable line of reasoning, as the fact that A and B occurred together could have been simple coincidence.
- The confusing of necessary conditions with sufficient conditions - This fallacy can be demonstrated with the belief that as A is sufficient for B, then B cannot occur without A. In fact, while A does cause B to occur, B can still occur without A.

Seven Common Fallacies

There are seven fallacies that are common to all three classifications of inductive argument. These common fallacies are:

- Contradiction
- Equivocation
- Circular reasoning
- Shifting the burden of proof
- Unwarranted assumptions

- Appeal to authority
- Personal attack

A contradiction occurs when two opposing statements have been asserted simultaneously. However, the arguer will typically attempt to obscure the point of contradictions to make the argument more compelling.

Equivocation takes place when the writer of the argument utilizes a single word in more than one sense within the same argument. This is a common technique among public speakers and politicians who are seeking to maintain an "out" for themselves. This means that should someone object to a particular statement, the arguer is simply able to change the claim to the other meaning that is not under question.

Circular reasoning means that the arguer utilizes assumption as a premise for the conclusion that is being made. Intuitively, it appears as though no one would fall for an argument of this nature; however, the conclusions within circular reasoning will frequently make an additional statement, or an argument may be so entirely long and drawn out that the reader of the argument can forget that the conclusion was stated as premise.

Shifting the burden of proof is a natural instinct for a writer who struggles with proof. It is, however, the responsibility of the arguer to provide the evidence in support of the position of the argument. This makes the implication that a particular position is true simply because it has not been disproved by anyone else.

Unwarranted assumptions are the fallacy committed when an argument's conclusion is based on either an implicit or explicit premise that is false or unwarranted. An assumption is unwarranted when it is a false assumption – these premises are usually suppressed or written in a vague way so that they do not receive as much notice or weight. Assumptions are also unwarranted when they are true and yet do not apply within the context of the argument. These are usually explicit premises.

An appeal to authority occurs when an expert's opinion has been cited as support for the arguer's opinion. Though this method may not necessarily be fallacious, it does risk being so for a number of reasons. Obviously, the reasonableness of the argument that cites an authority is dependent upon the expertise of that particular authority, and whether this person is an expert in the relevant field of the argument.

A personal attack, also know as *ad hominem* is simply a challenge of the person's character instead of the opinions being stated.

Getting Ready For Test Day

You're all set to take your CAAP! Now here are a few things to remember for test day:

Get there early. Know exactly where the test will be held and how you will get yourself there. Pay attention to traffic reports so that you can compensate for any unexpected issues on the road. Leaving early will mean that you'll be more relaxed; red traffic lights won't raise your stress level, and you won't be pulled over by the first officer who has to fill his speeding ticket quota. And most importantly, you'll have time to use the rest room.

If you've got butterflies in your stomach, feed them! You've already done all the practice tests you can do, and you've had a good night's sleep. Now it's time to get a good, healthy breakfast - though it is wise not to overeat. Your body and mind will need the energy; plus it's distracting to listen to your stomach growl.

Give yourself a massage! Rub your head, neck and shoulders. Place your hand over your heart while taking a very slow, deep breath.

Stay on track. Remember, you don't want to rush, you only want to perform in a timely manner. Although there are time restrictions, if you misread direction, accidentally fill in the wrong answer-choice, or think illogically due to rushing, it won't be worth all the time you save. Remember, haste makes waste! Also, keep in mind that incorrect answers don't count against you, so you can always guess at any answers that you are unsure of. Remember, an educated guess is

better than no guess at all! Moving through a test methodically and efficiently will likely mean that you'll have more time at the end than if you were to rush and stumble, or dawdle over questions that you're struggling with.

Most importantly (at least to your sanity), remember that once it's over, it's over. Clear your mind of it, because you did your best. Go treat yourself to a hot chocolate or an ice cream cone, catch a movie with some friends and relax!

Post CAAP

After the CAAP, when you've had the time to rest and relax from the stress you put your brain through, take the time to critically evaluate your test performance. This will help you gain valuable insight into how you performed, what sort of score you should be expecting (and therefore what schools will be within your scope for application) and the sort of mindset you'll be expected to utilize when you're actually in school.

Remember, this is neither an opportunity to over-inflate your ego, nor to put yourself down. The main idea is to make your self-evaluation objective and critical, so that you will achieve an accurate view of how things will pan out.

This doesn't mean that you should begin a session of "if only I'd…" or "I shouldn't have…" This will only depress you. The point of this exercise is to keep you grounded, open minded and optimistic.

Soon enough, you'll receive your score, and the applications will start rolling out. Make it an organized procedure, keeping as prepared and informed as you were with your CAAP, and this will only lead to a bright, successful career in your future!