

GMAT Critical Reasoning – Quick Reference Guide

Bibliography:  
1. The Powerscore LSAT Logical Reasoning Bible  
2. GMAToppers class notes

STIMULUS

**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

**Additional Premise Indicators:**  
Furthermore, Moreover, In addition to, Also, Besides, What is more

**Counter Premise Indicators:**  
But, However, Yet, Although, Never the less, In spite, Despite, On the contrary, While

**Sufficient Condition Indicators:**  
If, When, Whenever, Every, All, Any, People who, In order to

**Necessary Condition Indicators:**  
Then, Only, Only if, Must, Required, Unless, Except, Until, Without

**Cause and Effect Indicators:**  
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

**Conclusion Indicators:**  
Thus, Therefore, Hence, Consequently, As a result, So, Accordingly, Clearly, Must be that, Shows that, Conclude that, By follows that, For this reason

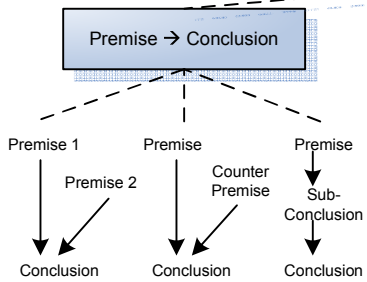
**Numerical ideas:**  
Amount, Quantity, Sum, Total, Count, Tally

**Percentage ideas:**  
Percent, proportion, fraction, ratio, incidence, likelihood, probability, segment, share

**STATED PREMISE**  
Background/ Premise/ Fact/ Evidence/ Additional Premise/ Counter Premise/ Conditional Reasoning/ Causal Reasoning

**UNSTATED PREMISE**  
Assumption

**CONCLUSION**  
Conclusion/ Inference/ Judgement



**Conditional Reasoning (two or more events)**  
 $P \text{ (Sufficient condition)} \rightarrow Q \text{ (Necessary condition)}$

Repeat form:  $P \rightarrow Q$   
Mistaken negation:  $P \rightarrow \sim Q$   
Mistaken reversal:  $Q \rightarrow P$   
Contrapositive (Valid inference):  $Q \rightarrow P$

**1. Either/Or Statements:**  
1. Either A or B will go to the party  
Outcome: A, B, AB  
Inference:  $A \rightarrow B$ ;  $B \rightarrow A$   
2. Either A or B will go to the party but not both  
Outcome: A, B  
Inference:  $A \rightarrow B$ ;  $A \rightarrow \sim B$ ;  $B \rightarrow A$ ;  $B \rightarrow \sim A$

**2. The Double Arrow:**  
"A if B" & "A only if B"  
 $B \rightarrow A$  &  $A \rightarrow B$   
 $A \leftrightarrow B$   
Possible scenario:  
1. A and B both attend  
2. Neither A nor B attend

**3. Multiple Sufficient & Necessary Condition:**  
If you have to graduate from Harvard with a good job, you must be rich and smart  
 $\text{Grad H \& Good job} \rightarrow \text{Smart \& Rich}$   
 $\sim (\text{Smart \& Rich}) \rightarrow \sim (\text{Grad H \& Good job})$   
 $\sim \text{Smart or } \sim \text{Rich} \rightarrow \sim \text{Grad H or } \sim \text{Good job}$

**Causal Reasoning (Only two events)**  
 $C \text{ (Cause)} \rightarrow E \text{ (Effect)}$

How to attack Causal Conclusion:  
1. Find an alternate cause for the stated effect.  
2. Show that even when the cause occurs, the effect does not occur  
3. Show that although the effect occurs, the cause did not occur  
4. Show that the stated relationship is reversed  
5. Show that a statistical problem exists with the data used to make the causal statement

Stimuli containing causal arguments are often followed by Weaken, Strengthen, Assumption, or Flaw questions

**Sub Conclusion** refers to a statement which doubles up as a conclusion to the premise and as a premise to the main conclusion

**Conclusion** is the last frontier in the argument. It is supported by all the statements but it never supports any other statement.

**Numbers & Percentages - Misconception:**  
1. Increasing % automatically lead to increasing numbers.  
2. Decreasing % automatically lead to decreasing numbers.  
3. Increasing numbers automatically lead to increasing %  
4. Decreasing numbers automatically lead to decreasing %  
5. Large numbers automatically mean large %, and small numbers automatically mean small %  
6. Large % automatically mean large numbers, and small % automatically mean small numbers

**Modifier Scope:**  
1. Quantity Modifier:  

	Definite	Probably
All	100	0
Most	min 51	100(> the majority)
Many	40	(< the majority)
Some	min 1	100 (all)
None	0	

  
2. Probability Modifier:  
Should, must, may, can, could, would, will

**Background Information** is unbiased & just prepare the ground for reasoning to begin. It explains the current state of events. The conclusion will still holds it ground even if the background information is removed

**Additional Premise** is the independent idea different from what already has been stated as a reason. This premise can independently lead to the conclusion without any help from the previous reasons

**Counter Premise** adds strength to conclusion. The main theme of the author is always discussed after the counter premise indicator words. Used for reasons – Contrast and Exception

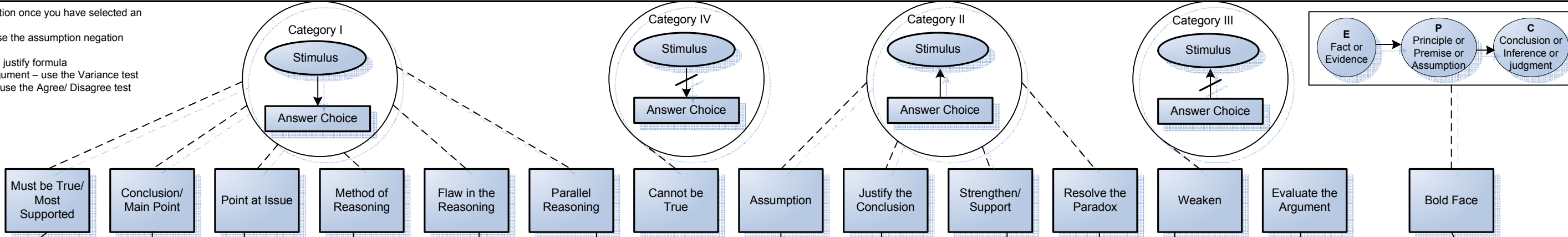
**Assumption** is an information the author assumes that the reader will also assume the same in order to come to the conclusion

**Supporter Assumption** these assumptions link together new or rogue elements in the stimulus or fill logical gaps in the argument

**Defender Assumption** these assumptions contain statements that eliminate ideas that would undermine the conclusion. They defend the argument by showing that a possible source of attack has been eliminated

QUESTION

Definitive confirmation once you have selected an answer:  
1. Assumption – use the assumption negation technique  
2. Justify – use the justify formula  
3. Evaluate the argument – use the Variance test  
4. Point at Issue – use the Agree/ Disagree test



ANSWER CHOICE

**Correct Answers:**  
1. Paraphrased Answers – restate a portion of the stimulus in a different terms.  
2. Combination answers – result from combining two or more statements in the stimulus

**Incorrect Answers:**  
1. Could be True or likely to be True answers  
2. Exaggerated answers  
3. New Information answers  
4. The Shell Game  
5. The Opposite answer  
6. The Reverse Answer

**Numbers & Percentages:**  
1. If the stimulus contains %, avoid answers that contain hard numbers  
2. If the stimulus contains only numerical information, avoid answers that contain %  
3. If the stimulus contains both % and numerical information, any answer choice that contains numbers, %, or both may be true

**Correct Answers:**  
1. Answers that paraphrase the conclusion

**Incorrect Answers:**  
1. Answers that are true but do not encapsulate the author's point  
2. Answers that repeat the premises of the argument  
3. Sub conclusion confused for a conclusion

Main point questions are Must be True questions with an additional criterion – you must also identify the author's point

**Incorrect Answers**  
1. New element answer  
2. Half right, half wrong answer  
3. Exaggerated answer  
4. The opposite answer  
5. The reverse answer

**Correct Answers:**  
Agree/ Disagree Test:  
One speaker will agree and the other speaker will disagree

**Incorrect Answers:**  
1. Ethical Vs Factual situation  
2. Dual Agreement or Dual Disagreement  
3. View of one of the speaker is unknown

1. Uncertain use of a Term or Concept – value (ethical or monetary sense)  
2. Source argument  
3. Circular reasoning  
4. Errors of Conditional reasoning  
5. Mistaken Cause & Effect  
6. Straw Man  
7. General lack of relevant evidence for the conclusion  
8. Internal contradiction  
9. Appeal fallacies  
10. Survey errors  
11. Exceptional case/ overgeneralization  
12. Errors of composition and division  
13. False analogy  
14. False dilemma  
15. Errors in the use of evidence  
16. Time shift errors  
17. Nos. & % errors.

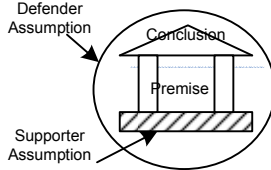
**Elements that must be paralleled:**  
1. Method of reasoning – simple premise conclusion or conditional or causal  
2. The validity of the argument  
3. The certainty level of conclusion – Stimulus (must, never, always) || conclusion (should)  
4. The certainty level of premises

**Elements that need not be paralleled:**  
1. Topic of the stimulus  
2. The order of presentation of the premises and conclusion in the stimulus. But the No. of elements have to be matched.

**Correct Answers:**  
Negation Technique:  
1. Logically negate the answer choices.  
2. The negated answer choice that attacks the argument will be the correct answer

**Logical opposites:**  
Qty: All/ Not All, Some/ None  
Time: Always/ Not Always, Sometimes/ Never  
Space: Everywhere/ Not everywhere, Somewhere/ Nowhere  
 $\text{Conclusion True} \rightarrow \text{Assumption True}$

1. Answers starting with 'at least one' or 'at least some' - 'None' use negation technique to check  
2. Avoid answers that the assumption is the primary assumption or most important assumption



**Premises + Answer choices = Conclusion**  
**Correct Answers:**  
1. Any new element in the conclusion will appear in the correct answer  
2. Elements that are common to the conclusion and at least one premise normally do not come in the correct answer  
3. Elements that appear in the premises but not the conclusion usually appear in the correct answer

**Incorrect Answers:**  
1. Opposite answers  
2. The Shell game answers  
3. Out of scope answers

**To strengthen argument:**  
1. Identity the conclusion – this is what you are trying to strengthen  
2. Personalize the argument  
3. Look for weakness in the argument

Supporting a causal reasoning almost always consists of performing one of the tasks:  
1. Eliminate any alternate cause for the stated effect  
2. Show that when the cause occurs, the effect occurs  
3. Show that when the cause does not occur, the effect does not occur  
4. Eliminate the possibility that the stated relationship is reversed  
5. Show that the data used to make the causal statement is accurate

**Correct Answers:**  
Answer choice that contains the possible cause of the situation

**Incorrect Answers:**  
1. Explains one side of the paradox  
2. Similarities & differences  
1. No conclusion  
2. Language of contradiction

**Scenarios:**  
1. Incomplete information  
2. Improper comparison  
3. Qualified conclusion

**Approach:**  
1. The stimulus will contain an argument  
2. Focus on the conclusion  
3. The information in the stimulus is suspect  
4. Weaken questions often yield strong prephrases.  
5. The answer choice are accepted as given, even if they include "new" information

To weaken a conditional conclusion, attack the necessary condition by showing that the necessary condition does not need to occur in order for the sufficient condition to occur

**Correct Answers:**  
Variance Test:  
Supply 2 polar opposite (Yes/ No, Pass/ Fail, 0%/ 100%) response to the question posed in the answer choice & then analyze how the varying response affect the conclusion in the stimulus. If one response strengthens & the other response weakens, the answer choice is correct

**Incorrect Answers:**  
1. Opposite answers  
2. The Shell game answers  
3. Out of scope answers

**Consideration** is a statement which is taken into account in order to filter one possibility from a large set of possibilities  
**Anti consideration** is a statement which will help to focus on A' after discussing about A.

1. Prioritize each element in the argument in the following order: C, P and E Category  
2. Match the category and not the subcategory  
3. If there is a P Category in the argument & it is referred in the answer choice as 1<sup>st</sup> premise or the 2<sup>nd</sup> premise then it is a wrong answer  
4. The word 2<sup>nd</sup> premise should always refer to an additional premise that is a statement with an independent idea  
5. Never select an Answer based on the B category  
6. Whenever a counter premise indicator is used make sure the answer choice carries the effects by using words such as against, anti, outweighs, etc.  
7. Counter argument in a argument can also be called as premise because in a holistic perspective a counter argument supports the conclusion  
8. The certainty level of the conclusion has to be mapped effectively according to the argument  
9. Never choose an answer based on consideration (could be part of P or C or E or B category) statements and sub conclusion.

