BASIC DECONSTRUCTION

There are approximately 12-14 CR questions

Step 1: Read the question stem. Not the answer choices, but the question stem. This will help you decide and categorize the question into one among three basic families of questions, and five or six question types.

Step 2: Read the stimulus (the paragraph). Now, the stimulus can basically be broken down into two parts – the premises and the conclusion. Identify these parts.

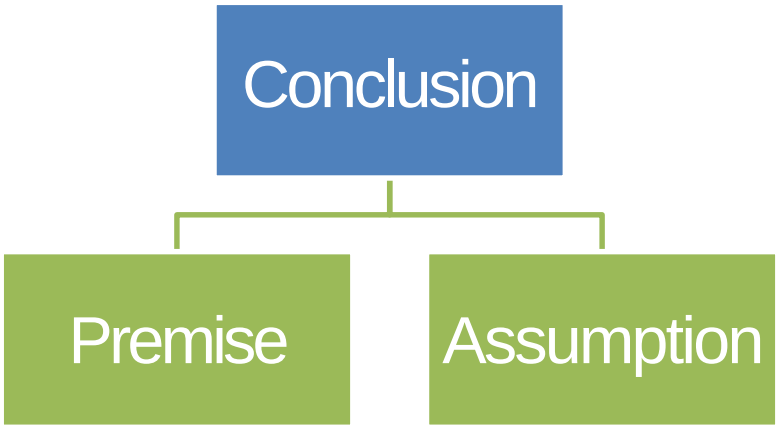
Step 3: Focus on the conclusion and read the question stem again. Depending on what the question stem asks for, think about possible reasons why the question stem might be valid. For instance, if the stem asks for answers that would be the main point of the stimulus, think about the conclusion and what it is essentially saying. Keep this in your mind as you proceed. This is basic speculation about what the answer choices might actually be like.

Step 4: Eliminate the answer choices that are wrong. DO NOT try to make the answer choice FIT in with what you've been given. If you think it's wrong, eliminate it. If you're unsure, or if you think it's a good match, keep it until you've read all the options. The method of elimination works the best in CR. Never choose an answer before going through all the answer choices.

Step 5: Read the final answer choice you've chosen, and read the stem. Does this answer the stem concisely? If yes, pick the answer and move on. If you've eliminated all answer choices, go back to Step 3 and try to gather information more effectively.

IDENTIFYING PREMISE AND CONCLUSION

As stated in the first deconstruction step, identifying the premise and the conclusion in a stimulus is very, very crucial to your timing and accuracy in answering the CR question. The way I look at it, premise and assumption form the foundation to a conclusion. This is also a place where the logical reasoning can crumble, if the author deduces something wrong from the premise.



The conclusion is formed through the premises and the assumptions. An assumption is NOT stated in the stimulus and hence forms the basis for an entire question type by itself. There are certain indicator words that can be used to differentiate the premise from the conclusion and these are fairly easy to remember.

PREMISE	CONCLUSION
Supports the conclusion – Answers the question of "Why?"	**Has a tone of finality. The final message of what the author is saying**
Because	Thus
Since	Therefore
For/For the reason	Hence
Due to	So
As indicated by	As a result of/Consequently
Furthermore	Accordingly
Given that	It follows that/It must be that

TYPES OF QUESTIONS

So now that we are familiar with the basic deconstruction, let's look at some question types. The following five are the most common question types in GMAT and they might be referred to by different names by different books, but I am going with a common nomenclature

1. Main Point/Must Be True – These are basic inference questions
2. Weaken – These are the opposite of the strengthen type of questions
3. Strengthen – These ask for answer choices that strengthen and support the given conclusion
4. Assumptions – These refer to assumptions that help us ascertain the validity of the conclusions
5. Resolve the Paradox – These ask you to resolve a paradox in logic and explain them.
6. Bold Faced Questions – These ask you to identify the relationship between two "bold-faced" statements in the stimulus.

Some other question types that you might encounter, but with a lesser frequency are listed below:

1. Method of Reasoning/Mimic Reasoning
2. Flaw in Reasoning

These question types can be classified into three broad categories on the basis of how we approach the question.

1. **Ascertain Conclusion**: These are questions where we **assume that the stimulus is true** and try to find **answer choices that are supported by the conclusion**. For example, in a "Main Point" type question, we assume that the conclusion is true and try to find an answer choice that will reflect the conclusion of the stimulus.

2. **Strengthen and Support Type**: These are questions where **we assume that the given answer choices are true** and try to pick the **best one that will support the stimulus**. For instance, in the "Strengthen" and "Assumption" questions, we assume the answer choice is correct and try to find out if it validates the conclusion of the stimulus.

3. **Hurt Type**: This is basically the opposite of the above type and aims to **disprove the conclusion of the stimulus**. Hence **we take the answer choice to be true** here as well.

So here's a rough idea as to how this document is structured:

- Introduction to Question Type
- Types of wrong answers – explanations with examples
- Final Summary

So this way, you can go through the whole document first, and in detail and then there's a mini-checklist at the end of each section to help you guys get used to a systematic method of eliminating answer choices. Hopefully by the time you get to the end of this

The first type of CR question is the one of the most common one on the GMAT, I think. This is the "Main Point" and "Must be True" types. The two question types basically follow the same pattern of deduction, but have little variation in the way you decide.

MAIN POINT/ MUST BE TRUE

So the way you can identify these questions is by looking at the question stem. Some of the common phrases used in the question stem for this type are as follows:

"**Which of the following represents the main idea of the paragraph?"**

"Which of the following can be inferred from the above?"

It could be a fill-in-the-blank type question where there is a usage of conclusive words as mentioned previously followed by a blank. If the reverse happens, i.e. there is a conclusion stated and then there's a "because of_____" then it's an assumption question.

There is one basic question that you need to ask yourself when you encounter a Main Point Question – **"Can this answer choice be proven or validated by what is given in the stimulus? Is this answer choice true to the stimulus AND the main point of the passage, i.e. similar to the conclusion?"** If the answer is yes, then keep the answer and move on to the next choice. If the answer is no, then eliminate the answer choice. Remember that choosing between 2 answer choices is better than choosing between 5, because you have a 50% chance of getting it right. So don't hang on to an answer choice trying to make it fit.

Here are some ways in which you might eliminate choices. Most of these would be commonly applicable to many types of questions, not limited to this type.

1. **Answers that are possible but not certain**, or in essence, answers that cannot be directly inferred from what is given in the stimulus. Our final answer choice is something that must be CERTAIN, not POSSIBLE.
2. **Answer choices that don't agree with the tone of the passage**. If the wording in the stimulus is strong, then the answer choice can be strong but if the wording in the stimulus is weak, then the answer choice cannot be strong. For instance, consider the following example of a stimulus

> "Most steroids cause buildup of water in the body and lead to increase in body weight. While exercising and dieting can help lose this excess weight, some weight gain is unlikely to be preventable"

A. A doctor should never prescribe steroids to an obese person

B. People who want to lose weight and gain muscle must never take steroids

C. At least some people gain weight from taking steroids

D. Weight gain due to steroids should be because of a lack of dieting

E. Everyone taking steroids should diet to maintain weight

Notice the wording highlighted in the paragraph. It says "some" weight gain is "likely". This means that the author is using a "broad" tone of passage. He is not emphasizing and saying that it's impossible to have steroids without weight gain. He is merely stating that some weight loss is mostly likely. When you have something like this, the answer choice cannot have strongly worded phrases like the following:

A. A doctor should never prescribe steroids to an obese person – **Clearly this is a wrong answer. Nothing in the stimulus talks about such a drastic statement. This statement is out-of-tone with the rest of the passage.**
B. People who want to lose weight and gain muscle must never take steroids – **Once again, a really bold statement that is not validated by the stimulus. Could it be possible? Yes, it's possible. But is it certain? No. So eliminate this as well.**
C. At least some people gain weight from taking steroids – **Seems to be true. The conclusion says that "some" weight gain is likely. This is not overtly strict in tone and seems to be indicative of something right. So let's keep this one for now.**
D. Weight gain due to steroids should be because of a lack of dieting. **Once again, really strong wording and nowhere in the paragraph does it talk about a lack of dieting being a cause for weight gain. So we can eliminate this.**
E. Everyone taking steroids should diet to maintain weight – **Seems almost like an outrageous statement and doesn't draw anything from the stimulus, hence it can be eliminated.**

So upon analysis of a seemingly straightforward answer, we are able to eliminate unnecessary confusion by watching out for the tone of the passage. This is not only true for the main point questions, but also for any type of CR question. The tone of the passage and the answer choices must go together, if not eliminate!

3. They play the **shell game**. This refers to an answer choice that is remarkably similar to what is given in the stimulus but slightly untrue and perhaps polished to make it sound more attractive to the test-take. Don't fall for this trap!
4. For the Main Point type question **some of the choices might repeat the premise of the question but it might not be the "main" point** that the stimulus is trying to express and hence this is wrong
5. Some **answer choices might represent true information, but not a direct inference from the stimulus**, and hence it's wrong!
6. There are some **answer choices that will reinforce or repeat the premise instead of the conclusion**. In the Main Point and "Must be True" question types you need answer choices that restate the conclusion in a different way, and support the conclusion, not the premise.
7. **Some answer choices could reverse the causality or state the reverse of what's true.** Causality refers to the cause-effect relationship. Instead of saying "X caused Y" the answer choice might say "Y caused X". This is also a trap.
8. **They might indicate a non-existent relationship.** This is an easy trap that most engineers tend to fall for. There might be a relationship between two events that is mentioned in the stimulus and the answer choice would be a definite relationship that's NOT mentioned in the stimulus.Using the same stimulus stated above, a wrong answer choice would be – "Since there's a proportional weight increase from taking steroids, dietary restrictions must be followed". This is clearly wrong since the stimulus says nothing about a "proportional" relationship. Don't fall for this trap!

To sum up, here are two examples to illustrate how you might fall into the trap of choosing a wrong answer choice. These are examples from the OG12 and taken from user ykaiim's CR strategy thread. My comments are in red just to help you identify these in the passage when you start working on them.

<u>Example 1:</u>

One of the more reliable methods of determining regional climatic conditions in prehistoric periods is to examine plant pollen trapped in glacial ice during ancient times. By comparing such pollen samples with spores taken from modern vegetation, scientists can figure out approximately what the weather was like at the time of pollen deposition. Furthermore, by submitting the prehistoric samples to radiocarbon dating techniques, we can also determine when certain climatic conditions were prevalent in that portion of the globe.

Which one of the following **may be inferred** ***{Inference, indicative of a must-be-true type question}*** from the information in the passage?

(A) The earth has undergone several glacial periods.
(B) Radiocarbon dating can be corroborated by glacial evidence.
(C) Similarities between prehistoric and contemporary climates do not exist.
(D) Pollen deposition is a fairly continuous process.
(E) Certain flora are reliably associated with particular climatic conditions.

One of the more reliable methods{"One of the" suggests a mild tone, so the answer choice has to be of mild tone as well}of determining regional climatic conditions in prehistoric periods is to examine plant pollen trapped in glacial ice during ancient times. By comparing such pollen samples with spores taken from modern vegetation, scientists can figure out approximately what the weather was like at the time of pollen deposition. Furthermore, by submitting the prehistoric samples to radiocarbon dating techniques, we can also determine when certain climatic conditions were prevalent in that portion of the globe.

Conclusion: Examining pollen trapped in glacial ice is a method of prehistoric dating. So the answer choice must also have some kind of relationship to the inference we have drawn here. This is an inference question and not the main point, so we just need to check if the answer choice is true to the stimulus or not.

Which one of the following **may be inferred***{Inference, indicative of a must-be-true type question}* from the information in the passage?

A. The earth has undergone several glacial periods – **Clearly this is out-of-scope. While this might be true it is not presented in the stimulus. Hence incorrect.**
B. Radiocarbon dating can be corroborated by glacial evidence – **This is an example of reversing the order. The stimulus says that glacial evidence can be verified through radiocarbon dating, not vice versa. Hence incorrect.**
C. Similarities between prehistoric and contemporary climates do not exist – **This is a really broad generalization and exaggeration. The tone of the answer choice is really strong (do not exist). This cannot be the answer choice either. Incorrect.**
D. Pollen deposition is a fairly continuous process – **We don't have any information about whether this is true or not. Extra information again. Incorrect.**
E. Certain flora are reliably associated with particular climatic conditions**. The first line of the stimulus tells us that this is a reliable method. So this is a restatement of the conclusion and can be proved by the stimulus. Hence correct.**

Example 2:

Meteorite explosions in the Earth's atmosphere as large as the one that destroyed forests in Siberia, with approximately the force of a twelve-megaton nuclear blast, occur about once a century. The response of highly automated systems controlled by complex computer programs to unexpected circumstances is unpredictable.Which of the following **conclusions** can most properly be drawn, if the statements above are true, about a highly automated nuclear-missile defense system controlled by a complex computer program?

A. Within a century after its construction, the system would react inappropriately and might accidentally start a nuclear war
B. The system would be destroyed if an explosion of a large meteorite occurred in the Earth's atmosphere
C. It would be impossible for the system to distinguish the explosion of a large meteorite from the explosion of a nuclear weapon.
D. Whether the system would respond inappropriately to the explosion of a large meteorite would depend on the location of the blast
E. It is not certain what the system's response to the explosion of a large meteorite would be, if its designers did not plan for such a contingency

Example 2:

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Which of the following **conclusions** can most properly be drawn, if the statements above are true, about a highly automated nuclear-missile defense system controlled by a complex computer program?

A. Within a century after its construction, the system would react inappropriately and might accidentally start a nuclear war. **This is really specific information and nothing in the stimulus talks about this. So this is out of scope and incorrect.**
B. The system would be destroyed if an explosion of a large meteorite occurred in the Earth's atmosphere. We **are not told about this either, so incorrect.**
C. It would be impossible for the system to distinguish the explosion of a large meteorite from the explosion of a nuclear weapon. **I think it's safe to assume that the system can distinguish them. Even if otherwise, this is additional information. So incorrect.**
D. Whether the system would respond inappropriately to the explosion of a large meteorite would depend on the location of the blast. **We are not told anything about the location of the blast in the stimulus, hence incorrect.**
E. It is not certain what the system's response to the explosion of a large meteorite would be, if its designers did not plan for such a contingency. **This is basically a restatement of the conclusion of the stimulus. Hence correct.**

SUMMARY OF MAIN POINT/MUST BE TRUE TYPE QUESTIONS

IDENTIFICATION:

Would have indicative wording that asks you to infer from or choose the main idea of the passage.

ANSWER CHOICE QUALIFICATION:

- Should be validated by the stimulus (Stimulus is taken to be true)
- Should be the main point of the stimulus, not just a premise (for Main Point questions)
- Will either restate conclusion or present it in a different manner

CORRECT ANSWER CHOICES:

- Restatement of the conclusion
- Combination of one or more premises

WRONG ANSWER CHOICES:

- Answers that are possible but not certain
- Answer choices that don't agree with the tone of the passage.
- Shell game
- Answers that repeat the premise of the question which are not the "main" point
- Answer choices that represent true information, but are not a direct inference from the stimulus, i.e. presenting new information
- Answer choices that will reinforce or repeat the premise instead of the conclusion.
- Answer choices that reverse the causality or state the reverse of what's true.
- Answer choices that indicate a non-existent relationship.

WEAKEN

The way you identify these questions is by looking at the question stem as well. These questions will usually have some kind of negative relationship indicator between the stimulus and the answer choices. Some of the common phrases used in these questions are given below:

"Which of the following most seriously undermines the argument?"

"Which of the following, if true, calls into question the validity of the argument?"

"Which of the following casts doubt on the scientist's conclusion?"

This is probably the one question type that appears the most on the GMAT. In this question type, we **assume that the answer choices are true and take them for granted – even if it introduces new information**. Instead, we focus on isolating and identifying the premise and the conclusion. Once we identify the conclusion we focus on that. Something in the stimulus has to be wrong. It could be a gross generalization, a wrong conclusion and so on. And once this is done, it is merely enough to cast doubt on the stimulus; you don't have to prove it wrong.

The conclusion of the stimulus must be treated similar to how we treated the answer choices in the previous question type.

Here are some scenarios:

1. **Incomplete Information**: Not enough information is given, but a conclusion seems to be drawn from thin air.
2. **Improper Comparison**: Comparing apples to oranges, so to speak.

Here are some of the ways in which you can eliminate answer choices for this type:

1. **Opposite Answers**: The answer will end up strengthening the conclusion instead of vice versa
2. **Shell Game Answers:** Similar idea to that of the stimulus, but not entirely true. Refer to the explanation given in the previous type.
3. **Out of Scope Answers:** Unrelated and tangential answers.
4. **Wrong Tone in Answers:** This has also been explained in the previous question type.
5. **Reversal of causality or incorrect causality**: These questions oversimplify some statements. Consider the following example:

"Last week Jack tried out a new restaurant on campus and the same week he got food poisoning. So Jack must have had food poisoning due to the new food"

This is not true. There might have been something else that Jack might have had which caused the food poisoning. Though this seems lucrative, this is a trap.

Note on Causality:

Here we are asked to assume that the two events take place in vacuum, that no other event could have influenced what happened. Event 1 strictly influenced Event 2, and that Event 2 couldn't have occurred without Event 1.

How to break down causality?

1. **Find an alternate cause**. This is the strongest way to rebuke a causality based stimulus. For the above mentioned example, what if Jack had eaten left-over food from two days ago, and they had actually gone stale? Wouldn't that explain the food poisoning?
2. **Show that the change might not occur even when cause occurs or that the effect can occur without the cause.** This could mean Jack eating at the restaurant previously, without any food poisoning. Jack could have gotten food poisoning earlier when he had left-over food.
3. **Show that the stated relationship is reversed.** This is where you prove that what is perceived to be the effect produces what is thought of as the cause

Example 1 (Veritas Prep CR):

Recently a craze has developed for home juicers, $300 machines that separate the pulp of the fruit and vegetables from the juice they contain. Outrageous claims are being made about the befits of these devices – drinking the juice they produce is said to help one lose weight, or acquire a clear complexion, to aid in digestion, and even to prevent cancer. But there is no indication
that juice separated from the pulp of the fruit or vegetable has any properties that it doesn't have when unseparated. Save our money. If you want carrot juice, eat a carrot.

Which of the following, if true most calls into question the argument?

A. Most people find it much easier to consume a given quantity of nutrients in liquid form than to eat solid foods containing the same quantity of nutrients

B. Drinking juices from home juicers is less healthy than is eating fruits and vegetables because such juice does not contain the fiber that is eaten if one were to consume the entire fruit –

C. To most people who would be tempted to buy a home juicer, a $300 would not be a major Expense

d. Repair of satellites requires heavy equipment, which adds to the amount of fuel needed to lift a spaceship carrying astronauts into orbit

Technical obsolescence of robot satellites makes repairing them more costly and less practical than sending new, improved satellites into orbit

Recently a craze has developed for home juicers, $300 machines that separate the pulp of the fruit and vegetables from the juice they contain. **Outrageous claims** ***{Note the strong language}*** are being made about the befits of these devices – drinking the juice they produce is said to help one lose weight, or acquire a clear complexion, to aid in digestion, and even to prevent cancer. **But there is no indication that juice separated from the pulp of the fruit or vegetable has any properties that it doesn't have when unseparated**. **{Conclusion}** Save our money. If you want carrot juice, eat a carrot.

Which of the following, **if true** **{Assume that the choices are true}**, most calls into question the argument?

Before you begin to look at the answer choices think about what would refute this conclusion? If someone has proven that there IS in fact a difference between juices separated from pulp, we are done. So look for answer choices that might work on a similar vein while eliminating those that don't.

A. Most people find it much easier to consume a given quantity of nutrients in liquid form than to eat solid foods containing the same quantity of nutrients – **This seems to make a point for the juicer. So maybe people get nutrients from juice more easily and are more prone to getting nutrients from juice. So this rebukes the author's assumption that it doesn't matter. Hence correct.**
B. Drinking juices from home juicers is less healthy than is eating fruits and vegetables because such juice does not contain the fiber that is eaten if one were to consume the entire fruit – **Clearly Incorrect since this strengthens the conclusion**
C. To most people who would be tempted to buy a home juicer, a $300 would not be a major expense – **How does this relate to whether the claims about the juicer are true or not? Incorrect**
D. The author was a member of a panel that extensively evaluated early prototypes of the home juicers – **Once again, this gives him credential. We want to argue against him. Incorrect**
E. Vitamin pills that supposedly contain nutrients available elsewhere only in fruits and vegetables often contain a form of those compounds that cannot be as easily metabolized as the varieties found in fruits and vegetables **– This is one of the answer choices where they set a trap to catch you with complicated wording. We don't care about vitamin pills. Irrelevant information. Incorrect.**

Example 2

Robot satellites relay important communications and identify weather patterns. Because the satellites can be repaired only in orbit, astronauts are needed to repair them. Without repairs, the satellites would eventually malfunction. Therefore**,** space flights carrying astronauts must continue.

Which of the following, if true, would most seriously weaken the argument above?

A. Satellites falling from orbit because of malfunctions burn up in the atmosphere
B. Although satellites are indispensable in the identification of weather patterns, weather forecasters also make some use of computer projections to identify weather patterns.
C. The government, responding to public pressure, has decided to cut the budget for space flights and put more money into social welfare programs.
D. Repair of satellites requires heavy equipment, which adds to the amount of fuel needed to lift a spaceship carrying astronauts into orbit
E. Technical obsolescence of robot satellites makes repairing them more costly and less practical than sending new, improved satellites into orbit**.**

Example 2 (From OG10):

Robot satellites relay important communications and identify weather patterns. Because the satellites can be repaired only in orbit, astronauts are needed to repair them. Without repairs, the satellites would eventually malfunction. Therefore, **space flights carrying astronauts must continue{Conclusion}.**

Which of the following, if true, would most seriously weaken the argument above?

A. Satellites falling from orbit because of malfunctions burn up in the atmosphere **– Irrelevant**.
B. Although satellites are indispensable in the identification of weather patterns, weather forecasters also make some use of computer projections to identify weather patterns. **This doesn't provide a reason for not sending astronauts to space. Once again, out of scope.**
C. The government, responding to public pressure, has decided to cut the budget for space flights and put more money into social welfare programs. **Though this seems like a right answer, think about it. This is lots of irrelevant information, and doesn't answer our question directly. Incorrect.**
D. Repair of satellites requires heavy equipment, which adds to the amount of fuel needed to lift a spaceship carrying astronauts into orbit. **Fuel? This is a shell game fallacy. Clearly shows a statement that could be true and is very attractive to the test taker, but irrelevant to what's asked. Incorrect.**
E. Technical obsolescence of robot satellites makes repairing them more costly and less practical than sending new, improved satellites into orbit**. This makes sense. If repair cost > new satellite cost, why send astronauts to space to repair them? Just send new satellites. Hence this is correct.**