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| Chapter 7: CRITICAL THINKIG\CRITICAL REASONING |
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* ***Before we start on critical thinking\critical reasoning we first discuss***

***What is thinking?***

*Thinking is a purposeful, organized cognitive process that we use to make sense of our world.*

***Types of thinking:-***

* + *critical thinking*
* *analyzing*
* *evaluating*
* *reasoning*
  + *creative thinking*

***Critical thinking:-***

*Critical thinking consists of a mental process of analyzing or evaluating information, particularly statements or propositions that people have offered as true. It forms a process of reflecting upon the meaning of statements, examining the offered evidence and reasoning, and forming judgments about the facts.”*

*“Critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action. “*

***Critical Reasoning:-***

*Let start with an example:*

*Socrates arrives at a bridge guarded by a powerful lord, Plato, and begs to be allowed to cross.*

*Plato replies:*

*I swear that if the next utterance you make is true I shall let you cross, but if it is false I shall throw you in the water.*

*Socrates replies:*

*You are going to throw me in the water.*

*What happens next?*

*Is Socrates thrown in the water or not?*

*If Plato does not throw him in the water, Socrates has spoken falsely and should be thrown in; but if he is thrown in, Socrates has spoken truly and should not be thrown in.*

***Important Terms:-***

***Premise:***

*Each CR argument contains at least one premise. Premises are pieces of information that provide evidence used to support the conclusion of the argument. For the purposes of Critical Reasoning arguments, premises are facts not subject to dispute.*

***Conclusion:***

*The conclusion is the endpoint of the line of reasoning of an argument. Think of it as the result of the argument. The line of reasoning leading to a conclusion is often where errors in logic are made.*

***Assumption****:*

*Assumptions are unstated facts and logical connections in an argument. In order for the conclusion of an argument to be true, the assumptions upon which that argument is based must also be true.*

***Argument****:*

*Central to every CR question is the argument. An argument is an ordered line of reasoning composed of premises, assumptions, and a conclusion. Understanding the elements of an argument is essential to performing well in this section.*

***Critical Reasoning strategies:-***

***Logic not Grammar:***

*Critical Reasoning problems are among the trickiest CT question types you’ll come across in the GMAT.*

*That’s because CR problems are logic-based.*

*While an understanding of English grammar rules is essential, your major challenge will be simply to learn how ETS expects you to approach the information within the sentences.*

* *For Critical reasoning questions, you must be purely and consistently logical.*

*With each CR question, you’ll be presented with an argument. Don’t try to break down the argument into its essential parts.*

*Instead, reorder the information.*

*Reorder the information; identifying the premises and conclusion inherent within each argument.*

*By deconstructing a Critical Reasoning argument, you can more clearly see what it is that’s missing.*

*Deconstructing an argument helps you notice illogical connections. The tendency to make sense of what we read is natural and, for the GMAT, fatal.*

*Fight your normal reading habits as you go through the questions in this lesson.*

*We pose arguments all the time.*

*Often there is no logical connection between the information we present (our* ***premises****) and our* ***conclusions****.*

***For example…***

*You: Let’s go see a movie.*

*Me: I have only two dollars.*

*What is your conclusion?*

* *We can’t go to a movie*

*But why?*

* *Because a movie costs more than two dollars.*

*But how do we know this?*

* *We don’t!*
* *Make sure you’re not brining* ***outside information*** *into your reading of a Critical Reasoning problem.*

***The Approach:-***

*Critical Reasoning questions test your ability to use basic logic to analyze and critique arguments made up of premises and conclusions. ETS test-makers write arguments that assume information which doesn’t exist!*

*A logical and consistent approach is the best way to avoid formulaic traps.*

*Follow these steps each time you attack Critical Reasoning questions.*

***Step 1:*** *Read the question first.*

***Step 2:*** *Read the argument.*

***Step 3:*** *Paraphrase the argument using your own words.*

***Step 4:*** *Predict the answer.*

***Step 5:*** *Use the process of Error Identification to eliminate the wrong answers.*

***Step 1: Read the question first.***

*It’s natural to read the question after the argument because that’s how they’re presented on the page. This is done for a reason.*

* *Reading the argument first is confusing.*

*Read the question and determine what to look for within the answer choices.*

*In general, you’ll be looking for the answer choices that either* ***strengthen*** *or* ***weaken*** *the argument.*

*Think of answer choices as additional premises. Adding any one answer choice to the argument will do one of three things:*

*1. It will weaken the argument.*

*2. It will strengthen the argument.*

*3. It will not affect the argument at all (neutral).*

*4. It has nothing to do with the argument (out of scope).*

*Determine which of the* ***eight kinds of Critical Reasoning questions*** *you’re facing before turning to the argument itself.*

***Step 2: Read the argument.***

*1. Identify each* ***premise*** *(each piece of information) that is being presented within the argument.*

*2. Identify the argument’s* ***conclusion****.*

*3. Determine what* ***assumptions*** *are being made.*

***Step 3: Paraphrase the argument using your own words.***

*Critical Reasoning arguments are intentionally heavy, wordy and complex. Paraphrasing is a good way of understanding the sense an argument presented.*

*Take the time, if necessary, and restate an argument, using words and situations that you can relate to.*

*Note: This is the only step you’re permitted to skip. While it’s necessary to understand the meaning of each argument (and paraphrasing is a good tool to help you do this), restating or paraphrasing an argument brings you unavoidably further away from the actual text.*

***Step 4: Predict the answer.***

*So, you’ve read the argument. You understand it. You can identify it’s premises and it’s conclusion. Now imagine additional premises (additional pieces of information) and what affect each would have on the argument overall.*

*Brainstorm for a moment. Imagine which additional premise would best strengthen the argument. What one thing could you add that would completely fix it? Now imagine the opposite. How could you weaken the argument? How could you completely destroy it?*

*This is perhaps the most important step in the process. Answer choices are intentionally misleading, and you can use your predictions as a measuring stick with which to compare the choices given to you by ETS.*

***Step 5: Use the Process of Error Identification to eliminate the wrong answers.***

*Think of answer choices as additional premises. As you read each choice, ask yourself, “How would this additional premise affect the strength or weakness of the argument’s conclusion?”*

*Categorize answer choices as one of the following:*

*1. Strengthen*

*2. Weaken*

*2. Neutral*

*3. Out of scope*

*Use the Process of Error Identification to get rid of any choices that do not affect the conclusion (neutral) or have nothing to do with the argument whatsoever (out of scope).*

*Whether you eliminate strengthen or weaken answer choices depend on the question related with that argument.*

*Try the following Critical Reasoning example, using five steps…*

*In years past, professional baseball players lifted weights less but were also injured less often during games. Obviously, the more an athlete lifts weights, the higher the likelihood of injury.*

***The conclusion above presupposes which of the following?***

*(A) The increase in baseball injuries is due to a factor other thanweightlifting.*

*(B) The activities of baseball players represent those of athletesas a group.*

*(C) Most baseball injuries today result from too much weight-lifting.*

*(D) There is no proven correlation between how much athletes liftweights and how likely they are to be affected by injury.*

*(E) Weightlifting has always been common practice forprofessional athletes.*

*The correct answer is (B).*

*Let’s see how it’s done…*

*First, read the question.*

***The conclusion above presupposes which of the following?***

*This is what’s called an* ***assumption question****. What specific piece of information is presupposed (assumed) in the preceding argument?*

*Break it down to understand what the writer is really saying.*

*Can you identify the premises and the conclusion?*

***Premise #1:*** *In years past, professional baseball players lifted weights less.*

***Premise #2:*** *But they were also injured less often during games.*

***Conclusion:*** *Obviously, the more an athlete lifts weights, the higher the likelihood of injury.*

*If necessary, paraphrase the argument. Put the events in a context you can understand, but stick as close to the actual text as possible. Try changing the subjects without changing what they did.*

*Keep trying until the GMAT argument makes sense to you. Then return to the actual argument!*

*Now, think about some of the big assumptions that are being made.*

*Ask yourself what you could add to* ***fix*** *the argument.*

*What could you add to the argument to completely* ***destroy*** *it!*

*If it helps, imagine someone you can’t stand. Think up a real or fictional know-it-all. Now come up with the one thing you could say to this person that would shut him up.*

*What if I offered evidence that proved baseball injuries are definitely not a result of weightlifting? That might destroy the argument. And the contrary, that baseball injuries definitely are a result of weightlifting, might fix it.*

*When you’re ready, turn your attention to the answer choices.*

*Use the Process of Error Identification to eliminate any answer choices that are* ***neutral*** *or* ***out of scope****. For this particular question, also eliminate any answer choices that* ***weaken*** *the argument.*

*Only answer choices (B) and (C) strengthen the argument.*

*Be aware of vague and undefined categories, such as “athletes.”*

1. *The increase in baseball injuries is due to a factor other that weightlifting.(****Weakens)***
2. *The activities of baseball players represent those of athletes as a group.*
3. *Most baseball injuries today result from too much weightlifting.*
4. *There is no proven correlation between how much athletes lift weights and how likely they are to be affected by injury****.(Weakens)***
5. *Weightlifting has always been common practice for professional athletes****.(Neutral)***

*Of course, there are many different kinds of athletes. All athletes are not baseball players.* ***The correct answer is (B).***

*What’s wrong with answer choice (C)? The trigger word “most” is undefined. “Most” is a relative term, but we don’t know what it’s relative to.*

***END***