# Powerscore CR **Bible Notes:**

## Chapter 2: The Basics of Critical Reasoning

-Read the information in the given order. Read the stimulus first, then question stem and then the answer choices. Why?
Sometimes reading a question stem first undermines a student's ability to fully comprehend the stimulus especially on tougher questions.
It often leads to time waste because students read the stem first then the stimulus and then back to the stem.
Leads to confusions or distractions because sometimes the question stem refers to information in the stimulus which may throw you off.
Stimuli with two questions will once again lead to time waste because you are not re-reading one question but two questions this time!
Reading the stimulus sometimes enable readers to predict the question stem. For example, "Resolve the Paradox" type of CR questions usually contain an obvious paradox or discrepancy. However, when you read the question stem first, you are not gaining or saving time in anyway.

Premises give the reasons why a conclusion should be accepted. Always ask yourself "What info is the author using to convince me? Why should I believe this argument or what is the evidence behind this conclusion?"

Premise Indicators: because, since, for, for example, for the reason that, in that, given that, as indicated by, due to, owing to, this can be seen from, we know this by.

Conclusion Indicators: thus, therefore, hence, consequently, as a result, so, accordingly, clearly, must be that, shows that, conclude that, follows that, for this reason.

Complex Arguments: Contain more than one conclusion known as sub-conclusions which are then used as premises to unify a main conclusion. Diagram: Premises → Conclusion/Premises → Conclusion.
Example: Because Miami has the best player in the NBA, they therefore have the best offensive attack in NBA. Because they have the best offensive attack in NBA, they are going to win the NBA 2011 Finals.

Commonly Used Construction: Test makers can raise alternate viewpoints. One popular construction is introducing a viewpoint and disagreeing with it thereafter. These stimuli are recognizable because they use terms like: some people propose, many people believe, some argue that, some people argue that, some critics claim, some critics maintain, some scientists believe. The use of this device to begin a stimulus almost always leads to the introduction of the opposing view.

Argument Analysis:
Once an argument is present, the objective is to figure out if it is strong or weak. To do this, check the relationship between the premises and conclusion. Do the premises strongly support the conclusion? If so, the argument is strong, if not, then the argument is weak.

Conclusion Identification Method (CIM): Use premise/conclusion indicators on possible

premises/conclusion that may exist in a CR and choose the conclusion that sounds the best.

Example:
The best way of eliminating traffic congestion will not be easily found.
There are so many competing possibilities that it will take millions of
dollars to study every option, and implementation of most options
carries an exorbitant price tag.

Option 1: Because the best way of eliminating traffic congestion will not be
easily found, we can conclude that there are so many competing
possibilities that it will take millions of dollars to study every option,
and implementation of most options carries an exorbitant price tag.

Option 2: Because there are so many competing possibilities... exorbitant price tag, we can conclude that the best... way of eliminating traffic congestion will not be easily found.

Option 2 makes more sense, therefore the conclusion is whatever it states after “we can conclude” hence the conclusion is “the best way of eliminating traffic congestion will not be easily found”

Complex Arguments: Has more than one conclusion. Has one main conclusion followed by sub-conclusions. Sub conclusions are made by premises.

Quantity Indicators refer to the amount or quantity in the relationship for example “some people” or “many of the laws” whereas Probability indicators refer to the likelihood of occurrence, or the obligation present, as in “The mayor should resign” or “The law will never pass.”

Question Type Families

Family #1 (Prove Family) consist of the following question type:
Must Be True / Most Supported
Main Point
Method of Reasoning
Flaw in Reasoning
Parallel Reasoning

Family #2 (Help Family) consist of the following question type: Look for holes in the stimulus and try to close the holes with the given answer choices.
Assumption
Strengthen/Support
Resolve the Paradox

Family #3 (Hurt Family) consist of the following question type:
Weaken

*Easy way to categorize question stem into corresponding families is by memorizing the Help Family and Hurt Family (HH Family, 4 question type) and categorizing the rest of the question type to Prove Family.*

The Answer Choices: Logical Opposite
Uniqueness Rule of Answer Choices: Correct answers in a CR question follows a unique logical quality whereas an incorrect answer has the opposite logical quality. For example, the logical opposite of “wet” is “not wet.” The logical opposite of wet is NOT “dry.”
Logical Quality of the Correct Answer: Must Be True. However, logical opposite quality of the four incorrect answers would be: Opposite of “Must be True” which could mean “Not Necessarily true” meaning it could be not necessarily the case or never the case.
Logical Quality of the Correct Answer: Strengthen. However, logical opposite quality of the four wrong answers would be “Not strengthen” meaning the answer choices could weaken the argument or stay neutral.

Rules for Families:
Prove family: Accept the stimulus information and any information in an answer that does not appear in the stimulus is incorrect.
Help Family: Accept the information given in the answer even if they contain new information. In this case, the stimulus is the suspect and there are usually reasoning errors present.
Hurt Family: Find the answer that best attacks the stimulus (weakens it). Info in stimulus is suspect whereas answer choices are accepted as given.

Notes on ten question types:
Must be True and Solve the Paradox questions come from stimuli with no conclusion. All other 8 type of questions relate to stimuli with conclusion.
Weaken/Strengthen are often based on weak arguments that contain holes that must be opened further (to weaken) or closed (to strengthen).
Brother/Sister pair: Method of Reasoning and Flaw in the Reasoning. Difference between the two is that flaw in the reasoning question stem explicitly note that there is an error in the stimulus whereas Method of Reasoning could have a valid or invalid reasoning (since we are judging the method of reasoning of the author).
Parallel Reasoning is basically method of reasoning (identify the type of reasoning) and then parallel it.

Don’t get confused by the word “most” in question stem because only one of the five answer choice truly weakens/strengthens the argument.

Be careful of the word “except” in resolve the paradox question. (pg. 68)
When encountering the word “least”, assume that four of the answers will meet the stated criteria and one will not.

Scope is the range of an argument to which the premises/conclusion encompasses certain ideas.

Primary Objectives:
Determine if the stimulus contains an argument or facts
Identify the conclusion if the stimulus contains an argument or if the stimulus contains a fact set, analyze each one thoroughly.
Once you identify the argument, determine if its strong or weak
Know precisely of exactly what the author is trying to say, don’t generalize.
Move on to the question stem, read it carefully, identify it, don’t automatically associate certain words with certain question type.
Prephase: Have an idea of what you think the answer might be after reading the stimulus and

question stem.
Read every single answer choices. Don't disregard any one of them.
Label each answer as Contender or Loser as you go through them. Once you go through all five, reanalyze the contenders only.
If all five answer choices are losers, re-evaluate the the argument and come back to the answer choices.

Three Important Notes about the Families:
The question stem flows the information from stimulus to the answer choices. The correct answer cannot contain additional information from outside the stimulus box.
The second family is almost the opposite of first. Answer choices help the stimulus. Info outside the stimulus is allowed in the correct answer choice.
The third family hurts the stimulus and just like second family, info from outside the stimulus is allowed in the correct answer.

**Chapter 4:**
Must be true questions require you to select an answer choice that is proven by the information presented in the stimulus. Ultimately, the test maker is asking "what did you read and what do you know on the basis of that reading?"
Facts stated in the stimulus can be used to prove the correct answer choice.
Most must be true questions do not contain a conclusion.
Often time, the correct answer are paraphrase of the stimulus in different terms. If the answer choice mirrors the stimulus, its the correct answer. Combination answers result from two or more statements in the stimulus.
In a stimulus, if the author does not make an assertion of his/her own and uses opinions of "others", then in a Must Be True question, eliminate answer choices that have flat assertion without making reference to "others" opinions. Example in Page 86 ofPowerscore CR Bible.
Page 88 has information about correct/incorrect answers of must be true questions.

**Chapter 6:**

Weaken questions appear the most frequently on the GMAT.

These type of questions usually follow five rules:
The stimulus contain an argument. Why? Because you are trying to weaken the author's reasoning and reasoning requires a conclusion. So its important to separate the premises and conclusion. Only then, we are in a position to attack the author's reasoning.
Almost all correct answers in weaken questions rely on attacking the conclusion. Focus on the conclusion.
There are often reasoning errors present in the stimulus so the information is a suspect. Read the arguments very carefully.
Prephrase. Consider the range of possible answers before proceeding to the answer section.
Weaken answer choices can surpass the outside of or tangential to the stimulus.

Question Stem usually uses the words: weaken, attack, undermine, refute, argue against, call into question, cast doubt, challenge, damage, counter.

The conclusion needs to be attacked in order to weaken an argument and an answer choice will not simply contradict the conclusion but instead, it will undermine the conclusion by showing it fails to account for some element or possibility. Sometimes, a weaken correct answer will show that a conclusion does not follow from premises of an argument. Page 113 for an example.

Focus on the effect that the answer has on the conclusion and not the premises.

Common Weakening Scenarios:
Incomplete info. Author fails to address all possibilities or relies on evidence that is incomplete. In this case, the correct answer would be new possibilities that attack the conclusion.
Improper Comparison. Author compares two or more items that actually differ from each other.
Qualified Conclusion. The conclusion in the stimulus is stated in such a way that it leaves the argument open to attack.

**Chapter 7:**
Causality occurs when one event makes another event occur. First event makes the second event occur. The first event would be the "cause" and the second event would be the "effect." The "effect" always happens at some point in time after "cause" event.

Terms used to identify cause and effect: caused by, because of, responsible for, reason for, leads to, induced by, promoted by, determined by, produced by, product of, played a role in, was a factor in, is an effect of.
If a causal statement is in the conclusion, then the reasoning is flawed. If the causal statement is in the premise then the reasoning may be flawed but not due to cause & effect.

Situations that can lead to Errors of Causality:
When one event occurs before the other, people tend to think that the first event caused the second event to occur. Example on page 133.
When two or more events occur simultaneously: people assumes that one event caused another; however, the two events could be the result of another event or the two events could be correlated to one another. The events that occur simultaneously does not necessarily mean that one caused another.

How to attack a Causal Conclusion:
When encountering a causal conclusion, prepare to either weaken or strengthen the argument.
To attack a cause and effect relationship in Weaken questions, do one of the following tasks:

Find an alternate cause for the stated effect. Why? Because the author believes that there is one and only cause for the effect. However, finding an alternate cause will weaken the argument.
Since the author believes that the cause always produces the effect, find an answer that does not let the cause produce the effect. In other words, show that even when the cause occurs, the effect does not occur.
Vice versa as point 2. any scenario where the effects occurs and the cause does not weakens the conclusion. Why? Because the author believes that the effect is always produced by the cause.
Show that the stated relationship is reversed. In an argument, the cause and effect relationship is correctly presented according to the author. If an answer choice presents that the claimed effect is actually the cause of the claimed cause undermines the conclusion.
The causal statement contain statistical problems. If the data used to make a causal statement contain an error, then the validity of the casual claim is questionable.

**Chapter 8:**
Keep these points in mind when approaching Strengthening and Assumption Questions:
The stimulus will contain an argument. To maximize success, identify, isolate and asses the premises and conclusion.
Focus on the conclusion as all correct choices impact the conclusion. The more you know about the conclusion the better your chances.
The info in the stimulus is suspect and often contain reasoning errors.
Yield strong prephases. Always consider the range of possible answers before proceeding to answer choices.
Answer choices are accepted as given. Just like weaken questions, they can bring into consideration information outside of or tangential to the stimulus. Just because a fact or idea is not mentioned in the stimulus is not grounds for dismissing an answer choice.

Any answer choice that strengthens an argument whether by 1% of 100% is CORRECT.
Assumptions is simply an unstated premise - what must be true in order for the argument to be true? An assumption is something that is necessary for the argument to be true.

-Strengthen questions asks for answers that SUPPORT the argument not JUSTIFY it.
-Terms used in strengthen question stems: strengthen, support, helps, most justifies.

How to Strengthen an Argument:
Identify the conclusion - This is what you are strengthening. Help the author's conclusion.
Personalize the argument. Helps assess the strength of each answer because I am seeing the argument in a very involved persepective..
Look for weaknesses in the argument. Sometimes they are tailor-made for correct answers. The correct answer would ELIMINATE the weakness. Close any hole or gap in the argument. Find the missing link between a premise and a conclusion.
Arguments that contain analogies or surveys rely upon the validity of those analogies and surveys; any answer choices that strengthen the analogy or survey or establishes their soundness, are usually correct.
Remember it can strengthen by a little bit or by a lot which makes these type of questions difficult.

Causality and Strengthen Questions:
Eliminate any alternate causes for the stated effect since the author believes there is only one causes (the one that is originally stated in the argument), eliminating other causes will strengthen the overall argument.
Show that when the cause occurs, the effect occurs since the author believes that the cause always produces the effect.
Show that when the cause does not occur, the effect does not occur. This will support the conclusion.
Eliminate the possibility that the causal relationship is backwards (the claimed effect is actually the cause of the claimed cause).
Show that the data used to make the causal statement are accurate, or eliminate possible problems with the data.

Assumption Questions:
As stated earlier, assumption is an unstated premise in the argument.
Think of an assumption as a foundation of an argument.

The statement must be something that the author believed in when forming the argument.
Assumption answer choices cannot contain extraneous information.
Example: “All dogs are intelligent.” A correct answer choice would be “All black dogs are intelligent.” or “All large dogs are intelligent.” However, “All dogs and cats are intelligent.” would be incorrect.
Question Stem Example: “The conclusion of the argument above cannot be true unless which of the following is true...” Don’t get these Q stems confused with “Must Be True” questions.

The Supporter/Defender Assumption Model:

Assumption is described solely as a linking statement. One that links two premises or one premise to the conclusion.
Assumptions play two roles: Supporter Role or Defender Role.
Supporter Role is the linking role, where an assumption connects the pieces of an argument.
Example on page 74.
The conclusion in a supporter argument often contains a piece of information not previously seen in the argument. These new elements create gaps in the argument. Therefore, the supporter argument answer tries to close the gap.
Example: All male citizens of Athens had the right to vote. Therefore, Socrates had the right to vote in Athens. In this example, the linking assumption is that Socrates was a male citizens of Athens.
If a weakness is spotted in an argument, try to eliminate the weakness (gaps) in the argument!

The Defender Assumption Model:
Author feels that his reasoning is sound and no other possible reasoning is correct. For example, if we take a look at the argument: “People who read a lot are more intelligent than other people. Thus, reading must cause a person to be intelligent.” The author does not think there is any other reasons that causes one to be intelligent. Therefore, the defender allows answer choices to DEFEND the argument by stating a certain reason DOES NOT cause one to be intelligent. A correct answer choice may be: “Sleeping more than eight hours DOES NOT cause a person to be intelligent.” This DEFENDS the argument by showing that a possible attack has been eliminated. It uses logical opposites in the answer choices.

The Assumption Negation Technique:
Can only be used on Assumption questions.
Do not use this technique on ALL FIVE answer choices. Use it on CONTENDERS only.
Turn the assumption question into a weakness question.
Logically Negate the answer choices.
The negated answer choice that attacks the argument will be the correct answer meaning the negated correct answer will simply weaken the argument.

Logical Opposites Extended:
There are notes about logical opposites on the third page of this document. This will extend the intuition behind logical opposites.
Denies the truth of the original statement.
Logical opposite of “All” is “Not All.” Logical Opposite of “Some” is “None.”