

# GMAT®

CRITICAL REASONING  
CLASS SESSIONS GUIDE



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By Sandeep Gupta | GMAT 800/800, Harvard Final Admit

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## Critical Reasoning Session 1

(Inference questions)

By Sandeep Gupta | GMAT 800/800, Harvard Final Admit

### Inference Questions

**Note:** Of the 36 questions in the Verbal Section, about 12 questions (both RC and CR combined) are based on Inference — about one-third of the Verbal Section. Inference questions are always challenging for most students because of extremely close option choices.

#### Approach:

1. Inference is the logical conclusion we can derive from the facts (premises) given in the passage.
  - So, if the passage contains three facts  $F_1$ ,  $F_2$ , and  $F_3$ , the inference is the logical conclusion that can be derived from just one fact, or two facts, or all the three facts.
  - $F_1 \rightarrow C$  (inference)
  - $F_1 + F_2 \rightarrow C$  (inference)
  - $F_1 + F_2 + F_3 \rightarrow C$  (inference) etc.
  - This conclusion (C) is not given in the passage, but has to be logically derived from the passage.

2. Inferences are absolutely (100%) correct and can be safely and logically deduced / derived from the passage without any ambiguity.
3. Inference questions play out like “**treasure hunt**”; the hint for the answer lies right within the passage but is masked (or hidden or difficult to spot). You have to uncover inferences with some effort.
4. The best approach to solve any CR inference question is the **VE** – verify and eliminate – part of the OCCTAAVE process, while remembering that no fact given in the passage can be challenged even slightly.
5. Eliminate wrong answers. NEVER, EVER, try to justify why the right answer is right. Don’t be fixated on understanding WHY the right answer is right. Your entire focus should be on why the wrong answers are wrong.
6. Some facts to remember about GMAT inferences:
  - An inference follows only from the facts given. No outside knowledge is required.
  - An inference need not be mind-blowing. Sometimes it will be quite **unappealing**: simple and even obvious.
  - An inference may come from a single fact, or it may require combining multiple facts. It may not be necessary to take into account all the facts given in the stimulus.
7. Many inference questions test your knowledge of numbers and percentages, as explained.

# Number-Percentage concepts:

**Premise:** There are a lot more boys in this year's class than there were in last year's class.

**Conclusion:** The girls will constitute a smaller proportion of this year's class.

In this case, notice that the premise is about actual numbers, and the conclusion is about a proportion. This leads to a mismatch. We know nothing about the number of girls in this year's class—perhaps it has increased too, even more than the number of boys. In that case, the conclusion about the proportion could be incorrect.

- **Misconception #1:** Increasing percentages automatically lead to increasing numbers.
- **Misconception #2:** Decreasing percentages automatically lead to decreasing numbers.
- **Misconception #3:** Increasing numbers automatically lead to increasing percentages.
- **Misconception #4:** Decreasing numbers automatically lead to decreasing percentages.
- **Misconception #5:** Large numbers automatically mean large percentages, and small numbers automatically mean small percentages.
- **Misconception #6:** Large percentages automatically mean large numbers, and small percentages automatically mean small numbers.
- **Words that introduce numbers:** Amount, Quantity, Sum, Total, Count, Tally
- **Words that introduce percentage ideas:** Percent, Proportion, Fraction, Ratio, Incidence, Likelihood, Probability, Segment, Share, Rate, Per capita, Market share, profit margin, unemployment (rate)
- **Market share** is simply the portion of a market that a company controls ... market share can be measured either in terms of revenues (sales) or units sold. Regardless of the size of a market, total market share must always add up to 100%.

## Conditional Reasoning:

Consider the statement: If A happens, then B happens.

Here the word *if* means *whenever*.

So,

**Given:** If A, then B

Wrong: If B, then A

Wrong: If not A, then not B

**Correct:** If not B, then not A

For example:

If I am a guitarist, then I am a musician (**If A, then B**).

This is a **valid** formal logical statement because:

*Consider this:*

If I am a musician, then I am a guitarist (**If B, then A**).

This is **invalid**. Clearly, a musician can play any number of instruments, and, while the guitar may be a common one, we cannot say that knowing someone is a musician is sufficient to establish that he or she is a guitarist.

*Consider this:*

If I am not a guitarist, then I am not a musician. (**If NOT A, then NOT B**).

This is also **invalid**. Again, a musician can play any number of instruments, and knowing that someone is not a guitarist is clearly not sufficient to establish that he or she is not a musician.

Consider this:

If I am not a musician, I am not a guitarist. (**If NOT B, then NOT A**). This is called **contrapositive**.

This is **valid**. If it is necessarily true that someone is a musician given that he or she is a guitarist, it follows logically that it is necessarily true that he or she is not a guitarist given that he or she is not a musician. The idea is that the category *musician* subsumes the category of *guitarist*. A guitarist, by definition, falls under the category of musician, so someone who does not fall under the category of musician **at all** must not be a guitarist.

## Some solved examples (inference):

1. Hemoglobin, a substance in human blood, transports oxygen from the lungs to the rest of the body. With each oxygen molecule it picks up, a hemoglobin molecule becomes more effective at picking up additional oxygen molecules until its maximum capacity of four oxygen molecules is reached. Grabbing an oxygen molecule changes the shape of the hemoglobin molecule, each time causing it literally to open itself to receive more oxygen.

**Which one of the following is most strongly supported by the information above?**

- A. A hemoglobin molecule that has picked up three oxygen molecules will acquire a fourth oxygen molecule.
- B. The only factor determining how effective a hemoglobin molecule is at picking up oxygen molecules is how open the shape of that hemoglobin molecule is.
- C. A hemoglobin molecule that has picked up three oxygen molecules will be more effective at picking up another oxygen molecule than will a hemoglobin molecule that has picked up only one oxygen molecule.
- D. A hemoglobin molecule that has picked up four oxygen molecules will have the same shape as a hemoglobin molecule that has not picked up any oxygen molecules.
- E. Each hemoglobin molecule in human blood picks up between one and four oxygen molecules in or near the lungs and transports them to some other part of the body.



## Summary:

- Hemoglobin transports oxygen through the body.
- More oxygen molecules = hemoglobin more effective at getting oxygen molecules (max 4).
- Hemoglobin changes shape each time it grabs an oxygen molecule.

Each statement is definitive and clear. Check each answer choice against the statements: The four wrong answer choices are not supported by the statements; the correct answer choice is.

- A. A hemoglobin molecule that has picked up three oxygen molecules will acquire a fourth oxygen molecule. That's right! We know that hemoglobin get better at picking up oxygen with each oxygen molecule they grab, but that doesn't mean a hemoglobin with three molecules will probably pick up the fourth. Why? Because "probably" means "more likely than not." All we know is that it's more likely than if it only had two oxygen molecules. But that still might only raise its chances from 15%, say, to 20%. **Close, but Extreme.** *The second statement does not say how likely it is that hemoglobin will reach its maximum of four molecules. Maybe there aren't that many available molecules to grab. Eliminate.*
- B. The only factor determining how effective a hemoglobin molecule is at picking up oxygen molecules is how open the shape of that hemoglobin molecule is. Although the shape seems to be a factor, we don't know whether there are other factors at play. **The word only makes this Extreme.** *There could be factors other than shape. Eliminate.*
- C. As a hemoglobin picks up more oxygen, it gets better at picking up even more. A hemoglobin molecule that has picked up three oxygen molecules will be more effective at picking up another oxygen molecule than will a hemoglobin molecule that has picked up only one oxygen molecule. The stimulus says hemoglobin molecules are more effective at picking up additional hemoglobin molecules with each molecule that it picks up, as long as the number of molecules is less than 4. ... **C** says exactly this without any confusion or ambiguity as to what it means. A hemoglobin molecule that has picked up 3 will



be more effective at picking up that 4th molecule, because as the stimulus states in that second sentence, a molecule that has "X+1" number of molecules, provided that X is less than 4, is more effective at picking up an additional molecule than is a molecule that has only X hemoglobin molecules. **Correct.** *This follows directly from the author's second statement.*

D. *Totally out of scope.* A hemoglobin molecule that has picked up four oxygen molecules will have the same shape as a hemoglobin molecule that has not picked up any oxygen molecules. **180.** *The last sentence states that the hemoglobin molecule changes shape each time it picks up an oxygen molecule. Eliminate.*

E. Each hemoglobin molecule in human blood picks up between one and four oxygen molecules in or near the lungs and transports them to some other part of the body. I think the problem with (E) is that it says "each hemoglobin molecule in human blood." The stimulus tells us that hemoglobin does a certain thing, but it doesn't say that every single hemoglobin molecule performs this task. Maybe some hemoglobin molecules are just kind of chilling out! We don't know. We don't know that *every* hemoglobin molecule gets in on the act. We cannot infer that each hemoglobin molecule in human blood picks up at least one oxygen molecule. Solely based on the information contained in the stimulus, it is possible that some hemoglobin molecules pick up no oxygen at all, or that they serve an entirely different purpose. **Extreme.** *It's reasonable to infer that some hemoglobin molecules follow this trajectory, but to say that "each" molecule does so goes too far. Eliminate.*

### **Alternate sol from Manhattan prep**

We know that hemoglobin get better at picking up oxygen with each oxygen molecule they grab, but that doesn't mean a hemoglobin with three molecules will *probably* pick up the fourth. Why? Because "probably" means "more likely than not." All we know is that it's more likely than if it only had two oxygen molecules. But that still might only raise its chances from 15%, say, to 20% -- well short of "probably"!

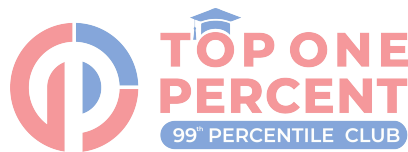
So that's why (A) is wrong.

(B) is out because although the shape seems to be a factor, we don't know whether there are other factors at play.

(C) is correct because it's basically paraphrasing the stimulus: as a hemoglobin picks up more oxygen, it gets better at picking up even more.

(D) is just super duper out of scope. We have no clue about this.

(E) is incorrect, as discussed above, because we don't know that *every* hemoglobin molecule gets in on the act.



2. In a vast ocean region, phosphorus levels have doubled in the past few decades due to agricultural runoff pouring out of a large river nearby. The phosphorus stimulates the growth of plankton near the ocean surface. Decaying plankton fall to the ocean floor, where bacteria devour them, consuming oxygen in the process. Due to the resulting oxygen depletion, few fish can survive in this region.

**Which one of the following can be properly inferred from the information above?**

- A. The amount of oxygen in a body of water is in general inversely proportional to the level of phosphorus in that body of water.
- B. Before phosphorus levels doubled in the ocean region, most fish were able to survive in that region.
- C. If agricultural runoff ceased pouring out of the river, there would be no bacteria on the ocean floor devouring decaying plankton.
- D. The quantity of agricultural runoff pouring out of the river has doubled in the past few decades.
- E. The agricultural runoff pouring out of the river contributes to the growth of plankton near the ocean surface.



*Let's sort our information:*

- 1) All information is about **a particular** ocean region
- 2) agricultural runoff comes from a nearby river
- 3) this runoff has doubled the phosphorus
- 4) phosphorus stimulates plankton growth
- 5) Increased plankton leads to less oxygen.

When plankton die, bacteria eat them - uses oxygen

- 6) low oxygen = few fish survive

Don't dismiss point #1! We know that phosphorous stimulates the growth of plankton in this particular ocean region. Does that happen in EVERY body of water? No idea!

Agricultural runoff → Phosphorus increase → Plankton growth  
→ Bacterial consumption → Oxygen depletion → Few fish survive

Answering this Must Be True question requires properly understanding the causal chain.

(A) tries to claim something is true in every body of water, and that's too bold for the information we have. So, there are two excellent reasons to dismiss (A)! The fact that it applies to all bodies of water AND the word "proportional".

- A. *The amount of oxygen in a body of water is in general inversely proportional to the level of phosphorus in that body of water.* **A tempting answer choice**, but be careful: The statements in the stimulus refer to one river flowing into a particular part of the ocean. Drawing an inference about bodies of water *in general* goes too far. Eliminate.
- B. *Before phosphorus levels doubled in the ocean region, most fish were able to survive in that region.* **Outside the Scope.** What happened before the phosphorous levels doubled is not discussed. Other problems could have killed fish, too. Eliminate.
- C. *If agricultural runoff ceased pouring out of the river, there would be no bacteria on the ocean floor devouring decaying plankton.* Timeline problem! We know what's happening now, but that doesn't tell us what would happen in future without agricultural runoff. **Outside the Scope.** What happens once the agricultural runoff stops pouring out of the river is not discussed. Eliminate.
- D. *The quantity of agricultural runoff pouring out of the river has doubled in the past few decades.* We know the phosphorus levels have doubled, but that doesn't necessarily mean that the quantity of runoff itself has doubled – maybe it's just a lot more concentrated with phosphorus now! This is a **distortion** of the first sentence. Phosphorous levels have doubled, but that doesn't mean that runoff has doubled. Eliminate.
- E. The agricultural runoff pouring out of **the** river (means this river) contributes to the growth of plankton near the ocean surface. We know that the agricultural runoff → doubled phosphorus. We know that phosphorus → stimulates plankton growth. Link those two up, and we can say that this agricultural runoff contributes to plankton growth in this region. This choice is not attempting to make a claim about all bodies of water, or all agricultural runoff – it's only talking about **THIS** agricultural runoff, **THIS** river, and the plankton in **THIS** region. **Correct.** This inference is supported by combining the information in the first two sentences.

## Alternate sol from gmatchclub

(A) The amount of oxygen in a body of water is in general inversely proportional to the level of phosphorus in that body of water.

*This generalised statement cannot be inferred from the specific case mentioned in the question stem. Mostly because no such information is provided.*

(B) Before phosphorus levels doubled in the ocean region, most fish were able to survive in that region.

*We know few fish can survive this region, if the oxygen is consumed. Since we do not know the situation of the lake before phosphorus levels doubled in the ocean region, so can't infer that most fish were able to survive there.*

(C) If agricultural runoff ceased pouring out of the river, there would be no bacteria on the ocean floor devouring decaying plankton.

*There is no causality implied by event A (agricultural runoff) leading to causing event B (initiating bacterial life). We just know that the bacteria devour plankton and consume oxygen in the process.*

(D) The quantity of agricultural runoff pouring out of the river has doubled in the past few decades. The phosphorus levels have doubled in the past few decades due to agricultural runoff. Since nothing is mentioned about either the quantity of agricultural runoff or the amount of phosphorus levels per unit of runoff, we can't be sure of this to be true.

(E) The agricultural runoff pouring out of the river contributes to the growth of plankton near the ocean surface.

*Implies that the agricultural runoff is one of the contributing factors of plankton growth near the ocean surface. Can be validated from the passage.*

## Top 1% expert replies to student queries (can skip)

'Runoff' basically means draining of water from land, water etc.

In this passage, it means that water draining away from a large river nearby was getting mixed with/poured into the ocean region. This water contained phosphorus and led to doubling of the phosphorus content in the ocean region.

3. Members of large-animal species must consume enormous amounts of food to survive. When climatic conditions in their environment deteriorate, such animals are often unable to find enough food. This fact helps make large-animal species more vulnerable to extinction than small-animal species, which can maintain greater populations on smaller amounts of food.

**The statements above, if true, most support which one of the following?**

- A. The maximum population size that an animal species could maintain on any given amount of food is the main factor determining whether that species will become extinct.
- B. The vulnerability of an animal species to extinction depends at least in part on how much food individuals of that species must consume to survive.
- C. When conditions deteriorate in a given environment, no small-animal species will become extinct unless some large-animal species also becomes extinct.
- D. Within any given species, the prospects for survival of any particular individual depend primarily on the amount of food that individual requires.
- E. Whenever climatic conditions in a given environment are bad enough to threaten large-animal species with extinction, small-animal species are able to find enough food to survive.

### Summary:

- Large animals need a lot of food to survive.
  - Changes in climate make it hard for large animals to find food.
  - Small animals need less food.
  - Statement 2 makes large animals more vulnerable to extinction than small animals are.
- A. The maximum population size that an animal species could maintain on any given amount of food is the main factor determining whether that species will become extinct. **Outside the Scope / Extreme.** "Maximum population size" is totally out of scope, and we don't know what the main factor in extinction is. We just know size and food are factors. The stimulus never discusses maximum population, only greater population size. Moreover, calling food availability the main factor in extinction goes too far. Eliminate.
- B. The vulnerability of an animal species to extinction depends at least in part on

how much food individuals of that species must consume to survive. The stimulus makes it clear that the amount of food a species requires affects its susceptibility to extinction: larger species are more at risk because they need way more food. We are told that when large animals are unable to find enough food, it makes them more vulnerable to extinction than small animals whose populations need less food. We can infer that the risk of extinction has to have something, however small, to do with how much food is available to animals. **Correct.** This is a summary of all four statements in the stimulus. “At least in part” ensures that this answer is not too extreme to follow from the stimulus.

C. When conditions deteriorate in a given environment, no small-animal species will become extinct unless some large-animal species also becomes extinct.

**Extreme.** Small-animal species don't need as much food, but there could be other factors leading to a small-animal species' extinction happening before any large-animal species' extinctions. This choice does indicate that larger species are more vulnerable to extinction than smaller species, but that doesn't mean that if any small species goes extinct, some large ones will too! By way of analogy, imagine that you are more susceptible to allergies than I am. Does that mean that if I have an allergic reaction, you are guaranteed to be having one as well? No! It just means that on average, you're more likely to have one. Eliminate.

D. Within any given species, the prospects for survival of any particular individual depend primarily on the amount of food that individual requires. We only have information comparing the size of species as a whole; we have no idea whether individual members of the same species can be compared in this way. This choice narrows the scope to individual animals within specific species. **The stimulus compares only small- and large-animal species, not individual animals. Eliminate.**

E. Whenever climatic conditions in a given environment are bad enough to threaten large- animal species with extinction, small-animal species are able to find enough food to survive. This choice is incorrect because it could certainly be the case that there's not enough food for anybody, large or small. **Extreme.** If conditions were severe enough, perhaps no species could find enough food to survive. Eliminate.



4. Baxe Interiors, one of the largest interior design companies in existence, currently has a near monopoly in the corporate market. Several small design companies have won prestigious awards for their corporate work, while Baxe has won none. Nonetheless, the corporate managers who solicit design proposals will only contract with companies they believe are unlikely to go bankrupt, and they believe that only very large companies are unlikely to go bankrupt.

**The statements above, if true, most strongly support which one of the following?**

- A. There are other very large design companies besides Baxe, but they produce designs that are inferior to Baxe's.
- B. Baxe does not have a near monopoly in the market of any category of interior design other than corporate interiors.
- C. For the most part, designs that are produced by small companies are superior to the designs produced by Baxe.
- D. At least some of the corporate managers who solicit design proposals are unaware that there are designs that are much better than those produced by Baxe.
- E. The existence of interior designs produced by some firms other than Baxe does not currently threaten Baxe's near monopoly in the corporate market.

### **Summary about Baxe:**

- It's large
- It has a near monopoly on the corporate market
- It has not won any design awards.

One fact about small design companies: Several have won design awards.

*Nevertheless*

Corporate managers will only use large companies, the only ones they believe are unlikely to go bankrupt.

The author explicitly contrasts his belief that corporate managers will continue to use large companies with the fact that Baxe (a large company) has no design awards while several small companies have won such awards. These statements support the correct answer.

The statements convey the following four points:

- Baxe interiors has a near monopoly in the corporate market.
- Several small design companies have design awards, while Baxe has none.
- Corporate managers will solicit design proposals only from companies they believe will not go bankrupt.
- Corporate managers believe that only very large companies are unlikely to go bankrupt.

- A. There are other very large design companies besides Baxe, but they produce designs that are inferior to Baxe's. We can't know how the designs of large design companies stack up against those of Baxe, nor can we really say that other large design companies exist. *The stimulus states only that Baxe is one of the largest interior design companies; there is no information about other large companies or the quality of their designs. Eliminate.*
- B. Baxe does not have a near monopoly in the market of any category of interior design other than corporate interiors. We know nothing of how Baxe competes in markets other than that for commercial space. **Outside the Scope.** The stimulus says nothing about categories of interior design other than corporate interiors. Eliminate.
- C. For the most part, designs that are produced by small companies are superior to the designs produced by Baxe. This choice is too strong. We know that there are some stronger design producers, but we cannot generalize to what is true of smaller design companies generally. **Extreme.** Several small companies have won awards for their corporate work, but this says nothing about small companies overall. Eliminate.
- D. At least some of the corporate managers who solicit design proposals are unaware that there are designs that are much better than those produced by Baxe. This choice is out of scope. We don't know whether those company managers are aware of better designs. **Outside the Scope.** Corporate managers may or may not be aware of design quality; even if they are, they contract with companies they consider stable. Eliminate.
- E. The existence of interior designs produced by some firms other than Baxe does

not currently threaten Baxe's near monopoly in the corporate market. This is supported from a combination of all four statements. The second point is not enough to combat the inference one can make from the third and fourth points, which suggests that the first point will likely continue. We know that at least some of the designs from several small companies have been deemed superior to any of those from Baxe Interiors. We also know that Baxe currently holds a near monopoly on the corporate market and one possible explanation for this monopoly. Together, these statements support this answer choice. **Correct.** Baxe should continue to get business from corporate managers because of its large size (and perceived stability), and should thus hold onto its monopoly despite not winning awards.

### Alternate sol from gmatchclub

Possible scenarios:

- Several small DCs have gone bankrupt.
- Small DCs tend to be not good in finances.
- BI has mostly been inferior in designs to small DCs's designs.

(A) There are other very large design companies besides Baxe, but they produce designs that are inferior to Baxe's. - WRONG. ~~50-50 case.~~

(B) Baxe does not have a near monopoly in the market of any category of interior design other than corporate interiors. - WRONG. There can still be a possible that it is, but known for corporate category only.

(C) For the most part, designs that are produced by small companies are superior to the designs produced by Baxe. - WRONG. At best, superiority can't be established with given argument. However, the bigger problem is with 'the most part'. We can't be sure about it. This is irrelevant to argument.

(D) At least some of the corporate managers who solicit design proposals are unaware that there are designs that are much better than those produced by Baxe. - WRONG. Them being 'unaware' is more bigger a problem to sort than designs being 'better'.

(E) The existence of interior designs that are superior to those produced by Baxe does not currently threaten its near monopoly in the corporate market. - CORRECT. Again superiority of designs is superfluous but it is surely that monopoly is not threatened as yet.

Answer E.

## Using Uncertain Statements to Make Valid Inferences

Terms such as most, many, often, several, and some indicate statements that lack absolute certainty. Consider the following statements:

- Many of the birds that live near this lake are ducks.
- Some of the marbles in this jar are cracked.
- I go running often.
- Most of the restaurants in this town close before midnight.

**Levels of Certainty:** Here are the types of statements you'll encounter in Inference stimuli, arranged from most concrete to least:

- Unqualified Assertions (e.g., *Bob is an attorney or Monday will be a rainy day*)
- Conditional Statements (e.g., *If the company hopes to meet its budget, then it must cut travel costs or McLaren will lose the election unless the county sees record voter turnout*)
- Statements with **most**—This means *more than half* but could include *all* (e.g., *Most of Company Y's employees are college graduates or A majority of the respondents preferred the new logo*).
- Statement with *some* or *few*—This means anywhere from one to all, just not zero (e.g., *Some architects are painters*).
- *Some* means  $0\% < \text{some} < 100\%$
- *Many* means more than 1
- *Several* means more than 2
- *Few* means almost zero ...  $\text{Few} > 0\%$
- *A few* means at least some ...  $0\% < \text{A few} < 100\%$
- *Often* is loosely defined ... can be  $<50\%$  or  $>50\%$
- *More often than not* means  $>50\%$
- *Majority* means  $>50\%$
- *Most* means  $>50\%$

### Top 1% expert replies to student queries (can skip)

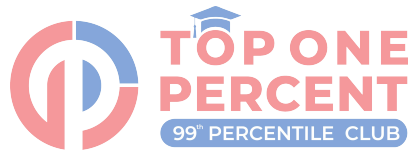
An unqualified assertion is a statement that is presented as an absolute truth, without any evidence or qualification to support it. Unqualified assertions are used

to make arguments seem stronger than they actually are, by making a claim without providing any support or justification for it.

For example, look at the following statement.

"All successful people are hardworking. Therefore, if you want to be successful, you must work hard."

In this example, the assertion that "all successful people are hardworking" is presented as an absolute truth without any evidence to support it. The argument assumes that success is always directly correlated with hard work, which may not be true in all cases



5. Most veterinarians, and especially those at veterinary research centers, have a devoted interest in the biological sciences. But most veterinarians choose their profession primarily because they love animals. Among persons who are seriously interested in biological science but lack any special love for animals, one does not find any prominent veterinarians.

**If all of the statements above are true, which one of the following CANNOT be true?**

- A. Some veterinarians have a greater love for biological science than for individual animals.
- B. Most veterinarians love animals and have an interest in biological science.
- C. Prominent veterinarians at some veterinary research centers are intensely devoted to the biological sciences but do not feel any pronounced affection for animals.
- D. Few veterinarians at university research centers chose their profession primarily because they love animals.
- E. Most veterinarians who are not prominent regard an understanding of the biological sciences as the most important quality for success in their profession.



### **Summary:**

Two uncertain statements followed by a conditional statement:

- Most (over half of) vets are devoted to bio.
- Most (over half of) vets love animals.

The correct answer will directly contradict the stimulus; the four wrong answers could be true in light of the stimulus.

Because both uncertain statements involve over half of the vet population, there must be some overlap. At least one vet must be devoted to bio and love animals. The Formal Logic statement applies to any prominent vet.

- A. Some veterinarians have a greater love for biological science than for individual animals. Possibly true! There is no limitation on at least one veterinarian loving science more than individual animals. The inclusion of "individual" is a red flag.
- Irrelevant Comparison.** Most vets have at least one of these characteristics;

the stimulus doesn't compare between them, however. Eliminate.

- B. Most veterinarians love animals and have an interest in biological science. Could be true since the only group that is restricted in their love for animals is prominent veterinarians who are seriously interested in biological sciences. This choice does not have to be true for the reasons you say--we only know that SOME vets like biology and love animals. But COULD most of vets love both biology and animals? Sure! We just don't know for certain. We aren't looking for what must be true on this particular inference question. We're looking for an answer choice that must be false. The four wrong answer choices on this question simply do not have to be false. In other words, they COULD be true. (B) does not need to be true, but neither need it be false. It could be true, and therefore is incorrect. **Could be true!** Most vets have one of these characteristics; it might be true that most have both. Eliminate.
- C. Prominent veterinarians at some veterinary research centers are intensely devoted to the biological sciences but do not feel any pronounced affection for animals. **Correct.** This choice contradicts the final sentence: There are no prominent vets who are seriously interested in bio but don't care intensely for animals.
- D. Few veterinarians at university research centers chose their profession primarily because they love animals. Out of scope, and is therefore possible, since there is no discussion of the motivation of veterinarians at university research centers. **Could be true.** Most vets overall choose their profession primarily because of their love of animals. This may not be true of those at research centers. Eliminate.
- E. Most veterinarians who are not prominent regard an understanding of the biological sciences as the most important quality for success in their profession. Out of scope, and is therefore possible, since the statements do not discuss the opinion of any veterinarian, let alone a non-prominent one. **Could be true.** The stimulus is silent on vets' opinions about what leads to success in the profession. Eliminate.



## Top 1% expert replies to student queries + sol from Manhattan prep

This question asks us to find an answer that we can prove to be FALSE according to the given statements. Looking at the statements, one should notice that the majority of them include the word "some", which only tells us that at least one member of a group has a certain characteristic. Since this argument contains so many different categories, it's best to start by looking at the statements that are more restrictive. The final sentence definitively states that there is not one prominent veterinarian who is both seriously interested in biological science and does not have a special love for animals. Answer (C) is therefore impossible, since it proposes that there is a prominent veterinarian with those characteristics.

(A) is possibly true. There is no limitation on at least one veterinarian loving science more than individual animals. The inclusion of "individual" is a red flag.

(B) could be true since the only group that is restricted in their love for animals is prominent veterinarians who are seriously interested in biological sciences.

(D) is out of scope, and is therefore possible, since there is no discussion of the motivation of veterinarians at university research centers

(E) is out of scope, and is therefore possible, since the statements do not discuss the opinion of any veterinarian, let alone a non-prominent one.

Note - Just because E is out of scope, that does not mean it CANNOT BE TRUE. All that means is that we don't have enough information to know whether it is right or not. In other words, it is possible. So E cannot be the answer.



6. Most opera singers who add demanding roles to their repertoires at a young age lose their voices early. It has been said that this is because their vocal cords have not yet matured and hence lack the power for such roles. But young singers with great vocal power are the most likely to ruin their voices. The real problem is that most young singers lack the technical training necessary to avoid straining their vocal cords—especially when using their full vocal strength. Such misuse of the cords inevitably leads to a truncated singing career.

**Which one of the following does the information above most strongly support?**

- A. Young opera singers without great vocal power are unlikely to ruin their voices by singing demanding roles.
- B. Some young opera singers ruin their voices while singing demanding roles because their vocal cords have not yet matured.
- C. Only opera singers with many years of technical training should try to sing demanding roles.
- D. Only opera singers with mature vocal cords can sing demanding roles without undue strain on their vocal cords.
- E. Most young opera singers who sing demanding roles strain their vocal cords.

**Summary:**

Most (over half of) young opera singers with demanding roles will lose voice prematurely.

[a popular explanation] Some say this is because they don't have the power for the roles.

**but**

[author's observation] Those with the most power are the ones most likely to ruin their voices.

[author's reason— "the real problem"] Most (over half of) young singers lack technical training

**and**

Training is **necessary** to avoid straining the vocal cords.

**and**

Strained vocal cords shorten singing careers.

Combine statements and make deductions: Most young opera singers with demanding roles lack the training **necessary** to avoid vocal strain. The correct answer is supported by these statements.

- A. Young opera singers without great vocal power are unlikely to ruin their voices by singing demanding roles. | Young singers with great vocal power are **most likely** to ruin their voices. Young singers without power may ruin their voices, too. This choice is close but not quite. We know that "young opera singers with great vocal power are the most likely to ruin their voices." This claim does not say, however, that young opera singers without great vocal power are unlikely to ruin their voice. Eliminate.
- B. Some young opera singers ruin their voices while singing demanding roles because their vocal cords have not yet matured. This choice restates a claim that the author disagrees with. So, while you can find this claim in the stimulus, the author does not believe it to be true. **Distortion**. This is what "has been said" by others. The author disagrees and presents an alternative theory (the "real problem"). Eliminate.
- C. Only opera singers with many years of technical training should try to sing demanding roles. This choice cannot be inferred. The author never makes a recommendation about what opera singers ought to do, so the word "should" in the answer choice is inappropriate. **Extreme**. The author does not say technical training requires many years. Eliminate.
- D. Only mature opera singers can sing demanding roles without undue strain on their vocal cords. Out of scope! We are not given information about mature opera singers. **Extreme**. Young singers **could** take on demanding roles without straining their vocal cords if they were properly trained. Eliminate.
- E. Most young opera singers who sing demanding roles strain their vocal cords. This choice must be true. Combines the first sentence with the fourth sentence. If most opera singers who add demanding roles lose their voices and this is because most young opera singers lack the technical training necessary to avoid

straining their vocal chords, then this answer choice must be true. **Correct.** The “real problem” is that most young singers lack the training required to avoid straining vocal cords when singing demanding roles. Facts: (1) Most opera singers who sing demanding roles at a young age lose their voices early. (2) Young singers strain their vocal cords. So, it must be that these opera singers that have lost their voices as a result of singing demanding roles at a young age **MUST** have strained their vocal cords while they were young. Again, because the result of them losing their voices now are a byproduct of what they did when they were young. From the first sentence of the stimulus we know that most young opera singers who take on demanding roles at young ages lose their voices early, and we are later told that the real problem is that most young singers lack the technical training to avoid straining their vocal chords, so it is a logical inference that the referenced loss of voice would be attributable to vocal strain.

### Top 1% expert replies to student queries (can skip)

Focus on the words 'the real problem is'. This tells you the problem / reason why most young singers lose their voice is not because their vocal cords haven't matured, but because they haven't received proper training. Even if the part that said most young singers lose their voices because of lack of maturity of vocal cords, we don't know what happens to the remaining 'some' young singers. So, we cannot make the leap that Option (B) is asking us to make.

### Top 1% expert replies to student queries (can skip)

In option B, the distortion is in terms of the fact that B says that "*Some young opera singers ruin their voices while singing demanding roles because their vocal cords have not yet matured*". But we know that while this claim is present in the passage/stimulus, the author does not agree with it. So B distorts the facts.

7. Forester: The great majority of the forests remaining in the world are only sickly fragments of the fully functioning ecosystems they once were. These fragmented forest ecosystems have typically lost their ability to sustain themselves in the long term, yet they include the last refuges for some of the world's most endangered species. To maintain its full complement of plant and animal species, a fragmented forest requires regular interventions by resource managers.

**The forester's statements, if true, most strongly support which one of the following?**

- A. Most of the world's forests will lose at least some of their plant or animal species if no resource manager intervenes.
- B. Unless resource managers regularly intervene in most of the world's remaining forests, many of the world's most endangered species will not survive.
- C. A fragmented forest ecosystem cannot sustain itself in the long term if it loses any of its plant or animal species.
- D. A complete, fully functioning forest ecosystem can always maintain its full complement of plant and animal species even without interventions by resource managers.
- E. At present, resource managers intervene regularly in only some of the world's fragmented forest ecosystems.

### Summary:

- Most (over half of) remaining forests are just fragments of what they once were.
- These fragmented forests have “typically” lost their ability to sustain themselves.
- Fragmented forests are refuges for some of the world's endangered species.
- Regular intervention by resource managers is **necessary** for fragmented forest to maintain all plant/animal species.

Question type: Inference

To paraphrase the given set of statements: if a threatened forest is going to continue to be a viable home for all the plants and animals that are living there, then a forest

ranger “resource manager” will have to come and help out on a regular basis. Furthermore, the majority of forests — the last refuge of many endangered species — are now threatened, and have lost the ability to sustain themselves. From these statements we can infer (A), that if the forest rangers don’t help, many forests will lose at least a species. We can infer this because we know that the forests are unable to support themselves and require help if they are to support all the species that currently live therein.

The stimulus tells us that regular interventions by resource managers are a requirement for the forest to maintain its **full** complement of plant and animal species. This leaves open the possibility that, without the intervention, they can still maintain **some** of their animal species, and it's possible that the endangered ones are the ones that would survive.

This forester tells the story of the world’s remaining forests, which have significantly dwindled from what they once were. They are home to many endangered species but are not self-sustaining. The final sentence in the stimulus is a conditional statement:

To maintain all of their respective plant and animal species, these forests *require* resource manager intervention:

- X to Y ... maintain all species → resource manager intervention

Y not to X not: ~~intervention~~ → ~~can maintain all species~~

Only **correct answer choice (A)** is confirmed by the information presented in the stimulus. This is the correct answer choice, restating the contrapositive diagrammed above. If there is no intervention, not every species can be maintained.

- A. Most of the world’s forests will lose at least some of their plant or animal species if no resource manager intervenes. **Correct.** This matches the deduction above.
- B. Unless resource managers regularly intervene in most of the world’s remaining forests, many of the world’s most endangered species will not survive. This choice is unsupported since the argument does not outline which animals are specifically threatened. This is a tempting answer since we know that the forests include these threatened species, but we’re not sure if the threat they face is related to the lack of help from the forest ranger. **Extreme.** Fragmented forests

contain some of the world's most endangered species. It is impossible to determine whether many such species would be lost without intervention in most of these forests. Eliminate.

C. A fragmented forest ecosystem cannot sustain itself in the long term if it loses any of its plant or animal species. This choice is reversed logic. We are told that a fragmented forest will lose some species if the forest is not assisted, not that the loss of the species will lead to the fragmentation of the forest. **Distortion.** It is not clear that the loss of a single plant or animal species would make a forest unsustainable. Eliminate.

D. A complete, fully functioning forest ecosystem can always maintain its full complement of plant and animal species even without interventions by resource managers. This choice is unsupported; indeed it is the opposite of what the statements suggest. **Extreme** ("always") and Outside the Scope. It's not known what complete, fully functioning forest ecosystems can do. Eliminate.

E. At present, resource managers intervene regularly in only some of the world's fragmented forest ecosystems. **Outside the Scope.** We have no way of knowing what resource managers are currently doing. Eliminate.



### Top 1% expert replies to student queries (can skip)

To maintain all species, we need resource manager intervention.

If there is no resource manager intervention, **all species will not be maintained.** What does this mean? if all species are not being maintained, then some of them are being lost, while the others are being maintained.

(B) - The opposite of full is not full → means at least one won't survive. 'Many' isn't inferable as it is more than 1. Therefore, B is incorrect.



8. To be great, an artwork must express a deep emotion, such as sorrow or love. But an artwork cannot express an emotion that the artwork's creator is incapable of experiencing.

**Which one of the following can be properly inferred from the statements above?**

- A. A computer can create an artwork that expresses sorrow or love only if it has actually experienced such an emotion.
- B. The greatest art is produced by those who have experienced the deepest emotions.
- C. An artwork that expresses a deep emotion of its creator is a great artwork.
- D. As long as computers are constructed so as to be incapable of experiencing emotions, they will not create great artworks.
- E. Only artworks that succeed in expressing deep emotions are the products of great artists.

### Summary

- If great art then expresses a deep emotion
- If not express a deep emotion then not great art
- If art expresses an emotion then creator capable of experiencing that emotion
- If creator incapable of that emotion then art cannot express experiencing an emotion

*Combine the statements:*

If a creator is incapable of experiencing deep emotion  
then

art cannot be great

The stimulus can be diagrammed as follows (each statement is followed by its contrapositive): X to Y means Y not to X not is correct.

$$GA \rightarrow E_{\text{Deep}} \quad E_{\text{Deep}} \rightarrow GA$$

$$CE \rightarrow E \quad A \rightarrow CE$$

The first arrangement could be stated as, “if a work of art is great, then it is a work of art expressing deep emotion.” The second arrangement could be stated as, “if the creator of a work of art is not capable of a certain emotion, then the work of art cannot express that emotion.”

Combining:

$$GA \rightarrow CE_{\text{Deep}} \quad \neg CE_{\text{Deep}} \rightarrow \neg GA$$

If we are looking at a piece of great art, then, we can be certain that its creator has the ability to experience deep emotion. So, an artist who cannot experience deep emotion cannot create great art.

- A. A computer can create an artwork that expresses sorrow or love only if it has actually experienced such an emotion.

We cannot rule out such a possibility because the stimulus is concerned with the prerequisites of great art, while this answer choice discusses art more generally. If computer can create art expressing sorrow / love then has experienced that emotion. For art to express an emotion, its creator must be *capable* of experiencing an emotion. This answer choice distorts that into “*has experienced*” an emotion. Eliminate.

- B. The greatest art is produced by those who have experienced the deepest emotions. **Extreme.** The stimulus says nothing about the *greatest* art. Eliminate.

- C. An artwork that expresses a deep emotion of its creator is a great artwork.

*If art expresses deep emotion then great art*

We know that a great work of art will be one that expresses an emotion, but do we really believe that every time someone puts paint to canvas while extremely happy (or extremely sad) a great work of art is going to emerge? Certainly not: the diagramming above will remind us that the starting point is “if a work of art is great....” An artist can be ecstatic and nevertheless turn out a mediocre piece. This answer choice could be false, so it is gone. This flips the necessary and sufficient terms in the logic of the first sentence. Being able to express deep emotion is necessary, not sufficient, for great artwork. Eliminate.

- D. As long as computers are constructed so as to be incapable of experiencing emotions, they will not create great artworks. **Correct.**

*If incapable of experiencing emotions then won't create great art*

This matches the analysis perfectly.

Based on the contrapositive (Y not to X not) of our inference above, we can see that if an entity cannot experience deep emotion, then that entity cannot produce great works of art. This answer choice discusses computers that have no emotion at all, but any entity incapable of experiencing a single emotion would be incapable of experiencing the deep ones. This choice is confirmed by the facts of the stimulus, so it is the correct answer.

- E. Only artworks that succeed in expressing deep emotions are the products of great artists.

*Only* signifies a necessary condition.

**If product of great artist then succeeds in expressing deep emotion**

Outside the Scope. Great art must express deep emotions, but perhaps not everything produced by a great artist is great art. Eliminate.

The claim here is basically that the products of great artists are limited to artworks that express deep emotion. This claim deviates significantly from the conditional statement in the first sentence, which only talks about great artworks, not great artists. Since the stimulus does not support this assertion, so this choice can be ruled out of contention.

### **Top 1% expert replies to student queries (can skip)**

The passage says artwork cannot express an emotion that its creator cannot experience. Do we know the counterfoil of this - what happens *for sure* when its creator has experienced / is capable of experiencing an emotion? We simply don't from the information provided in the passage.

Focus on words such as 'properly inferred' - Option (A) cannot definitely be said, and so is not the correct answer. However, look at Option (D). Now *this* option states the conclusion of the passage, not Option (A). Option (D) says if computers are incapable of experiencing emotions, they will not produce great artwork. This almost verbatim what the passage tells us.

Option (C) is a generalization that the information in the passage doesn't permit us to do - the passage says all great artwork (subset) has to express emotion (superset), but this doesn't necessarily mean all artwork that expresses emotion is great.

## Top 1% expert replies to student queries (can skip)

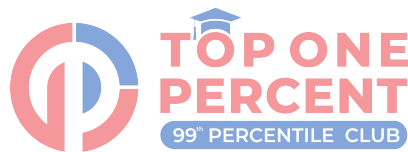
A is refuted because of the difference between being **capable of experiencing** an emotion and **actually experiencing** that emotion.

(A) is wrong because it talks about creating an artwork (that expresses sorrow or love), not creating a great artwork. From the stimulus, we don't know that creating all types of artwork that express emotions require experiencing the emotions, we just know that creating *great* artwork does.

(D) - Emotions are there in every piece of good artwork. To create great artwork, the emotion must come through the artist. The artist should be able to feel the emotion in order to create great art which is filled with emotions.

Now, computers run on binary, they can't understand emotions, in all definitions. To create great artwork, emotions are a must for the creator of the artwork to have beforehand. Since the computers don't have emotions, they can't produce great artwork.

This is basically what D says.



9. Commentator: If a political administration is both economically successful and successful at protecting individual liberties, then it is an overall success. Even an administration that fails to care for the environment may succeed overall if it protects individual liberties. So far, the present administration has not cared for the environment but has successfully protected individual liberties.

**If all of the statements above are true, then which one of the following must be true?**

- A. The present administration is economically successful.
- B. The present administration is not an overall success.
- C. If the present administration is economically successful, then it is an overall success.
- D. If the present administration had been economically successful, it would have cared for the environment.
- E. If the present administration succeeds at environmental protection, then it will be an overall success.



**Summary:** If political admin successful at econ AND at protecting individual liberties then overall success | Present administration: successful at protecting individual liberties | The second sentence makes the present administration's failure to care for the environment irrelevant to an assessment of overall success.

The present administration has met one of two conditions sufficient for overall success. The correct answer must be true based on these statements.

The stimulus presents a combination of conditional statements and simple statements of facts:

- political administration economically successful AND successful protecting individual liberties → overall success
- administration that protects individual liberties may succeed overall
- present administration hasn't cared for environment but is successful at protecting individual liberties

We can ignore "Even an administration that fails to care for the environment" in the second sentence because it doesn't trigger anything. An administration that protects individual liberties may succeed regardless of whether it cares for the environment or doesn't.

The first statement doesn't tell us anything about the present administration, since we don't know if the administration is economically successful. At most, we can combine the second and third statements to conclude that it may succeed overall.

Answer choice analysis:

(A) We aren't told this, and can't connect the given statements to draw this conclusion. The present administration is economically successful. | This cannot be inferred from the statements above. Eliminate.

(B) We don't know that the current administration is an overall success, but according to the second and third statements it might be one. The present administration is not an overall success. | This depends on whether the present administration is economically successful, and that is unknown here. Eliminate.

(C) Correct! The stimulus tells us that the administration protects individual liberties. If they are also economically successful, the first statement in the stimulus now applies, and we know they will be an overall success. If the present administration is economically successful, then it is an overall success. | **Correct.** If this is true, then both sufficient conditions have been met, and the administration would be an overall success

(D) None of the statements in the stimulus tell us that caring for the environment is a result of any other condition. We don't know if economic success, protecting individual liberties, or anything else guarantees caring for the environment. If the present administration had been economically successful, it would have cared for the environment. **Outside the Scope.** We do not know what would have made the administration care or not care for the environment. Eliminate.

E. This is similar to the correct answer, choice (C), but be careful. Economic success, not environmental protection, is what allows us to conclude that the administration will be an overall success. If the present administration succeeds at environmental protection, then it will be an overall success. The second half of the sufficient condition is a successful economy, not success protecting the environment. Eliminate.

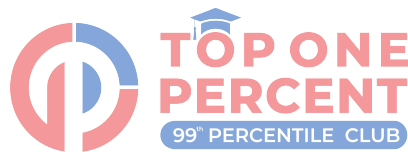
## **Top 1% expert replies to student queries (can skip)**

There are three things the passage talks about that an administration can do:

- 1) Be economically successful
- 2) Uphold individual liberties
- 3) Protect the environment

Among these, keep in mind, the way the passage is written, only 1 and 2 make it an overall success. The 3rd point is not a necessity at all if 1 and 2 are satisfied

That way, it should become immediately clear why Option (E) is eliminated - it does not talk anything about point 1 above. The stem of the question already says environmental protection has not happened, so even if it happens, that's only 2 and 3, whereas to be called an overall success, an administration needs to do 1 and 2





10. Market analyst: According to my research, 59 percent of consumers anticipate paying off their credit card balances in full before interest charges start to accrue, intending to use the cards only to avoid carrying cash. This research also suggests that in trying to win business from their competitors, credit card companies tend to concentrate on improving the services that most of the customers are interested in. Therefore, we can expect that \_\_\_\_\_

**Which one of the following most logically completes the market analyst's argument?**

- A. most customers would be indifferent about which company's credit card they use
- B. credit card companies would not make the interest rates they charge on cards the main selling point
- C. most consumers would prefer paying interest on credit card debts over borrowing money from banks
- D. most consumers would ignore the length of time a credit card company allows to pay the balance due before interest accrues
- E. the most intense competition among credit card companies would be over the number of websites that they can get to accept their credit card

### **Summary:**

- Research shows that most credit card customers intend to pay off cards before they begin to accrue interest.
- "This research also suggests" that, to win customers, credit card companies tend to focus on services in which customers are most interested.

Consumers don't plan to carry balances, so they likely aren't too concerned with interest rates. Because credit card companies tend to focus on features in which customers are interested, *they will focus on something other than interest rates.*

- A. most customers would be indifferent about which company's credit card they use. This is just silly – it's clearly unsupported by any of the statements above. ... This **contradicts** the research findings that customers decide which credit card to carry based on the features in which they are interested. **OUT!**

- B. credit card companies would not make the interest rates they charge on cards the main selling point. This involves interest rates and what people do or do not want. Specifically, it says what you might even have realized above that since interest rates are irrelevant to most people (at least according to their expectations), they probably won't think about this in choosing a credit card. **Correct.** This is the answer that follows from combining the analyst's two findings.
- C. most consumers would prefer paying interest on credit card debts over borrowing money from banks. This is out of scope: there is nothing in the passage about borrowing money from banks. **Irrelevant Comparison.** The stimulus does not discuss preferences in *paying* interest (rather, a desire to *avoid* interest) and says nothing at all about borrowing from banks. Eliminate.
- D. most consumers would ignore the length of time a credit card company allows to pay the balance due before interest accrues. We don't have enough in the passage to support an inference about whether the period of time matters. **Outside the Scope.** The length of time allowed before interest begins to accrue is not discussed. Eliminate.
- E. the most intense competition among credit card companies would be over the number of websites that they can get to accept their credit card. This choice has many indicators that it is not the correct answer "most intense" and also the introduction of a new idea: the number of places who accept the card. **Outside the Scope.** The stimulus does not even hint at a discussion of the websites where a credit card is accepted. The idea is to avoid carrying cash (to physical locations where the card may or may not be accepted). Eliminate.

### Alternate sol from Manhattan prep

Complete-the-argument questions involve two considerations. First, they are often disguised conclusion questions, so that we want to keep logical inferences and strict scope considerations in mind. Second, to a much lesser degree, we want to think about flow.

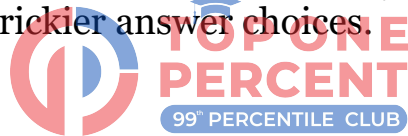
Here, the author mentioned two things in the argument, and they were both facts/premises. First, the author said that most people expect to pay their bills before interest accrues. Then the author said that credit card companies concentrate on the services their customers care most about when trying to win over customers from other companies. The first thing that comes to mind for me, and I'm guessing most

readers, is that the customers probably don't care too much about anything related to interest if they don't plan to ever pay it. While common sense might dictate that you should care a little in the real world in case something unforeseen happens, this is exam logic we're talking about.

Let's take a look at the answers keeping in mind our conclusion but also staying open to other logically sound conclusions.

- (A) is just silly - it's clearly unsupported by any of the statements above.
- (B) sounds about right. This involves interest rates and what people do or do not want. Specifically, it says what you might even have realized above - that since interest rates are irrelevant to most people (at least according to their expectations), they probably won't think about this in choosing a credit card.
- (C) is out of scope - there is nothing in the passage about borrowing money from banks.
- (D) looks more like a new premise than a conclusion. We don't have enough in the passage to support an inference about whether the period of time matters.
- (E) has many indicators that it is not the correct answer - "most intense" and also the introduction of a new idea - the number of places who accept the card.

Interestingly, this is a pretty straightforward question if you work by process of elimination, even though it comes rather late in the section. That said, it was important here to keep in mind what we knew logically to be true, or we could have been misled with some of the trickier answer choices.



# Questions for class discussion

1. Students from outside the province of Markland, who in any given academic year pay twice as much tuition fee each as do students from Markland, had traditionally accounted for at least two-thirds of the enrollment at Central Markland College. Over the past 10 years academic standards at the college have risen, and the proportion of students who are not Marklanders has dropped to around 40 percent. **Which one of the following can be properly inferred from the statements above?**
  - A. If it had not been for the high tuition paid by students from outside Markland, the college could not have improved its academic standards over the past 10 years.
  - B. If academic standards had not risen over the past 10 years, students who are not Marklanders would still account for at least two-thirds of the college's enrollment.
  - C. Over the past 10 years, the number of students from Markland increased and the number of students from outside Markland decreased.
  - D. Over the past 10 years, academic standards at Central Markland College have risen by more than academic standards at any other college in Markland.
  - E. If the college's per capita revenue from tuition has remained the same, tuition fees have increased over the past 10 years.

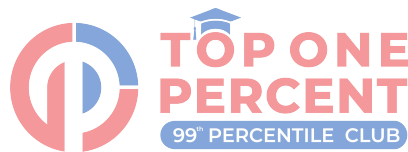
2. Reviving the practice of using elements of popular (pop) music in classical composition, an approach that had been in hibernation in the United States during the 1960s, composer Philip Glass (born 1937) embraced the ethos of popular music in his compositions. Glass based two symphonies on music by rock musicians David Bowie and Brian Eno, but the symphonies' sound is distinctively his. Popular (pop) elements do not appear out of place in Glass's classical music, which from its early days has shared certain harmonies and rhythms with rock music. This use of popular (pop) elements has not made Glass a composer of popular (pop) music. His music is not a version of popular (pop) music packaged to attract classical listeners, nor is it offered as “high art” for listeners steeped in rock rather than the classics.

**The passage helps us answer which of the following questions related to Glass's use of popular elements in his classical compositions?**

- A. How is it regarded by listeners who prefer rock music to the classical music?
- B. How has it affected the commercial success of Glass's music?
- C. Has it had a positive effect on Glass's reputation as a composer of classical music?
- D. Has it contributed to a revival of interest among other composers in using popular elements in their compositions?
- E. Has it caused Glass's works to be derivative in quality?

3. In an experiment, two-year-old boys and their fathers made pie dough together using rolling pins and other utensils. Each father-son pair used a rolling pin that was distinctively different from those used by the other father-son pairs, and each father repeated the phrase “rolling pin” each time his son used it. But when the children were asked to identify all of the rolling pins among a group of kitchen utensils that included several rolling pins, each child picked only the one that he had used. **Which one of the following inferences is most supported by the information above?**

- A. The children did not grasp the function of a rolling pin.
- B. No two children understood the name “rolling pin” to apply to the same object.
- C. The children understood that all rolling pins have the same general shape.
- D. Each child was able to identify correctly all of the utensils that he had used.
- E. The children were not able to distinguish the rolling pins they used from other rolling pins.



4. Mystery stories often feature a brilliant detective and the detective's dull companion. Clues are presented in the story, and the companion wrongly infers an inaccurate solution to the mystery using the same clues that the detective uses to deduce the correct solution. Thus, the author's strategy of including the dull companion gives readers a chance to solve the mystery while also diverting them from the correct solution. **Which one of the following is most strongly supported by the information above?**

- A. Most mystery stories feature a brilliant detective who solves the mystery presented in the story.
- B. Mystery readers often solve the mystery in a story simply by spotting the mistakes in the reasoning of the detective's dull companion in that story.
- C. Some mystery stories give readers enough clues to infer the correct solution to the mystery.
- D. The actions of the brilliant detective in a mystery story rarely divert readers from the actions of the detective's dull companion.
- E. The detective's dull companion in a mystery story generally uncovers the misleading clues that divert readers from the mystery's correct solution.



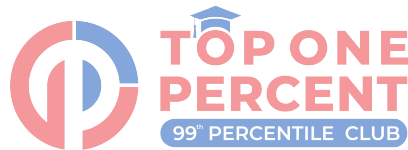


5. A recent research study of undergraduate students analyzed the effects of music on human emotions. Each of the 200 participants attended at least 1 two-hour concert of classical music per week over the course of 12 weeks of their spring semester. At the end of the experiment, all of the students filled out a questionnaire assessing their emotional state. Based on the results of the questionnaires, all of the 10 students who attended the greatest number of concerts reported lower stress levels and higher satisfaction with their lives. Also, most of the 20 students who attended the fewest number of concerts reported below-average levels of emotional comfort. **Which of the following must be true based on the evidence presented above?**

- A. Most of the 200 participants improved their emotional state and lowered their stress levels.
- B. During each week of the experiment, the participants spent at least 2 hours less on their academic work as a result of concert attendance.
- C. Listening to classical music for at least 2 hours per week improves the emotional well-being of the majority of young adults.
- D. More than 6 participants attended at least 14 concerts during the course of the experiment.
- E. At least some of the students participated in the study in order to gain free access to classical concerts.

6. Everyone who has graduated from Topnotch High School has an intelligence quotient (IQ) of over 120. Most students with an IQ of over 120 and all students with an IQ of over 150 who apply to one or more Ivy League Universities are accepted to at least one of them. **Which of the following must be true based on the information given above?**
- A. Every graduate of Topnotch High School with an IQ of 150 has been accepted by atleast one Ivy-League University.
  - B. If a person is a high-school graduate and has an IQ of less than 100, he or she could not have been a student at Topnotch High School.
  - C. At least one graduate from topnotch High School who has applied to any Ivy-League University has been accepted by that university.
  - D. If a person has an IQ of 130 and is attending an Ivy-League University, it is possiblefor him or her to have graduated from Topnotch High School.
  - E. If a high-school graduate has an IQ of 150 and is not attending an Ivy-League University, then he or she did not apply to that university.
7. The number of North American children who are obese—that is, who have more body fat than do 85 percent of North American children their age—is steadily increasing, according to four major studies conducted over the past 15 years. **If the finding reported above is correct, it can be properly concluded that:**
- A. when four major studies all produce similar results, those studies must be accurate
  - B. North American children have been progressively less physically active over the past 15 years
  - C. the number of North American children who are not obese increased over the past 15 years
  - D. over the past 15 years, the number of North American children who are underweight has declined
  - E. the incidence of obesity in North American children tends to increase as the children grow older

8. Parasitic wasps lay their eggs directly into the eggs of various host insects in exactly the right numbers for any suitable size of host egg. If they laid too many eggs in a host egg, the developing wasp larvae would compete with each other to the death for nutrients and space. If too few eggs were laid, portions of the host egg would decay, killing the wasp larvae. **Which of the following conclusions can properly be drawn from the information above?**
- A. The size of the smallest host egg that a wasp could theoretically parasitize can be determined from the wasp's egg-laying behavior.
  - B. Host insects lack any effective defenses against the form of predation practiced by parasitic wasps.
  - C. Parasitic wasps learn from experience how many eggs to lay into the eggs of different host species.
  - D. Failure to lay enough eggs would lead to the death of the developing wasp larvae more quickly than would laying too many eggs.
  - E. Parasitic wasps use visual clues to calculate the size of a host egg.



9. For a ten-month period, the total monthly sales of new cars within the country of Calistan remained constant. During this period the monthly sales of new cars manufactured by Marvel Automobile Company doubled, and its share of the new car market within Calistan increased correspondingly. At the end of this period, emission standards were imposed on new cars sold within Calistan. During the three months following this imposition, Marvel Automobile Company's share of the Calistan market declined substantially even though its monthly sales within Calistan remained constant at the level reached in the last month of the ten-month period. **If the statements above are true, which one of the following CANNOT be true?**

- A. The total monthly sales within Calistan of new cars by companies other than Marvel Automobile Company decreased over the three months following the imposition of the emission standards.
- B. Over the three months before the imposition of the emission standards, the combined market share of companies other than Marvel Automobile Company selling new cars in Calistan decreased.
- C. If the emission standards had not been imposed, Marvel Automobile Company would have lost an even larger share of the number of new cars sold in Calistan than, in fact, it did.
- D. A decrease in the total monthly sales of new cars within Calistan will occur if the emission standards remain in effect.
- E. Since the imposition of the emission standards, Marvel Automobile Company's average profit on each new car sold within Calistan has increased.

10. Critic: Emily Dickinson's poetry demonstrates that meaning cannot reside entirely within a poem itself, but is always the unique result of an interaction between a reader's system of beliefs and the poem; and, of course, any two readers from different cultures or eras have radically different systems of beliefs. **If the critic's statements are true, each of the following could be true EXCEPT:**
- A. A reader's interpretation of a poem by Dickinson is affected by someone else's interpretation of it.
  - B. A modern reader and a nineteenth-century reader interpret one of Shakespeare's sonnets in the same way.
  - C. A reader's interpretation of a poem evolves over time.
  - D. Two readers from the same era arrive at different interpretations of the same poem.
  - E. A reader's enjoyment of a poem is enhanced by knowing someone else's interpretation of it.
11. In Eastland, from 2000 to 2005, the total consumption of fish increased by 4.5 percent, and the total consumption of poultry products increased by 9.0 percent. During this time, the population of Eastland increased by 6 percent, in part due to new arrivals from surrounding areas. **Which of the following can one infer based on the statements above?**
- A. For new arrivals to Eastland between 2000 and 2005, fish was less likely to be a major part of families' diet than was poultry.
  - B. In 2005, the residents of Eastland consumed twice as much poultry as fish.
  - C. The per capita consumption of poultry in Eastland was higher in 2005 than it was in 2000.
  - D. Between 2000 and 2005, both fish and poultry products were a regular part of the diet of a significant proportion of Eastland residents.
  - E. Between 2000 and 2005, the profits of wholesale distributors of poultry products increased at a greater rate than did the profits of wholesale distributors of fish.

**12.** Box office revenues for independent movies for the first half of this year have increased by 20 percent over the total revenues for independent movies for all of last year. Last year, 50 independent movies were released, while so far this year only 20 independent movies have been released. The number of independent movies slated for release in the second half of this year is roughly equal to the number released so far. **If the statements above are true, which of the following must be true?**

- A. The total box office revenues for independent movies this year will be significantly more than 20 percent greater than the revenues for independent movies last year.
- B. The number of independent movies released in the first half of this year is equal to the number released in the first half of last year.
- C. The price of a movie ticket has not increased since last year.
- D. The average revenues of the independent films released during the first half of this year is greater than that of all independent films released last year.
- E. The number of people seeing independent movies during the first half of this year is greater than the number who saw independent movies last year.



13. From 1973 to 1989 total energy use in this country increased less than 10 percent. However, the use of electrical energy in this country during this same period grew by more than 50 percent, as did the gross national product—the total value of all goods and services produced in the nation. **If the statements above are true, then which one of the following must also be true?**

- A. Most of the energy used in this country in 1989 was electrical energy.
- B. From 1973 to 1989 there was a decline in the use of energy other than electrical energy in this country.
- C. From 1973 to 1989 there was an increase in the proportion of energy use in this country that consisted of electrical energy use.
- D. In 1989 electrical energy constituted a larger proportion of the energy used to produce the gross national product than did any other form of energy.
- E. In 1973 the electrical energy that was produced constituted a smaller proportion of the gross national product than did all other forms of energy combined.





**14.** Ditrama is a federation made up of three autonomous regions: Korva, Mitro, and Guadar. Under the federal revenue-sharing plan, each region receives a share of federal revenues equal to the share of the total population of Ditrama residing in that region, as shown by a yearly population survey. Last year, the percentage of federal revenues Korva received for its share decreased somewhat even though the population survey on which the revenue-sharing was based showed that Korva's population had increased. **If the statements above are true, which one of the following must also have been shown by the population survey on which last year's revenue-sharing in Ditrama was based?**

- A. Of the three regions, Korva had the smallest number of residents.
- B. The population of Korva grew by a smaller percentage than it did in previous years.
- C. The populations of Mitro and Guadar each increased by a percentage that exceeded the percentage by which the population of Korva increased.
- D. Of the three regions, Korva's numerical increase in population was the smallest.
- E. Korva's population grew by a smaller percentage than did the population of at least one of the other two autonomous regions.



**15.** The restaurant business wastes more energy than any other industry in the United States. Nearly 80 percent of the \$10 billion spent on energy by the restaurant industry each year is squandered by the use of inefficient equipment. At the same time, approximately 70 percent of restaurants in the United States are small businesses that are usually too cash poor to invest in energy-efficient technology. **Which of the following statements draws the most reliable conclusion from the information above?**

- A. The availability of energy-efficient equipment will reduce the energy costs of the restaurant industry by approximately 30 percent.
- B. No industry in the United States spends greater than \$10 billion each year on energy.
- C. By using energy-efficient technology, a small restaurant will reduce its expenses by a greater percentage than will a large restaurant.
- D. Approximately \$2 billion of the amount spent on energy each year by the restaurant industry is not squandered.
- E. The replacement of inefficient equipment represents the largest potential source of energy savings for the restaurant industry.



## CR Session 1 Answer-key

1. E
2. E
3. B
4. C
5. D
6. D
7. C
8. A
9. A
10. B
11. C
12. D
13. C
14. E
15. E



## SOLUTIONS

1. **The correct answer choice is (E).** The stimulus does not contain a conclusion, but it does contain an interesting fact set: “Students from outside the province of Markland, who in anygiven academic year pay twice as much tuition fee each as do students from Markland, had traditionally accounted for at least two-thirds of the enrollment at Central Markland College.” This sentence indicates that the non-Marklanders are paying a greater amount of tuition, and they previously accounted for at least 66% of the enrollment. This statement is followed by: “Over the past 10 years academic standards at the college have risen, and the proportion of students who are not Marklanders has dropped to around 40 percent.” This sentence can be deceptive because it contains two ideas that are unrelated and many people assume that the proportion of non-Marklanders has dropped because the academic standards rose. The sentence only states that the non-Marklanders have dropped; not that they dropped because of the raised standards. As you learned from our discussion in this chapter, the fact that the non-Marklanders have dropped in percent does not mean that their actual number has decreased. The following is an example of how the percent could decrease while numbers could increase:

	10 years ago	Today
Total number of students at Central Markland	100	200
Number of non-Markland students	66 (66%)	80 (40%)
Number of Markland students	34 (34%)	120 (60%)

Answer choice (A): The stimulus does not cite any reason for why or how the academic standards were increased, so this answer is incorrect.

Answer choice (B): This answer tests your ability to understand the last sentence of the stimulus. As discussed above, the last sentence does not provide a reason for the decline in non-Markland students, so removing the stipulation about the rise in academic standards would not tell us whether non-Marklanders would still be enrolled in the college.

Answer choice (C): This is a difficult answer. If the size of the college stayed the same, then this answer would be correct. But, as shown by the example above, the statement in this answer does not have to be true when the total size of the college changes. In the example, both Markland students and non-Markland student numbers grew.

Answer choice (D): Remember, this is a Must Be True question, so every answer must pass the Fact Test. No information was given about other Markland colleges, so this answer is incorrect.

**Answer choice (E): This is the correct answer.** If the college’s per capita revenue from tuition remains constant while at the same time the high-tuition paying non-Marklanders have decreased in percentage, the college must have derived new tuition revenue by raising tuition. In other words, when the percentage of non-Marklanders drops, the average tuition per person must also drop because they pay twice as much as the Markland students. In order to keep the per person revenue the same, fees would have to be raised.

## Alternate sol from gmatchclub

Question stem: Which one of the following can be properly inferred from the statements above?

This is a 'must be true' question. You are looking for the option that can be inferred from the stimulus.

Premises:

-Students from outside Markland, who pay twice as much tuition as do students from Markland, had accounted for at least  $\frac{2}{3}$  of the enrollment.

-Over the past 10 years academic standards at the college have risen and the proportion of students who are not Marklanders has dropped to around 40 percent. Which means that 60% students are now Marklanders.

(A) If it had not been for the high tuition paid by students from outside Markland, the college could not have improved its academic standards over the past 10 years.

We do not know why the standards improved. Cannot be inferred.

(B) If academic standards had not risen over the past 10 years, students who are not Marklanders would still account for at least two-thirds of the college's enrollment.

Cannot be inferred. We do not know if there is a relation between academic standards and % of non Marklanders.

(C) Over the past 10 year the number of students from Markland increased and the number of students from outside Markland decreased.

No information about number of students. Cannot be inferred.

(D) Over the past 10 years academic standards at Central Markland College have risen by more than academic standards at any other college in Markland.

No information about other colleges. Cannot be inferred.

(E) If the college's per capita revenue from tuition has remained the same, tuition fees have increased over the past 10 years.

Per capita revenue implies the average paid by each student. It doesn't matter whether the total number of students have increased or decreased. If those paying twice have reduced, then to still get the same average, tuition must have increased.

Answer (E).

2. The passage describes in general terms how Philip Glass uses popular music in his classical compositions and explores how Glass can do this without being imitative. Note that there are no opposing views discussed; the author is simply presenting his or her views. One of the important points that the passage makes is that when Glass uses popular elements in his music, the result is very much his own creation (it is “**distinctively his**”). In other words, the music is far from being derivative. Thus, one issue that the passage addresses is the one referred to in answer Choice E—it answers it in the negative. The passage does not discuss the impact of Glass’s use of popular elements on listeners, on the commercial success of his music, on other composers, nor on Glass’s reputation, so none of Choices A, B, C, and D are correct. **The correct answer is Choice E.**

**Top 1% expert replies to student queries (can skip)**

The passage says Glass's music is a combination of classical with pop elements, but is not 'classical' packaged for pop / rock listeners or 'pop' packaged for classical listeners. Then Option (A) is ruled out as we don't know how each group perceives this brand of music. The passage says nothing about the commercial performance of Glass's works. Option (B) is eliminated. Again, nothing about his reputation as a classical music composer. Option (C) is eliminated. Option (D) may seem tricky to you because the passage does talk about revival of this type of music - but understand that the passage says Glass revived it, we have no information on what other composers have been doing. By POE, Option (E) is the answer.

3. Answer choice (D) looks perfect at first glance, but the author never indicated that the children could identify all the utensils that they used. Rolling pins, yes; utensils, no.

Answer choice (A): From the text, it seems possible that the children did understand the function of a rolling pin; certainly, they were able to identify the rolling pin they used.

**Answer choice (B): This is the correct answer choice.** The answer must be true because we know that despite being asked to identify all the rolling pins, each child selected only the rolling pin he had used. No two children picked the same rolling pin and therefore no two children understood the name “rolling pin” to apply to the same object.

Answer choice (C): Apparently not, otherwise logic would say the children would pick other rolling pins aside from the one they used.

Answer choice (D): Do not be concerned if you fell into this trap, but consider it a lesson for the future. The test makers smoothly slip “utensils” into the answer choice, and most students make the mistake of equating utensils with rolling pins. Yes, a rolling pin is a utensil, but there are other utensils as well, and the stimulus does not give us information about whether the children could identify those utensils. This is the essence of the Shell Game: you expect one thing and the test makers slip something quite similar but essentially different into its place.

Answer choice (E): This is an Opposite Answer. As indicated by the final sentence of the stimulus, the children were able to distinguish the rolling pin they used from the other rolling pins. This circumstance is exactly opposite of that stated in answer choice (E), which declares, “The children were not able to distinguish...” In this case, if you miss the “not,” this answer choice is very attractive.

4. Answer choice (A): The word “often” in the first sentence is the key to this answer choice. “Often” means frequently, but frequently is not the same as “most.” Had the stimulus said “more often than not,” that would mean “most” and this answer choice would be correct.

Answer choice (B): We cannot determine if readers of mystery stories solve the mystery at all or solve it simply by spotting the errors of the dull companion.

**Answer choice (C): This is the correct answer.** The second sentence indicates that “clues are presented in the story...the detective uses to deduce the correct solution.” Combined with the last sentence, which states “the author’s strategy...gives readers a chance to solve the mystery,” this answer choice is proven by facts.

Answer choice (D): Look for the facts in the stimulus—do they support this answer? Although the dull companion diverts readers from the correct solution, we do not know if actions of the brilliant detective rarely divert readers from the actions of the dull companion.

Answer choice (E): This is a tricky answer choice if you do not read closely. The stimulus states that the dull companion infers a wrong solution from clues that the brilliant detective ultimately uses to solve the mystery.

Answer choice (E) states that the dull companion uncovers misleading clues. This is incorrect; the interpretation of the clues is misleading, not the clues themselves.



### **Alternate sol from gmatclub**

The thing is that "most" has a formal logical meaning: it means "more than 50%." Therefore, unless we can clarify that more than half of all the mystery stories in the world match the description in the stimulus, we can't choose (A).

For example, it would be acceptable to say that "NBA players are often over 7 feet in height." There certainly are a lot more 7+ feet people in the NBA than in the regular population! However, it would be inaccurate to say that "most NBA players are over 7 feet in height," since the majority of players aren't.

Similarly, if you see the word "most" in a stimulus, it gives you a lot of information. If I tell you that "Most race-car drivers have one-syllable names," you can deduce that "There are more race-car drivers with one-syllable names than there are with three-syllable names." It's a very powerful word!



Notice the word "some" in the correct answer choice. This is exactly the kind of word you're looking for in an Inference Question (much like the equally good word, "can"). The only formal logical definition of "some" is "more than zero," so as long as we have evidence that one such mystery story matches the description above (we do know this much from the stimulus), it's acceptable.

Takeaways:

1) The words "some" and "can" imply any number, one or more. That's all they imply, so they give very little information if they appear in the stimulus, and are very commonly found in right answers on Inference questions.

2) The word "most" implies greater than half, so if it appears in the stimulus, it tells you a lot, and if it appears in an answer choice, it needs specific evidence to support it.

3) The words "often" and "many" don't really have any formal definition -- don't ascribe to them anything beyond the meaning of "some."

**Top 1% expert replies to student queries (can skip)**



(C) - The point is, the passage clearly mentions that mystery stories give readers a chance to solve the mystery. This must mean that the information / clues the stories provide are enough (whatever that volume of information / number of clues may be)? That point is - the number of clues *does not matter*. What matters is that the mystery stories give *enough* clues to let the readers solve the mysteries. The passage says this clearly. Again - the clues are not irrelevant and their count does not matter. The clues are sufficient to solve the mysteries.

5.

(A) This statement does not have to be true. The argument provides evidence about the emotional progress of only 30 participants. The fact that we have no information about the vast majority of participants demonstrates that the statement in this answer choice cannot be justified.

(B) While each participant did spend at least 2 hours each week attending the concerts, there is no information in the argument that would suggest that the students reduced their study time. For example, they could have attended the concerts in their free time.

(C) This statement does not have to be true, since we have no information about the emotional progress of the vast majority of study participants. Note that even if the study did demonstrate a positive effect of classical music on the majority of participants, it would still be uncertain whether this effect would hold for the majority of young adults.

(D) CORRECT. We know that 20 students attended the fewest number of concerts, 10 students attended the greatest number of concerts, and the remaining 170 students attended some other number of concerts in between. The term 'greatest' indicates that there are at least 3 different numbers of concerts attended by the students (as opposed to 'greater' to distinguish between 2 different numbers). Since each of the participants attended at least one concert per week during the 12 weeks of the experiment, all of the study participants must have attended at least 12 concerts. Even if the 20 bottom students attended the smallest possible number of concerts (i.e. 12), it must be the case that the next 170 students in the middle attended at least one more (i.e. at least 13 concerts) and the 10 most active participants must have attended at least one more than the middle group, i.e. at least 14 concerts. Thus, it must be true that the 10 most active participants (i.e. more than 6 participants) attended at least 14 concerts, as stated in this answer choice. Note that if the students attended more concerts than the minimum requirement, the number of students with at least 14 concerts attended will be even greater, still validating the accuracy of this statement.

(E) The argument does not explicitly state whether the participants received free access to the concerts or had to pay for admission (e.g. they could have just received a discount). In addition, no information is provided about the motivation of study participants.

### **Alternate sol from gmatchclub**

a) Most of the 200 participants improved their emotional state and lowered their stress levels. Stimulus doesn't say that most of the students improved, in fact it never talked about the improvement overall... all it said is about the levels of 10 and 20 students out of 200 participated... so eliminated

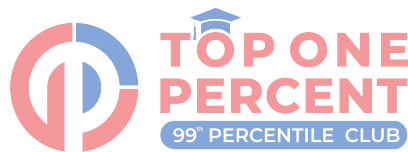
b) During each week of the experiment, the participants spent at least 2 hours less on their academic work as a result of concert attendance. Stimulus did not talk about the academic work, so eliminated

c) Listening to classical music for at least 2 hours per week improves the emotional well-being of the majority of young adults. Again, Stimulus doesn't talk about this in general, it only mentions about state of 10 and 20 students from the pool of 200... so eliminated

d) More than 6 participants attended at least 14 concerts during the course of the experiment. **Stimulus says 12 hours is minimum for all 200 folks, and each session is 2 hour**

**length... so, the next greatest number of hours is 14... and we see that at least 10 folks (which is greater than 6 in this answer) have taken the greatest number of hours... So, this can not be eliminated**

e) At least some of the students participated in the study in order to gain free access to classical concerts. Again, nowhere stimulus talks about the cost of the program, so eliminated



6. Since the passage contains information about both TopNotch High School graduates and those accepted to Ivy League universities, a valid conclusion must contain information that does not contradict either situation. In addition, a valid conclusion must remain true for every possible situation compatible with the passage. In contrast, a conclusion can be shown to be invalid if it can be demonstrated that a situation can occur that does not contradict the passage, but contradicts the given conclusion. Be careful not to make unwarranted assumptions: for example, a person who attends a school does not necessarily graduate from it, a person who graduates from high school does not necessarily apply to a university, and a person who is accepted to a university does not necessarily attend it.

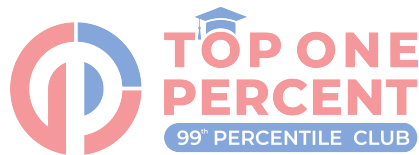
(A) The passage states that every student with an IQ of 150 who applies to the Ivy League will be accepted by at least one of the universities. However, it is possible that a graduate of TopNotch High with an IQ of 150 did not apply, and thereby was not accepted, to any of the schools. Hence, this conclusion is not valid.

(B) The passage states that every graduate of TopNotch High has an IQ of over 120. The conclusion only states that the student is a high school graduate and that he has an IQ of less than 120. It does NOT state that he or she was a graduate of TopNotch High. It is possible, however, that after attending TopNotch High for a period of time, he or she graduated from another high school. If this is the case, the situation does not contradict the passage, but contradicts the conclusion (he or she was a student at TopNotch High). Hence, this conclusion is not valid.

(C) The conclusion states that most, but not necessarily all, of the graduates from TopNotch High with IQ of 120 who apply to the Ivy League are accepted by at least one of the schools. The conclusion, however, does not state positively that any of the TopNotch High graduates had an IQ of over 150. Hence, even if it is unlikely, it is possible that none of the TopNotch graduates had IQ of over 150, and, of the remaining graduates who applied to the Ivy League, none were accepted to an Ivy League university. This conclusion is thereby not valid.

(D) CORRECT. Nothing in the passage precludes a person who is a graduate of TopNotch High from having an IQ of 130 and from attending an Ivy League university. Neither does anything in the passage preclude a person who has an IQ of 130 and is attending an Ivy League school to have graduated from TopNotch High. Therefore, it is possible for both situations to exist simultaneously, so the conclusion is valid.

(E) The passage states that any student with an IQ of 150 who applies to one or more Ivy League universities will be accepted to at least one of them. It is possible, however, that some of those who had applied and been accepted to an Ivy League university chose not to attend. Hence, this conclusion is not valid.



7. This stimulus provides information about both the numbers and percentages of obese children, and so you can end up with an answer that has either a number or a percentage (though a numerical answer is more likely since the percentage is fixed at a constant 15% in the stimulus). The numerical information comes from the phrase, “The number of North American children who are obese...is steadily increasing.” The percentage information comes from the phrase, “children who are obese—that is, who have more body fat than do 85 percent of North American children their age.” The percentage information defines obese children as those who fall into the top 15% among all children their age in terms of body fat, and therefore the percentage is known to be constant. The numerical information tells us that the actual number of obese children is increasing (and since this is a Must Be True question we can accept that information as accurate).

Answer choice (A): This answer is incorrect because there is no evidence in the stimulus to support it. Although the stimulus mentioned four major studies that apparently agreed about the increase in the number of obese children, it would be an exaggeration to say that any time four major studies produce similar results they must be accurate.

Answer choice (B): This answer proposes a causal reason for why the number of obese children is growing. From the information in the stimulus we cannot determine the cause of the rise in obesity, so answer choice (B) is also wrong.

**Answer choice (C): This is the correct answer.** Consider the following example: 15 years ago—100 total children of similar age

Number of obese children	15 = 15%
Number of non-obese children	85 = 85%

Now, let us say that the number of obese children has risen to 150 children today: So far we have conformed to the information given in the stimulus: the actual number of obese children is rising. However, although the number of obese children has now risen to 150, the definition of obesity (“more body fat than 85 percent of North American children”) remains unchanged. Since this is the case, the 150 obese children today must still comprise the top 15% of the total child population. Consequently, the remaining 85% of non-obese children must now be 850 (150 is 15% of 1000, and thus 85% of 1000 is 850): Answer choice (C) is fully supported because the stimulus provides information about both the number and percentage of obese children. As stated earlier, if the stimulus provides information about both the numbers

and percentages in a situation, then you can select any supported answer choice that contains either numbers or percentages. Note the emphasis on the word “supported.” In the obesity problem, GMAC could easily have written an incorrect answer choice that says, “The number of North American children who are not obese decreased over the past 15 years.”

Answer choice (D): This answer addresses “underweight” children, who are neither defined nor discussed in the stimulus.

Answer choice (E): This answer is directly contradicted by the information in the stimulus, which states that the incidence of obesity is definitionally set at a constant 15%.



8. The passage states that "Parasitic wasps lay their eggs directly into the eggs of various hostinsects in exactly the right numbers for any suitable size of host egg".

This means that if the host egg were to accommodate 50 eggs, the wasp will lay exactly 50; if the host egg were to accommodate 100 eggs, the wasp will lay exactly 100; if the host egg were to accommodate 500 eggs, the wasp will lay exactly 500; if the host egg were to accommodate 10 eggs, the wasp will lay exactly 10 etc.

Now this becomes a math problem (like similar triangles proportionality). If we know the size of the host egg for 50/100/500/10 wasp eggs etc., we can find the size of the smallest host egg (obviously it has to contain 1 egg ... can't be 0). Therefore, we could observe the parasite's behavior until we saw a host egg for which "exactly the right number" was 1 egg. Since the wasp cannot lay less than 1 egg, this particular egg would then be the smallest possible host egg. Therefore, we should be able to determine the smallest possible host egg; A is justified.

A. Since the host egg must be of SUITABLE size, the implication is that not ALL sizes are SUITABLE. Hence, the SMALLEST suitable size can be determined from the wasp's egg-laying behavior -- the smallest number of eggs that the wasp is able to lay -- indicating that this answer choice must be true.

B. Outside the scope ... the information is only about insect eggs, not insects. Maybe that the host has defense but it allows the wasp; maybe the host fights back but the wasp wins ... The passage offers no information about the defense mechanisms of the host insects. Eliminate B.

C. The passage states only that the wasps lay the proper number of eggs; it does not state that they learn this number FROM EXPERIENCE ... maybe they are genetically programmed. The passage offers no information about HOW the wasp determines the proper number of eggs to lay. Although this ability could be learned from experience, it could also be innate / instinct. Thus, answer choice C does not have to be true. Eliminate C.

D. Failure to lay enough eggs would lead to the death of the developing wasp larvae more quickly than would laying too many eggs. **Mathematical answer ... we can't justify the word MORE ...** The passage does not state which miscalculation -- too few eggs or too many -- would lead to death MORE QUICKLY. Eliminate D.



E. Parasitic wasps use visual clues to calculate the size of a host egg. The passage does not state how the wasps calculate the size of a host egg. To draw a conclusion, we can use only the information provided in the argument. There is no mention of any visual clues here. For all we know, the wasps could be blind! Eliminate E.

### Top 1% expert replies to student queries (can skip)

Option (B) is being rejected simply because the paragraph gives us no information as to what kind of defenses host insects have, what kind of host insects exist, if there are various varieties of defenses different types of host insects have and so on. We simply know the wasps lay their eggs inside the eggs of host insects, defense mechanisms notwithstanding

### Alternate sol from gmatclub

Read the question stem: Which of the following conclusions can be drawn .... So options are conclusions. You are looking for a conclusion that you can draw from the argument. Remember that conclusions do not have any new information. They just infer from data given in the argument.

All B, C, D and E have new information in them which is not mentioned in the argument:

(B) **Host insects lack any effective defenses** against the form of predation practiced by parasitic wasps.

(C) Parasitic **wasps learn from experience** how many eggs to lay into the eggs of different host species.

(D) Failure to lay enough eggs would lead to the death of the developing wasp larvae **more quickly than** would laying too many eggs.

(E) Parasitic wasps **use visual clues to** calculate the size of a host egg.

Argument says:

- Parasitic wasps lay their eggs directly into the eggs of various host insects in exactly the right numbers for any suitable size of host egg. (e.g. if the host egg is 2 inches, they lay 1 egg in it, if it is 4 inches, they lay 2 eggs in it etc)

So we can infer that from the wasp's egg laying behavior (1 egg in 2 inch host egg etc ), the size of the smallest host egg can be determined. (It will be the one in which the wasp can lay only 1 egg - 2 inches in our example)

9.

**The correct answer choice is (A).**

**Statement:** For a ten-month period, the total monthly sales of new cars within the country of Calistan remained constant. The wording of this statement should alert you that numbers and percentages in the form of market share (“monthly sales...remained constant”) may be an issue in this problem. Note that the statement is a simple fact; no explanation is given for why the total sales stayed constant. **Statement:** During this period the monthly sales of new cars manufactured by Marvel Automobile Company doubled, and its share of the new car market within Calistan increased correspondingly. If total monthly sales of new cars remains constant and Marvel’s sales doubled, then Marvel’s share of the new car market must also have doubled. Again, no explanation for Marvel’s increase is given; the increase is just stated as a fact. **Statement:** At the end of this period, emission standards were imposed on new cars sold within Calistan. Imposing new emission standards serves as a chronology marker in this stimulus. Again, no explanation is given for why the new standards were imposed.

**Statement:** During the three months following this imposition, Marvel Automobile Company’s share of the Calistan market declined substantially even though its monthly sales within Calistan remained constant at the level reached in the last month of the ten-month period. This sentence is the key to the stimulus. From a numbers and percentages standpoint, we are given two pieces of related information: during the three months after the emissions standards were imposed, Marvel’s monthly sales of new cars within Calistan remained constant at the pre-standards level, and at the same time Marvel’s share of the market declined. We know that if sales remain constant but the share represented by those sales decreased, then the overall sales in the market must have increased. For example:

	Pre- Standards	Post- Standards
Marvel’s Monthly New Car Sales	10	10
Total Monthly New Car Sales in Calistan	100	200
Marvel’s Market Share	10%	5%

The other important part of this sentence is what is not said. No cause is given for Marvel’s decline, and you cannot assume that the new emissions standards are the cause of the decline (causal indicators are needed to convey causality, and none are present in this stimulus). Remember, one error of causal reasoning is to assume that because two things occur in sequence that one caused the other. There could be many different explanations for Marvel’s decline other than the new emission standards. For example, Marvel could

have raised their car prices or perhaps Marvel received some negative publicity about the quality of their cars. Regardless, the problem is clearly designed to test whether you will fall into the trap of assuming that the new emission standards caused Marvel to lose market share, so read carefully and do not fill in the “spaces” in the stimulus.

**Answer choice (A): This is the correct answer.** As shown in the discussion of the last sentence of the stimulus, in the three months after the imposition of the emissions standards, the total monthly car sales in Calistan must have risen, and since Marvel’s monthly car sales remained constant, we can conclude that the sales of other car makers must have risen. Since this answer claims they decreased, this answer cannot be true and is correct.

Answer choice (B): This answer is possibly true. The stimulus indicates that Marvel doubled sales and market share in the ten months prior to the imposition of the emissions standards, and it is possible that in the three months prior to the implementation of the new standards the market share of the other companies decreased. Some students look at this answer and assume that it must be true based on the first two sentences of the stimulus. But that judgment assumes that Marvel’s growth during the ten-month period was constant, a circumstance never stated by the author. It would be consistent with the stimulus if Marvel doubled sales in the first month and then remained constant for the remaining nine months.

Answer choice (C): No reason is given for Marvel’s loss of market share (or alternately, the increased sales of other manufacturers), so it is possible that the new emission standards actually decreased Marvel’s loss of market share (or alternately, the emission standards limited the increase in sales of the other manufacturers). Remember, no explanation is given for the situation after the imposition of the emission standards, so whatever happened in the absence of the standards could always be true.

Answer choice (D): This answer could occur because Calistan’s future car sales could fall due to a variety of causes (including the emission standards). This is true regardless of whether the emissions standards remain in force because we know nothing of the effect of the standards.

Answer choice (E): No information is given about profit in the stimulus, so this answer choice could be true.

### **Top 1% expert replies to student queries (can skip)**

The basic idea about critical reasoning questions is that after the assessment of an argument, you have to reach at a logically verifiable, sensible and

inferable solution. Every single time you have to be able to pinpoint your chosen answer back to the question and give the logic that led you to it.

Predictions talk about the future. Nothing about the future can be said as an absolute truth as it has not happened yet making any future claim unverifiable.

So always remember in inference question, you have to be able to put your verify it as if to put a finger on it.

Here, in both option C and D, can you really prove that either of the two would absolutely be true? Or can you infer either of the two out of the passage? You can simply rule them out on that basis itself.

Coming to specifics, C talks about a situation where even if the standards weren't imposed, Marvel automobile would have lost market share. How? Where? Zero references. It's sales might've actually remained high as it had in the 10 month period in the past, can't say for certain. Eliminate.

D states that total monthly sales will remain low if the emission standards do not change. Again, how? Why? It might be that environmentally conscious people may now choose to own vehicles as they'll think they'll make a better choice with the compliances and the nature. Can't say for certain, at all. Eliminate.

Whenever there arises any sense of uncertainty in an inference question, it's a red flag. You have to assess then the soundness of the given option in accordance with the text.

## 10. The correct answer is (B).

This question is tricky not only because it asks us to distinguish what could be true (whereas we're more often asked what must be or is most likely to be true), but also because it is an EXCEPT question. That means we should expect four answers that could be true and one that must be false.

(A) could be true. This does not clearly support the critic's statement nor does it clearly disprove it. A reader's interpretation of the poem may be affected or may not be affected.

(C) could be true. There is nothing in the passage that says one person's interpretation can't change over time.

(D) is tempting because the critic distinguishes between readers of different time periods, saying these readers will have radically different systems of belief. Does that mean, however, that readers from the same period must have the same systems of belief? No. In fact, the critic states that meaning is "always the unique result" of the poem colliding with the reader's system of beliefs—if meaning is always unique, then interpretations cannot be identical.

(E) could be true. There is nothing in the passage that makes it impossible for the poet's interpretation to affect the reader's—this type of interplay is never mentioned, so choice (E) is fair game.

As mentioned above in our discussion of choice (D), the passage implies that meaning is unique to every reader. Furthermore, the critic states that two readers from different eras have radically different systems of belief. If each of the two meanings/interpretations of the readers in (B) are unique results of the poem colliding with their radically different systems of belief, then these meanings / interpretations cannot be identical.

### Top 1% expert replies to student queries (can skip)

The stem straight-up and unequivocally tells us that people from two different eras will (this is not up for interpretation) have different viewpoints on a poem (reason being that they will 100% have different belief systems, and belief systems *always* play a role in how a poem is interpreted).

Option (B) can never, ever be true because the two people doing the interpretation are from different eras. By an extension of the above, they *will* interpret the poem differently.

11. This argument includes statistics about the relative increases in the consumption of fish and poultry in Eastland, respectively, as well as the population growth in Eastland during the same period. Because we are given only information about the percentage increases of fish consumption, poultry consumption, and the population of Eastland, we should look for an inference that is closely tied to percentage information and not actual numbers.

(A) Though poultry consumption increased at a higher rate than fish consumption, there is no way to determine if this is due to the dietary habits of the new arrivals in Eastland. It is also possible that consumption among long-time residents of Eastland increased at a dramatically higher rate.

(B) We are given information about the relative rate of increases, not the actual amounts of poultry or fish consumed. As a result, there is no way to know if this statement is true.

(C) **CORRECT.** As we are given that the population of Eastland increased by 6 percent, and the total consumption of poultry increased by 9 percent in the same period, then it must be the case that the per capita, or average, consumption of poultry rose from 2000 to 2005. For example, let's say that the population of Eastland increased by 6 percent from 1000 to 1060 people, while the consumption of poultry increased by 9 percent from 100 to 109 units. The per capita consumption in 2000 would have been exactly  $100/1000$  while the per capita consumption in 2005 would have been  $109/1060$ , a slightly greater value.

(D) There is no way to determine if fish or poultry comprised a regular portion of the diets of "a significant proportion" of Eastland residents, as the cited percentage increases may have come from very low original amounts.

(E) There are many variables in determining the profits of wholesale distributors aside from the total consumption of poultry or fish. For example, labor costs, transport, and procurement could all impact the profitability of distribution companies. It is not possible to determine that the profitability

of these companies maintained the same relationship as the total consumption of poultry and fish





12. The text tells us that the revenues for independent movies for the first half of this year are already greater than the total revenues for independent movies for all of last year. We are then asked to draw a conclusion based on that information.

- (A) There is no way to predict box-office receipts for the year.
- (B) There is no way to know how many movies were released in the first half of last year.
- (C) We cannot infer that the price of a movie ticket has not increased.
- (D) **CORRECT.** The average revenue per film = total revenues  $\div$  number of films.

Revenues: We are told that the revenues for independent movies for the first half of this year (say \$1000) are already greater than the total revenues for all of last year (say \$999).

Number of Films: We know that more independent movies were released last year (say 10) than in the first half of this year (say 9).

We can clearly see that the average revenues per film for independent movies in the first half of this year ( $\$1000 \div 9$ ) are greater than the average revenues for all independent movies released last year ( $\$999 \div 10$ ).

(E) We cannot infer that more people have seen movies in the first half of this year, even though revenues are higher. It could be, for example, that the same number of people saw movies but ticket prices have risen sharply

### **Top 1% expert replies to student queries (can skip)**

The answer here lies in the word 'significantly'. With the rest of the year panning out and other independent films being released, it is a safe assumption that total revenue for the year from independent movies will be more than revenue of all of last year  $\times 1.2$  (this latter figure has already been reached in the first half of the year per the question).

However, **this is just an assumption.** In an extreme case, let's say not even one ticket sells for the new movies released in the second half of the year, then total revenue does not increase at all. Again, if only a few tickets sell, then revenue increases more than  $1.2 \times$  last year's revenue, but that will not be **significantly** more. For this reason, I would eliminate (A)



Look at option (D).

Let average revenue from each film in the first half of this year is \$x. Let's say average revenue from all 50 independent films of last year is \$y.

Then total revenue of independent films from the first half of this year = \$20x and total revenue of 50 independent films of all of last year is \$50y.

We know  $20x = 1.2 \times 50y$

or,  $20x = 60y$

or,  $x = 3y$

So, option (D) HAS to be true

### Top 1% expert replies to student queries (can skip)

Argument states: Box office receipts(revenue) for independent movies for the first half of this year have increased by 20 percent over the total receipts(revenue) for independent movies for all of last year.

This means that if the revenue of last year is x, then revenue of the first 6 months this year  $x + 0.2x = 1.2x$ .

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### Top 1% expert replies to student queries (can skip)

Say last year the average revenue collected by an independent movie was y. Then total revenue from independent movies was 50y.

This year, so far 20 independent movies have been released. The total revenue generated is already 60y. Another 20 (or thereabouts) independent movies are likely to be released in the remainder of this year

The question asks what *must* be true. So the correct answer choice *has* to hold true under all test conditions and / or needs to be established (mathematically) beyond any doubt.

Option (D) - What is the average revenue per independent movie released so far this year?  $60y / 20 = 3y$ . This is  $> y$  (average revenue per independent film throughout all of last year). This *has* to hold true.

Option (A) - The first thing that should strike you as odd about this option is - what is the definition of 'significantly more'? All of last year, all films produced 50y total revenue. This year so far, already 60y revenue has been produced. The remaining (yet to be released) films will also produce some

revenue (we have no idea how much). That incremental revenue can be 10y, 30y, 1000y. Then the *total* revenue for the year can be 70y, 90, 1060y, or some other number. Which of these compared to 60y (20% greater than the revenue from films last year) will *you* call 'significantly greater'? Which one will I call 'significantly greater'? Which one is the question calling so? That's a huge grey area, and so this option should have been almost immediately ruled out.



13. We are given the following facts. From 1973 to 1989 total energy use increased less than 10%. During this same period, the use of electrical energy grew by more than 50%. During this same period, the gross national product (GNP) grew by more than 50%. A careful examination of the second sentence reveals that there is no stated connection between the growth of the GNP and the increase in the use of electrical energy. If you assume that the use of electrical energy somehow caused the growth of the GNP, you are guilty of making an unwarranted causal assumption. Because there is no stated connection between the two, other than they both grew by more than 50%, any answer that attempts to connect the two is incorrect. Answer choices (D) and (E) can both be eliminated by this reasoning. Now that we recognize that the GNP issue is only a red herring, let us examine the percentages that are given in the stimulus. The 50% increase in electrical energy gives the impression that the jump must have been substantial. But we know from Misconception #6 that a large percentage does not automatically mean a large number. For example, in this problem it is possible that the 50% increase in electrical energy use was a jump from 2 units to 3 units. The possibility that electrical energy use in 1973 was a relatively small percentage of overall energy use directly undermines answer choices (A), as shown by the following example:

	1973	1989
Total energy use (in units)	100	109
Electrical energy use	10	15 (in units)
Percentage of total energy use that was electrical	10%	13+%

A close analysis of the chart also reveals that answer choice (B) can be eliminated. In the example, the use of energy other than electrical energy rose from 90 units to 94 units. Although the example disproves both answer choice (A) and (B), obviously you do not have time to make a chart during the test to examine each possibility, so is there a faster way to eliminate the first two answers? Yes—consider the previous discussion point that information about percentages does not tell us about the numbers. With that idea in mind, because the stimulus contains only percentage information (even though there are two percentages), you should be very suspicious of answer choice (A) (which states that the number of electrical units used was greater) and answer choice (B) (which states that the use of non-electrical energy declined) since they both contain numerical information. At the same time, you should be attracted to an answer such as (C) because it contains only percentage information, and as it turns out, **answer choice (C) is correct.**

### Top 1% expert replies to student queries (can skip)

Option (C) says that  $31/109 > 16/109$ . This is objectively true irrespective of what values of EE you take.

Let's say total usage has increased from  $100x$  to  $109x$  ( $x$  is any positive number - the increase is less than 10% as mentioned in the question). And let the electrical energy be  $100z$  and it has now gone to  $160z$  ( $z$  is a positive number  $< x$ , since there are other forms of energy in the country; the increase is greater than 50% as mentioned in the question)

Option (C) says that  $160z/109x > 100z/100x$ . This is always going to be true irrespective of what the values of  $x$  and  $z$  are. So, Option (C) always has to be true

### Top 1% expert replies to student queries (can skip)

Let the total energy use in 1973 be  $x$

Total energy use in 1989  $< 1.1x$  [Total energy use increased less than 10%]

Let the electrical energy use in 1973 be  $y$

Electrical energy use in 1989  $> 1.5y$  [Electrical energy use increased more than 50%]

Let the GDP in 1973 be  $GDP$

GDP in 1989  $> 1.5GDP$  [GDP increased more than 50%]

Now, C says that "From 1973 to 1989 there was an increase in the proportion of energy use in this country that consisted of electrical energy use."

Proportion of energy use in the country that consisted of electrical energy use  
= (Electrical energy/Total energy use)

Proportion of energy use in the country that consisted of electrical energy use in 1973 = (Electrical energy use in 1973/Total energy use in 1973) =  $(y/x)$

Proportion of energy use in the country that consisted of electrical energy use in 1989 = (Electrical energy use in 1989/Total energy use in 1989)

Now,

Electrical energy use in 1989  $> 1.5y$

Total energy use in 1989  $< 1.1x$

Therefore,

$(\text{Electrical energy use in 1989} / \text{Total energy use in 1989}) > (1.5/1.1) * (y/x) > (y/x)$   
[Numerator is greater than 1.5y and denominator is less than 1.1x, thereby increasing making the ratio greater than 1.5y/1.1x]

Therefore, C is true.



14. **The correct answer choice is (E)** The situation in Ditrama is as follows: Under the federal revenue-sharing plan, each region receives a share of federal revenues equal to the share of the total population of Ditrama residing in that region, as shown by a yearly population survey. Last year, the percentage of federal revenues Korva received for its share decreased somewhat even though the population survey on which the revenue-sharing was based showed that Korva's population had increased. If the total population of Korva increased but at the same time they experienced a decrease in revenue allocation, the only possible solution is that the total population of Ditrama increased by more than the Korva increase. Thus, you must seek an answer that indicates that the total population increased more than Korva's population increased. But be careful: this question is one of high difficulty, and the test makers do not make it easy to spot the correct answer.

Answer choice (A): Either Mitro or Guadar could have a smaller number of residents than Korva.

Answer choice (B): This answer is impossible to prove because we do not have information about the population growth of Korva in the years prior to the last one.

Answer choice (C): This is the most popular wrong answer choice. The key error is the claim that "Mitro and Guadar each increased by a percentage that exceeded" Korva's increase. Although it must be true that at least one exceeded Korva's increase, it does not have to be true that both exceeded Korva, as shown by the following example:

	Before	After (Last Year)
Total Population of Ditrama	30 (100%)	100 (100%)
Population of Korva	10 (33%)	15 (15%)
Population of Mitro	10 (33%)	10 (10%)
Population of Guadar	10 (33%)	75 (75%)

In the example above, only one of the other regions had a population increase that exceeded Korva; the other did not. Hence this answer choice is incorrect. Note also that this example disproves answer choice (A) as well.

Answer choice (D): As shown by the previous example, this answer is incorrect.

Answer choice (E): This is the correct answer. From the stimulus we know that Korva had a population increase, but a revenue drop. So, the total population of Ditrama must have increased by more than Korva's increase, and for this to happen, at least one other country must have had an increase in population that exceeded Korva's. Note that the scenario in answer choice (C) would force answer choice (E) to be correct, and based on the Uniqueness Rule of Answer Choices, answer (C) is incorrect for that reason alone

### **Top 1% expert replies to student queries (can skip)**

In this question, think of what is happening clearly before taking numbers.

Whatever is the percentage of the total population of Ditrana residing in a region, that is the percentage of revenues that region receives. Now, Korva's absolute population has increased, but the percentage that this increased number is, of the total population of Ditrana, has decreased (only then the revenue share would have decreased). What this means is that the other two regions combined must have shown such an increase in population, that even with Korva's increased population, this new figure is a lower percentage of the total population of Ditrana. Notice that I say the other two regions have to show this big increase combined, they each don't have to show a big increase for the combined effect, although they can. That is to say, Korva's percentage increase in population was lesser than that of at least one of the other two regions, but not necessarily of both.

Let's take the simplest example now. Let's say total population was 3, with each region having 1 person each (33.33%). This was the percentage in which the revenue was being split among the three regions. Now, last year, let's say Korva's population increased to 2. If nothing else would have changed, Korva would now have 50% of the total population and hence 50% of the total revenue. But we know that the revenue share actually decreased below 33.33%. This would be possible only if the total population increased to an extent that 2 is less than 33.33% of the total population. 2 is 33.33% of 6, then the total population must have become at least 6 for this evenuality to have materialized. Option (C) says each region must have had increases to its population by a percentage > the percentage increase of Korva's. This is not true - let's say Mitro's population still remained the same (1), and Guadar's population increased to 4. Then total population is 6, Korva is now less than 33.33% of the total population, so its percentage revenue share has decreased, Mitro's population has not even increased, BUT Guadar's has increased by 300% (> the 100% increase shown by Korva).

So (E) always has to be true, but (C) does not necessarily have to be

### **Alternate sol from gmatclub**

#### **Lets do first thing first-- rephrase the PARA**

three regions K, M and G have certain people of D residing in them. K, M and G receive funds proportionate to that population. Although K's population has increased, but its share of funds has dropped..

## Inference--

Clearly its share is now going to ONE of the other two or may be BOTH depending on their increase, but we are sure that atleast ONE has eaten into the share..

## Choices:-

(A) Of the three regions Korva had the smallest number of residents  
**We are talking of change in share, so this is not valid here..**

(B) The population of Korva grew by a smaller percentage than it did in previous years  
**the distribution of funds is relative to all three, so does not depend on alone K and may be other have increased by even smaller %**

(C) The populations of Mitro and Guadar each increased by a percentage that exceeded the percentage by which the population of Korva increased.  
**We cannot say for sure both would have increased. Its possible that only ONE is eating into the share of other TWO..**

(D) Of the three regions, Korva's numerical increase in population was the smallest  
**A small numerical increase may be a large % increase .. 2 person increase in population of 4 is 50%.**

(E) Korva's population grew by a smaller percentage than did the population of at least one of the other two autonomous regions.



15. The passage provides two pieces of statistical information about the restaurant business in the United States. Both pieces of information are framed in terms of percentages. To draw a proper GMAT conclusion, we will need to find an answer choice that is directly in line with the statistical data cited in the passage.

(A) The passage makes no connection between the availability of energy-efficient equipment and a 30 percent reduction in energy costs.

(B) The passage provides no information about the annual energy costs of any industry except the restaurant business. While the passage states that the restaurant business wastes more energy than any other industry in the United States, it makes no claim about the amount spent on energy by the restaurant industry relative to other industries.

(C) The difference in relative energy savings accrued by a small restaurant as compared to that of a large restaurant is not addressed in the passage.

(D) According to the passage, \$8 billion (80% of the \$10 billion spent on energy each year) is squandered on inefficient equipment. This leaves \$2 billion unaccounted for in the passage. This does not necessarily mean that some of this \$2 billion is not squandered; it simply means that it is not squandered on inefficient equipment. It might, for example, be squandered on employees who forget to turn off the lights after closing.

(E) **CORRECT.** Since the waste attributed to the use of inefficient equipment accounts for 80% of the \$10 billion spent on energy each year, savings from other sources could account for, at most, 20% of the \$10 billion spent. Thus, the replacement of inefficient equipment represents – by far – the largest potential source of energy savings.



### Top 1% expert replies to student queries (can skip)

Argument states that 80 percent of the \$10 billion spent on energy by the restaurant industry each year is squandered/wasted by the use of inefficient equipment. This means \$8 billion (spent on energy by the restaurant industry each year) is squandered/wasted by the use of inefficient equipment. This implies that the **remaining \$2 billion** (spent on energy by the restaurant industry each year) is **NOT wasted by the use of inefficient equipment**. The preceding highlighted part can be further divided into 2 parts- this can either mean that the \$2 billion are not wasted at all **OR** mean that \$2 billion are wasted, but not by the use of inefficient equipment.



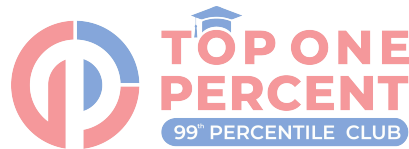
## Critical Reasoning Session 2

(Paradox, Weaken, Strengthen, and Flaw Questions)

By Sandeep Gupta | GMAT 800/800, Harvard Final Admit

### Resolve a Paradox / Explain a surprising result

#### Structure:



- No conclusion
- Language of contradiction (But, However, Yet, Although, Paradoxically, Surprisingly)
- Two sides presented (both to be resolved)
- Eliminate Out-of-scope choices
- Choices are taken as TRUE, no matter howsoever absurd / ridiculous / counter-intuitive...

Two seemingly contradictory facts are presented in the passage, creating a paradox (a surprising phenomenon).  $F1 \nleftrightarrow F2$

One has to resolve (explain) the Paradox by choosing the most credible choice that explains both sides.

**Approach:** the correct answer will contain a new fact (F3), that will resolve the contradiction without challenging the two facts given in the argument.



*Simple examples:*

1. An anti-theft device is known to reduce theft, but cars using the antitheft device are stolen at a higher rate than cars without the device.
2. A surgeon has a low success rate while operating, but the director of the hospital claims the surgeon is the best on the staff.
3. Country X contains many rivers that flow down from its high mountains. These rivers have been dammed to harness the hydroelectric power that can be derived from this resource. More than enough power is generated from these dams to meet the country's energy needs. Yet, citizens of Country X often experience power shortages or even outages.
4. Some communities in Florida are populated almost exclusively by retired people and contain few, if any, families with small children. Yet these communities are home to thriving businesses specializing in the rental of furniture for infants and small children.
5. According to researchers, low dosages of aspirin taken daily can significantly reduce the risk of heart attack or stroke. Yet doctors have stopped recommending daily aspirin for most patients.



*Possible explanations:*

1. The device is placed on highly desirable cars that are prone to being stolen, and the device actually lessens the rate at which they are stolen.
2. The surgeon operates on the most complex and challenging cases.
3. Most of the electricity generated in Country X is sold to other countries.
4. Many residents of these communities must provide for the needs of visiting grandchildren several weeks a year.
5. Aspirin acts as a blood thinner, which can lead to internal bleeding, particularly in the stomach or brain.

*Example:*

*The audience for the television sitcom "Apples and Oranges" has nearly doubled since the show's airtime was moved to a more popular slot six months ago. During this period, sales of merchandise bearing the "Apples and Oranges" logo have decreased significantly.*

This passage describes an apparent contradiction: The audience of *Apples and Oranges* **increased**, while merchandise sales associated with the show **decreased**.

We may resolve the above paradox in the following way:

**Paradox Resolution:** Increased popularity of a show drives up the cost of the merchandise associated with that show.

**Paradox Resolution:** Six months ago, the producers of "Apples and Oranges" discontinued the enormous discounts on their merchandise that had been instituted in order to increase the visibility and popularity of the show.

**Paradox Resolution:** An economic downturn in the last six months has curbed recreational expenditures on products such as television show merchandise and has increased the amount of time people spend at home watching television.

**Paradox Resolution:** Sales of television merchandise have been falling for years, and have dropped off sharply in the last six months.

### **Top 1% expert replies to student queries (can skip)**

An economic downturn (a decline in economic or business activity) in the last six months has curbed (reduced) recreational expenditures (non-essential expenses) on products such as television show merchandise and has increased the amount of time people spend at home watching television.

The audience of Apples and Oranges increased (because "the amount of time people spend at home watching television"), while merchandise sales associated with the show decreased (because a decline in economy reduced non-essential expenses such as the sales of merchandise).

*Example 1:*

Liberty Gallery was a popular art gallery in Newport City for many years. Due to budget constraints necessitated by a spike in city taxes, the owners of the gallery were forced to move their company to the small suburb of Ebbertsville, a town with a population twenty times smaller than Newport's. In spite of the fact that the pedestrian traffic in Ebbertsville is significantly lighter, Liberty Gallery has never served more regular visitors and patrons. **Which of the following, if true, most helps to resolve the above paradox?**

- A. Newport City residents pride themselves on their cosmopolitan culture and appreciation for art.
- B. The patronage and visitor pool of the Liberty Gallery was already on the rise in Newport city, prior to the move.
- C. Ebbertsville is home to Vermillion College, the country's largest and most prestigious school of art and students of art tend to visit the art galleries with 30 times the frequency as other people do.
- D. Many local bus routes pass along the road that leads to the Liberty Gallery.
- E. The Ebbertsville town legislature passed a resolution that would offer tax breaks to Liberty Gallery in exchange for the relocation of its site to Ebbertsville.

**Choice C is correct.** Only choice **C** relates a **difference** between Ebbertsville and Newport City that could account for the increased patronage and visitor interest in the Liberty Gallery in Ebbertsville; though the population of Ebbertsville is significantly smaller, choice **C** suggests that a larger proportion of that population is interested in art and, thus, likely to frequent the gallery (even if Newport City were home to another art school, that school would necessarily be smaller than Vermilion, which is the *largest*).

**Top 1% expert replies to student queries (can skip)**

"Liberty Gallery has never served more regular visitors and patrons" → It means it has the maximum visitors now.

For example: I have never been more happy → Means I am the happiest today

(Looking at Jack's current marksheet) Jack never scored this much in math → Means his score is the highest now.



*Example 2:*

Systemic tissue damage is one of the most serious consequences of Disease X, though systemic tissue damage itself is only a symptom of Disease X and not a disease itself. Systemic tissue damage occurs only when, in an attempt to defend itself against Disease X, the body produces antibodies that intend to combat the virus. In trying to expunge the virus, the antibodies attack organ tissue and damage it permanently. **Which of the following, if true, would contribute most to an explanation of why Disease X is the only medical condition that can give rise to systemic tissue damage?**

- A. Only certain kinds of systemic tissue damage are associated with Disease X.
- B. The antibodies that the body creates to defend itself against Disease X can also damage the bone marrow.
- C. Antibiotics have not proved as potent against Disease X as they have against some other viral infections.
- D. Disease X is the only disease whose virus disguises itself invisibly in healthy tissue.
- E. Systemic tissue damage can be mistreated if it is not linked to Disease X.



**Choice D is correct.** The argument states that antibodies attack organ tissue and damage it permanently. The fact that Disease X's virus disguises itself in healthy tissue explains why the body's antibodies would ultimately damage healthy tissue in the attempt to wipe out the virus.

**Alternate sol from gmatclub**

A. Incorrect because (A) only provides information about the types of synthetic tissue damage associated with Disease X, rather than providing information about other diseases that can cause synthetic tissue damage.

B. Incorrect because (B) is out of scope. Whether bone marrow can also be damaged has no bearing on why Disease X is one of the few conditions that can give rise to systemic tissue damage.

C. Incorrect because (C) does not signify why Disease X is one of the **few** medical conditions that causes synthetic tissue damage. Further, (C) provides no information on the mechanism that causes Disease X to cause synthetic tissue damage.

D. Correct because (D) provides information on how Disease X causes synthetic tissue damage (by disguising itself invisibly in healthy tissue) and states that it is

the **only** disease to act in this way.

E. Incorrect because (E) only provides information about (mis)treatment of synthetic tissue damage, not on the mechanism that causes it.

### Top 1% expert replies to student queries (can skip)

A symptom of a disease is something that happens *before / during / after* the onset of the disease (chronologically), and is a sign that the disease is now present in the body. Consequence of X is something that happens *after* X happens (chronologically) and is a *result* of X having happened. With this understanding, now read again to understand how systemic tissue damage is both a symptom and a consequence of Disease X. Disease X may very well start festering in the body invisibly, but after its genesis has happened, we now start seeing systemic tissue damage. Like I said before, if something is indicating to us that Disease X is in the body, that something is a symptom of Disease X (in this case the symptom develops after the fact. 'After the fact' is an expression that means after something has happened, also called 'post facto'; in this case after Disease X has developed; has nothing to do with any fact in the argument). So systemic tissue damage is a symptom of Disease X. However, systemic tissue damage happens *because* of Disease X. So it is a consequence of Disease X too.

What does Option (C) have to do with explaining why disease X is the *only one* that causes systemic tissue damage?

Let's say antibiotics have not proven as potent against Disease X as they have for other viral infections. What does this do to explain that Disease X is the *only one* that causes systemic tissue damage? The efficacy of antibiotics may be lower against Disease X, but still some other viral diseases may cause systemic tissue damage in the way explained in the passage.

The virus may be invisible to you and me, but Option (D) provides the best explanation among all the answer choices here. If the virus is located inside healthy tissue, that is a good explanation of why antibodies the body is producing end up attacking these tissues, all in the process of trying to fight Disease X. The option also says Disease X is the only disease where the virus does this, then that explains why only Disease X causes this kind of systemic tissue damage. It should take you 5 seconds to mark this as the correct answer.



### Example 3:

The Crab Leg, a local seafood restaurant on Main Street, expected to see a decrease in sales after a popular seafood restaurant chain opened a new restaurant just two blocks away. However, The Crab Leg has actually experienced a 50 percent increase in business since the opening of the new restaurant. **Which one of the following, if true, most helps to explain the result above?**

- A. Some of The Crab Leg's previous patrons have begun dining regularly at the new restaurant.
- B. In anticipation of the opening of the new restaurant, the owner of The Crab Leg significantly increased spending on advertising and marketing.
- C. The food at the new restaurant is better and cheaper than the food at The Crab Leg.
- D. Some of the servers hired to work at the new restaurant had previously worked at The Crab Leg.
- E. Other than The Crab Leg and the new restaurant, there are no other seafood restaurants in town.



- (A) This provides further support for the expected result—decreased sales.
- (B) **Correct answer!** This provides an explanation for the unexpected result. If the owners spend more on advertising and marketing, they're likely to increase business.
- (C) This would seem to pull people away from The Crab Leg. This provides further support for the expected result—decreased sales.
- (D) This neither supports the expected result nor explains the unexpected result. It's irrelevant!
- (E) Again, irrelevant!

### Top 1% expert replies to student queries (can skip)

An increase in business is essential and increase in sales and consequently revenue. Both are correlated without any external assumption per se and therefore, option B is pretty straightforward.

*Example 4:*

Nitrogen triiodide is a highly explosive chemical that is easy to make from only two ingredients: ammonia and concentrated iodine. However, nitrogen triiodide has never been known to be used in a terrorist or criminal attack.

**Which of the following, if true, is the most likely explanation for the discrepancy described above?**

- A. Ammonia can be bought in a grocery store, but concentrated iodine must be obtained from chemical supply houses.
- B. Nitrogen triiodide is only one of several powerful explosives that can be made from ammonia.
- C. Many terrorists and criminals have used other chemical explosives such as TNT or PETN.
- D. Airport security devices are typically calibrated to detect nitrogen compounds, such as ammonia and ammonium compounds.
- E. Nitrogen triiodide is extremely shock sensitive and can detonate as a result of even slight movement



- A. It really doesn't explain why no criminals have ever used it.
- B. So, you can make even more explosives from this chemical? That doesn't explain why the criminals have never made it.
- C. Again, this doesn't explain why they haven't used the nitrogen triiodide explosive. Maybe if TNT or PETN are a lot cheaper or easier to make—but this choice doesn't say that.
- D. This might explain why no one has tried to bring these explosives into airports, but it doesn't explain why these explosives have never been used in any type of attack anywhere.
- E. **Correct!** If the bomb is so unstable that it could go off at any moment, including right after you make it, then it makes sense that criminals don't want to use these explosives.

**Top 1% expert replies to student queries (can skip)**

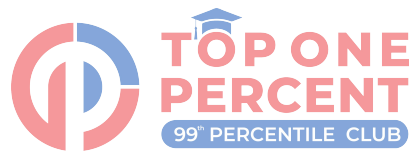
With respect to the question- we have to determine why Nitrogen triiodide has not been used in an attack.

Option A only points out that one can obtain concentrated iodine but with restricted access. It doesn't point to its non-availability.

Option E provides a good reason as to why criminals do not use it in attacks. Hence it is CORRECT!

**Top 1% expert replies to student queries (can skip)**

For option A, we will ourselves have to assume that the terrorist have limited or no access to chemical supply houses. This is not a fair assumption to make, but for option E no such assumption needs to be made and therefore it is a much better choice.



*Example 5:*

CarStore's sales personnel have an average of 15 years' experience selling automobiles, and they regularly sell more cars than other local dealers. Despite this, CarStore has recently implemented a mandatory training program for all sales personnel.

**Which of the following, if true, best explains the facts given above?**

- A. The sales personnel in CarStore have historically specialized in aggressively selling automobiles and add-on features.
- B. Salespeople at other local dealers average 10 years' experience.
- C. It is common for new or less experienced employees to participate in training programs.
- D. Pricing information, which used to be confidential, has recently been released on the internet, and many customers try to negotiate lower prices using this data.
- E. Several retailers that compete directly with CarStore use "customer-centered" sales approaches.


- A. If CarStore wants to change the way their people sell cars, then new training would make sense... but this choice just talks about what they've done in the past, not what they want to do in the future. This doesn't explain the discrepancy.
- B. So, the CarStore people are more experienced, on average, than other salespeople in the area. If anything, this just accentuates the discrepancy: why do the more experienced people need training?
- C. This makes sense, but again does not explain why the employees who average 15 years' experience need training. The argument said that all sales personnel have to undergo the training, not just the new ones.
- D. **Correct!** Ah, so the situation has changed. Customers now know some info that used to be confidential. That might change negotiations, so it makes sense that the salespeople might need new training.
- E. That's what they already use—the answer doesn't indicate that anything has changed. Nor does it indicate that CarStore doesn't use a customer-centered approach or that consumers prefer a customer-centered approach. This doesn't explain why the CarStore people need training.

*Example 6:*

Two-dimensional barcodes are omni-directional; that is, unlike one-dimensional barcodes, they can be scanned from any direction. Additionally, two-dimensional barcodes are smaller and can store more data than their one-dimensional counterparts. Despite such advantages, two-dimensional barcodes account for a much smaller portion of total barcode usage than one-dimensional barcodes.

**Which of the following, if true, most helps to resolve the apparent paradox?**

- A. Many smaller stores do not use barcodes at all because of the expense.
- B. For some products, the amount of data necessary to be coded is small enough to fit fully on a one-dimensional barcode.
- C. Two-dimensional barcodes are, on average, less expensive than one-dimensional barcodes.
- D. Two-dimensional barcodes can also be scanned by consumer devices, such as cell phones.
- E. One-dimensional barcodes last longer and are less prone to error than two-dimensional barcodes.

- 
- A. Expense—does this explain why 1D barcodes are still being used? No, wait—this says the stores aren't using any type of barcode at all. So that doesn't explain why the ones who do use barcodes seem to prefer the 1D models. This choice makes an Irrelevant Distinction. The argument talks about stores that do use barcodes, not stores that don't.
- B. Okay, so some products might not need the 2D barcodes. Except, this only mentions "some" products, while the argument says that the 2D barcodes are a "much smaller" portion of total usage. This doesn't fully explain the discrepancy. This one is very tempting, but it's also a One Word Off trap. The choice addresses only "some" products—not enough to affect the conclusion.
- C. Less expensive, this is it! This says the 2D barcodes are less expensive—that gives them yet another advantage! If they're less expensive, we'd expect people to use them more. This isn't it. This is a Reverse Logic trap. If this choice were true, it would make the discrepancy even more strange, because it offers another reason why people would want to use 2D barcodes.
- D. This sounds like yet another advantage for the 2D barcodes. This isn't it either! This can be considered a Reverse Logic trap (because it makes 2D barcodes more

attractive) or a No Tie to the Argument trap (because scanning with consumer devices isn't part of the scope of the argument).

- E. **Correct!** Here are two advantages for the 1D barcodes. If it's true that they last longer and are less prone to error, then that would explain why people would want to use them rather than the 2D barcodes.

### Alternate sol from gmatclub

Advantages of Two-dimensional bar codes - They are omni-directional, smaller and can store more data than their one-dimensional counterparts.

But, the two-dimensional bar codes account for a much smaller portion of total bar code usage than one-dimensional bar codes.

Why?

We need to find a significant **negative feature** of Two-dimensional bar w.r.t one-directional.

(A) Many smaller stores do not use bar codes at all because of the expense.

neutral.

(B) For some products, the amount of data necessary to be coded is small enough to fit fully on a one-dimensional bar code.

Still two-dimensional can be used.

(C) Two-dimensional bar codes are, on average, less expensive than one-dimensional bar codes.

Positive feature of two-dimensional codes.

(D) Two-dimensional bar codes can also be scanned by consumer devices, such as cell phones.

Positive feature of two-dimensional codes.

(E) One-dimensional bar codes last longer and are less prone to error than two-dimensional bar codes.

This is where two-dimensional codes have negative aspects w.r.t one dimensional .



# Questions for Class Discussion

**1. Which of the following most logically completes the passage?**

Concerned about financial well-being of its elderly citizens, the government of Runagia decided two years ago to increase by 20 percent the government-provided pension paid to all Runagians over 65. Inflation in the intervening period has been negligible, and the increase has been duly received by all eligible Runagians. Nevertheless, many of them are no better off financially than they were before the increase, in large part because\_\_\_\_\_.

- A. They rely entirely on the government pension for their income
- B. Runagian banks are so inefficient that it can take up to three weeks to cash a pension check
- C. They buy goods whose prices tend to rise especially fast in times of inflation
- D. The pension was increased when the number of elderly Runagians below the poverty level reached an all-time high
- E. In Runagia children typically supplement the income of elderly parents, but only by enough to provide them with a comfortable living



**2. Which of the following, if true, most logically completes the passage?**

A recent poll found that almost all residents of Nalmed Province favored a massive expansion of the commuter rail system as a means of significantly easing congestion on the province's highways and were willing to help pay for the expansion through an increase in their taxes. Nevertheless, the poll results indicate that expansion of the rail system, if successfully completed, would be unlikely to achieve its goal of easing congestion, because\_\_\_\_\_.

- A. the proposed expansion to the commuter rail system will make it possible for some people who both live and work at suburban locations to commute by rail
- B. of the less than 20 percent of residents not counted as favoring the expansion, about half claimed to have no opinion one way or the other
- C. the twice-daily periods of peak congestion caused by people commuting in cars have grown from about an hour each to almost two and a half hours each in the past 20 years
- D. expanding the commuter rail system will require the construction of dozens of miles of new railbed
- E. all people in favor of expanding the rail system reported less congestion during their highway commute as the primary benefit that they will experience once the expansion of the railway network is complete





3. In order to raise revenue, the federal government planned a tax amnesty program that allows tax delinquents to pay all owed tax without added financial penalty. However, economists projected that the federal government would collect a far lower percentage of total tax owed by delinquents than did state governments that implement similar programs. **Which of the following, if true, would most contribute to an explanation of the economists' projections?**
- A. Tax amnesty programs are only successful if they are widely publicized.
  - B. Most people who honestly pay their state tax are equally honest in paying their federal tax.
  - C. Although federal tax delinquents usually must pay high financial penalties, the states require far lower financial penalties.
  - D. The state tax rate varies considerably from state to state, but the federal tax is levied according to laws which apply to citizens of all the states.
  - E. Unlike most federal tax delinquents, most state tax delinquents fail to pay state tax because of an oversight rather than a decision not to pay.



4. For several years, per capita expenditure on prescription drugs in Voronia rose by fifteen percent or more annually. In order to curb these dramatic increases, the ministry of health prohibited drug manufacturers from raising any of their existing products' prices. Even though use of prescription drugs did not expand after this price freeze, per capita expenditure for prescription drugs continued to increase by a substantial percentage each year. **Which of the following, if true, most helps to explain why the ministry's action did not achieve its goal?**

- A. The population of Voronia rose steadily throughout the period.
- B. Improvements in manufacturing processes enabled drug manufacturers to maintain high profit levels on drugs despite the price freeze.
- C. After price increases were prohibited, drug manufacturers changed the brand names and labels of most of their existing prescription drug products.
- D. In addition to imposing a price freeze, the government encouraged doctors to prescribe generic versions of common drugs instead of the more expensive brand-name versions.
- E. After price increases were prohibited, some foreign manufacturers of expensive drugs ceased marketing them in Voronia.



5. In Rubaria, excellent health care is available to virtually the entire population, whereas very few people in Terland receive adequate medical care. Yet, although the death rate for most diseases is higher in Terland than in Rubaria, the percentage of the male population that dies from prostate cancer is significantly higher in Rubaria than in Terland. **Which of the following, if true, most helps to explain the disparity between the prostate cancer death rate in Rubaria and Terland?**
- A. Effective treatment of prostate cancer in its early stages generally requires medical techniques available in Rubaria but not in Terland.
  - B. Being in poor general health does not increase one's risk of developing prostate cancer.
  - C. It is possible to decrease one's risk of getting prostate cancer by eating certain kinds of foods, and such foods are more readily available in Rubaria than in Terland.
  - D. All men who have prostate cancer around the world are older than the life expectancy for male inhabitants of Terland, whereas men live to a ripe old age in Rubaria owing to Rubaria's excellent healthcare system.
  - E. Among men in Rubaria, the death rate from prostate cancer is significantly higher for those who do not take full advantage of Rubaria's health care system than for those who do.

6. The cotton farms of Country Q became so productive that the market could not absorb all that they produced. Consequently, cotton prices fell. The government tried to boost cotton prices by offering farmers who took 25 percent of their cotton acreage out of production direct support payments up to a specified maximum per farm. The government's program, if successful, will not be a net burden on the budget. **Which of the following, if true, is the best basis for an explanation of how this could be so?**

- A. Cotton production in several counties other than Q declined slightly the year that the support- payment program went into effect in Q.
- B. The first year that the support-payment program was in effect, cotton acreage in Q was 5% below its level in the base year for the program.
- C. The specified maximum per farm meant that for very large cotton farms the support payments were less per acre for those acres that were withdrawn from production than they were for smaller farms.
- D. Farmers who wished to qualify for support payments could not use the cotton acreage that was withdrawn from production to grow any other crop.
- E. Depressed cotton prices meant operating losses for cotton farms, and the government lost revenue from taxes on farm profits, but by introducing the new plan, the government hopes that prices will go up again and, thus enabling the government to collect more taxes than it currently collects.

**7. Finding of a survey of Systems magazine subscribers:** Thirty percent of all merchandise orders placed by subscribers in response to advertisements in the magazine last year were placed by subscribers under age thirty-five.

**Finding of a survey of advertisers in Systems magazine:** Most of the merchandise orders placed in response to advertisements in Systems last year were placed by people under age thirty-five.

**For both of the findings to be accurate, which of the following must be true?**

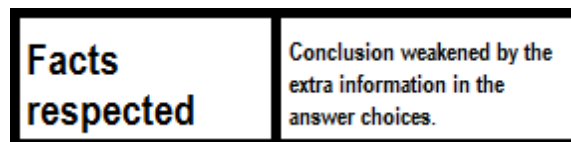
- A. More subscribers to Systems who have never ordered merchandise in response to advertisements in the magazine are age thirty-five or over than are under age thirty-five.
- B. Among subscribers to Systems, the proportion who are under age thirty-five was considerably lower last year than it is now.
- C. Most merchandise orders placed in response to advertisements in Systems last year were placed by Systems subscribers over age thirty-five.
- D. Last year, the average dollar amount of merchandise orders placed was less for subscribers under age thirty-five than for those aged thirty-five or over.
- E. Last year many people who placed orders for merchandise in response to advertisements in Systems were not subscribers to the magazine.

# Weaken Questions

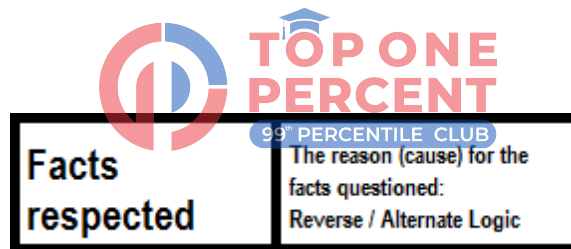
*Approach for Weaken Questions:*

All weaken questions will have either a FACT-CONCLUSION or a FACT-REASON (A causes B) relationship.

We can never negate a fact. We can negate only the conclusion or the reason. So, the model will be:



Or



## Steps:

1. Identify the conclusion
2. Choose the answer that directly weakens the conclusion

## Cause and effect reasoning:

**If the conclusion is:** A causes B

The correct weakeners are:

- B caused A
- C caused B
- C caused both A and B

## Check the argument below:

Studies indicate that older antelope are, on average, more cautious than younger antelope. This proves that getting older causes antelope to become more cautious.

This argument seems pretty sound, right? Older antelope are more cautious, so it must be true that getting older is what causes these antelope to become more cautious, right?

### 1. B causes A?

Instead of age having some impact on the amount of caution, could it be that the amount of caution has some impact on getting older? Could cautiousness have some direct impact on getting older? It might seem unlikely at first, but consider a herd of antelope, and consider in particular the young in the group. Imagine that some of these young are cautious, and some of them are not. We've all seen nature shows what might happen to some of these less cautious antelope? Chances are, they are more likely to run into unpleasant circumstances. We are told that older antelope are, on average, more cautious. Could it be that that is because, on average, more cautious antelope are more likely to survive to an older age? That is, instead of caution increasing with age, it's possible that caution is what allows the antelope to reach old age—it's possible that B causes A.

### 2. C causes B?

Imagine that the older antelope were given a drug that increases caution for 48 hours. In this case, the old age doesn't result in more caution. The drug does.

### 3. C causes both A and B?

Could it be that some other factor contributes significantly to both cautiousness and age? Could it be that there is a critical part of the equation that is missing? Absolutely. For one, what about having a higher level of intelligence? Perhaps brain power is what makes an antelope cautious, and it just so happens that smarter antelope can find more food and thus live longer. In that case, it wouldn't be accurate to say that age causes cautiousness.

*Let 's see another example:*

Children with divorced parents exhibit 50% more behavioral problems than do children whose parents remain married. Therefore, divorce causes behavioral problems in children.

It seems as though this conclusion is correct. However, it is logically invalid. The first sentence merely tells us that divorce is correlated with behavioral problems in children, and **correlation does NOT equal causation**. There are several, equally valid, alternative explanations for the correlation between divorce and behavioral problems in children:

1. **B causes A**: what if having children with behavioral problems made it more difficult to stay married, and therefore caused parents to get divorced?
2. **C causes B**: what if divorce is often correlated with bad behavior between parents, and bad behavior between parents causes behavioral problems in children?
3. **C causes both A and B**: what if both divorce and behavioral problems are caused by a separate factor, such as parents having jobs that require a lot of travel?



*Let 's see another example:*

A recent study showed that individuals with abnormally low concentrations of vitamin B6 in their bloodstream are three times as likely to suffer from disease Q. Therefore, increasing the concentration of vitamin B6 within an individual's bloodstream can protect that individual from disease.

**Q. Which of the following is an assumption required for the argument to be valid?**

The correct answer choice in this case would be something similar to "disease Q does not cause abnormally low concentrations of vitamin B6 in an individual's bloodstream." The argument relies on the fact that low concentrations of vitamin B6 are the cause of disease Q. In order for the argument to be valid, we **MUST** assume that the causation does **NOT** operate in the opposite direction—that is, we must assume that disease Q does not cause low vitamin B6.



*Let's see another example:*

For the last five years, students at Hazelton High School have been required to wear strict uniforms while in school. During that same period, Hazelton's students scored 34% higher on standardized tests than in the preceding five-year period.

**If we conclude that wearing uniforms while in school causes Hazelton's students to score higher on standardized tests, which of the following statements, if true, would most seriously weaken that conclusion?**

The correct answer choice in this case would be something similar to "five years ago, Hazelton hired several new teachers specifically for the purpose of helping students improve their scores on standardized tests," or "five years ago, Hazelton drastically increased the selectivity of its admissions process and started accepting only the best students."

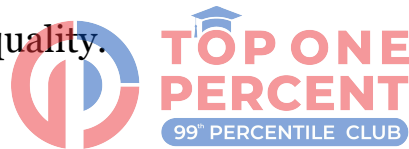
Notice how these answer choices provide possible alternative reasons why Hazelton's students scored 34% higher on standardized tests than they did historically. Furthermore, since the alternative reasons are highly correlated with the uniform policy (both occurred during the last five years only), it is difficult to decide which one is the true cause.



*Let's see another example:*

Manager X recently observed that Employee Y has been consistently arriving to work an hour late for the last two weeks. Over the same time period, performance reports indicated that the quality of Employee Y's work product had decreased substantially. In an effort to reverse this decrease in performance, Manager X instituted harsh penalties for arriving to work late. **Which of the following statements, if true, suggests that the harsh penalties will NOT reverse the decrease the quality of Employee Y's work product?**

The correct answer choice in this case would be something similar to "two weeks ago, Employee Y and his spouse adopted an infant, and Employee Y has been suffering from sleep deprivation ever since." The harsh penalties for arriving to work late operate under the assumption that the quality of Employee Y's work product will improve if he starts arriving to work on time—in other words, the harsh penalties assume that late arrivals are the cause of the decrease in work product quality. However, it might be that a separate factor—sleep deprivation—might be the cause of BOTH the late arrivals AND the decrease in work product quality.



**Consider the argument below:**

The Arrivederci Eatery on Main Street has recently received the highest rating in the city's restaurant review guide. Several celebrities, among them the film star Bronco Cantrell, are regular patrons of Arrivederci. Therefore, the high rating received by Arrivederci in the restaurant review guide must be due to the presence of celebrities as regular patrons.

This argument suffers from a **logical flaw**. It is based on the unlikely assumption that the regular presence of celebrities is the cause of the restaurant's high rating. It is more likely that the high rating encouraged the celebrities to visit the restaurant in the first place, or that the restaurant's high quality earned it both the high rating **and** the attention of the aforementioned celebrities.

*Example 7:*

Springfield Central School District's new superintendent recently instituted a controversial new plan to reduce discipline problems and improve school spirit at the district's secondary schools. After observing that East Asian countries require students to wear uniforms and that these schools also suffer from dramatically fewer discipline problems than do American schools, the superintendent instituted a mandatory uniform policy in all district secondary schools. Since all students are now required to wear a formal uniform to class, discipline problems should decrease, and the students' morale should also improve. **Which of the following, if true, most seriously calls into question the conclusion of the argument above?**

- A. Many elementary schools that have begun pilot programs with uniforms have seen significant gains in student test scores.
- B. East Asian schools have, on average, the same number of students per instructor as do American schools.
- C. Springfield Central School District recently instituted a dress code and saw huge improvements in student SAT scores.
- D. According to the most recent survey, 1% of Springfield Central Secondary School students are against the uniform policy.
- E. East Asian schools use a different standard in their accounting of discipline problems than do American schools.

Choices A and C are out of scope. Our concern is with secondary students and discipline problems, not elementary school kids or test scores. Choice B uses an irrelevant comparison. The number of students per class at American and East Asian schools has no bearing on the question up for debate; we have no reason to believe that any premise of the argument relates to class size. Choice D brings up an irrelevant topic.

**Choice E is correct.**

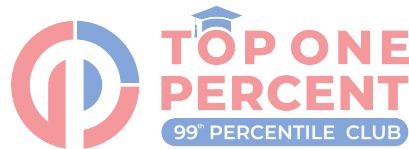
**Conclusion:** A causes B (Uniforms cause fewer discipline problems)

**Weakeners:** C causes B (different counting standards cause East Asian schools to report fewer discipline problems). The uniforms are just coincidental here.

If problems level 1 to 10 are all counted as discipline problems in America and only

problem level 10 is counted as a discipline problem in East Asian countries, then making uniforms compulsory in American schools won't reduce the number of discipline issues reported.

This choice states: if East Asian schools and American schools tally their discipline problems differently, then any comparisons we make become suspect. The superintendent wants to emulate East Asian schools because they have fewer *discipline problems*; however, if those same schools are counting discipline problems by a different standard than is likely used by the superintendent, then her premise is false; by the standards of American schools, East Asian schools may have as many or more discipline issues than does the Central School District.



*Example 8:*

The number of people diagnosed with tuberculosis in a certain city decreased significantly from one year to the next. Epidemiologists attributed this decline to the closing of a coal plant on the outskirts of the city; coal fumes have long been believed to cause acute lung inflammation that can lead to the contraction of tuberculosis. **Which of the following, if true, would most seriously weaken the epidemiologists' explanation for the decrease in tuberculosis diagnoses?**

- A. Due to a new medical technique introduced into the city this year, many people who would have been diagnosed with tuberculosis are now correctly diagnosed with emphysema.
- B. The coal plant near the city closed, at least in part, because it was found to be polluting the air with particles that are dangerous when breathed.
- C. Of those diagnosed with tuberculosis last year, a large number received immediate medical treatment that halted the progression of the disease.
- D. Neighboring cities that are located farther from the closed coal plant did not observe decreases in tuberculosis diagnoses this year as compared to last year.
- E. There are still several smaller coal plants in operation within the borders of the city.

**A causes B:** closing of the coal plant caused fewer cases of TB

**Weakeners: C caused B:** the new test diagnosed fewer cases of TB.

The fewer number of patients diagnosed with TB may have nothing to do with coal fume, as the new test now correctly diagnoses many of the “earlier-diagnosed-with-TB” patients with emphysema, thereby reducing the number of patients diagnosed with TB. **Choice A is correct.**

Argument:

The number of people diagnosed with tuberculosis decreased significantly this year. Epidemiologists attributed this decline to the closing of a coal plant on the outskirts of the city. Coal fumes can cause acute lung inflammation that

can lead to the contraction of tuberculosis.

We need to look for some other reason for the decline in the number of tuberculosis diagnoses or something that tells us why closing of the coal plant may not be responsible for the decrease.

**CORRECT!** A. Due to a new medical technique introduced into the city this year, many people who would have been diagnosed with tuberculosis are now correctly diagnosed with emphysema.

This could certainly be a reason for the decreased number of tuberculosis diagnoses. It says that the number of tuberculosis diagnoses in the previous year was exaggerated - in this year the people who had emphysema were correctly diagnosed and were not clubbed with people who had tuberculosis. This could be a reason (other than the closing of the coal plant) for the decline in the number of tuberculosis diagnoses.

B. The coal plant near the city closed, at least in part, because it was found to be polluting the air with particles that are dangerous when breathed.

We already know this from the premises. It just tells us why it was closed. If anything, it strengthens the epidemiologists' explanation for the decrease in tuberculosis diagnoses

C. Of those diagnosed with tuberculosis last year, a large number received immediate medical treatment that halted the progression of the disease.

The treatment of those diagnosed last year is out of scope here. We are looking at the number of people who got diagnosed this year.

D. Neighboring cities that are located farther from the closed coal plant did not observe decreases in tuberculosis diagnoses this year as compared to last year.

This option also strengthens the epidemiologists' explanation for the decrease in tuberculosis diagnoses a little. It explains that cities far from the coal plant have not experienced this decrease so it is more probable now that the closing of the coal plant has resulted in the decrease of the number of tuberculosis cases.

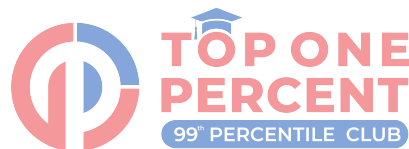
E. There are still several smaller coal plants in operation within the borders of the city.

This is out of scope too. Even if there are other harmful agents, the closing down of one major harmful agent could certainly be responsible for the decrease in the number of cases.

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Our answer here is going to be anything that shows the decreased instances of new tuberculosis cases are being caused by *something other than the coal plant closing*. Even if other smaller coal plants are still in operation, this does not prove this in any way. However, per Option (A), if we are to take that better medical procedures are reducing misdiagnosis of TB, then that can be a reason why fewer new TB cases have been observed

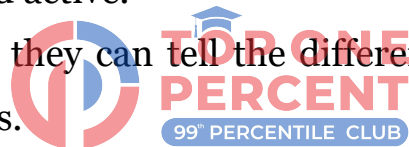
Option (C) is *irrelevant*. The argument is about fewer *diagnoses* of TB, not what happened to the cases that were diagnosed. Did they receive treatment, did the cases progress, all of this is *immaterial* to the argument. Has nothing to do with it.



*Example 9:*

We can now dismiss the widely held suspicion that sugar consumption often exacerbates hyperactivity in children with attention deficit disorder. A scientific study of the effects of three common sugars—sucrose, fructose, and glucose—on children who have attention deficit disorder, with experimental groups each receiving a type of sugar in their diets and a control group receiving a sugar substitute instead of sugar, showed no statistically significant difference between the groups in thinking or behavior. **Which one of the following, if true, would most weaken the argument above?**

- A. Only one of the three types of sugar used in the study was ever widely suspected of exacerbating hyperactivity.
- B. The consumption of sugar actually has a calming effect on some children.
- C. The consumption of some sugar substitutes exacerbates the symptoms of hyperactivity.
- D. The study included some observations of each group in contexts that generally tend to make children excited and active.
- E. Some children believe that they can tell the difference between the taste of sugar and that of sugar substitutes.



**Conclusion**—Consuming sugar does not increase hyperactivity in children.

**Evidence**—A study. **Methodology:** Test groups—ADD children got three kinds of sugars. Control groups—ADD children got sugar substitutes. **Result:** No difference in thinking or behavior.

The author assumes that the study was sound. That means he thinks that if sugar exacerbates hyperactivity, the control group should have shown a difference in thinking and behavior from the test groups. So, the correct answer will suggest a reason that the two groups would act the same.

- A. Irrelevant Comparison. That test group, at least, should have shown differences in thinking and behavior if sugar makes hyperactivity worse. But they didn't. Eliminate.
- B. Extreme/180. The author's claim is simply that sugar doesn't make hyperactivity worse. If anything, this helps the author's case. Eliminate.
- C. **Correct.** This undermines the validity of the study. If the sugar substitutes also



make hyperactivity worse, then sugar may have made hyperactivity worse, too, without the groups showing any differences.

- D. 180. This makes the study even more sound as a test of the effects of sugar on hyperactivity. Eliminate.
- E. Outside the Scope. Without more information, we can't tell what effect, if any, this had on the study's results. Eliminate.

This stimulus discusses the impact of sugar consumption on hyperactivity in children with ADD (attention deficit disorder). The stimulus begins with the author's conclusion: We can now dismiss the notion that sugar consumption exacerbates hyperactivity in ADD children. This conclusion is based on a "scientific study" (be wary of the vague appeal to authority here) which showed that hyperactivity levels among ADD children who were given three common sugars was not distinguishable from those of ADD children who received a sugar substitute (we should also note the vague description of the sugar substitute—its effects must be distinguishable from those of sugar for it to facilitate an effective control group).

Answer choice (A): The fact that only one of the sugars used in the study was widely suspected of exacerbating hyperactivity does not change the observed behavior of the study's subjects. This does not weaken the conclusion drawn in the stimulus.

Answer choice (B): Since the stimulus is concerned exclusively with ADD children, information about children in general is not relevant to the argument.

**Answer choice (C):** This is the correct answer choice. If the sugar substitute used in the study had the same or similar effect as the three sugars, it would not facilitate a good control group for the study, and no conclusions about distinguishing characteristics of the sugars could be logically drawn.

Answer choice (D): As long as all groups participated in these activities, it would not affect the outcome of the study (of course if the control group participated in these activities but the sugar groups did not, the study would be severely flawed).

Answer choice (E): The fact that some children have this belief would not necessarily have an effect on this study, as it is unclear whether any of the subjects would have actually been able to make this distinction, nor whether such knowledge would have had any effects on their behavior.

Well, what if both sugar and Splenda (a sugar substitute) makes kids hyper? Then the study might actually support the idea that sugar makes kids hyper!

(C) brings up this possibility. It opens the door to this large gap in the argument. Even if it were just a couple of sugar substitutes, this possibility seriously calls into question the validity (air-tightness) of the argument.

(A) is irrelevant - we're not interested in which sugars were widely suspected of making kids hyper. The question is whether the study can allow us to dismiss the theory.

(B) is perhaps tempting, but, if anything, this would strengthen the argument. Sugar doesn't make kids hyper - it calms them down! However, because it only does this for some kids, (B) doesn't have any effect, because "some" can mean 2 out of the entire world's population of kids (and thus not indicate a trend whatsoever).

(D) provides details of how the study was conducted. Sometimes this sort of info is helpful in supporting or weakening an argument that includes a study, but here this simply tells us that the study involved "some" observations that might make kids hyper. Again, "some" means "one or more," so this answer doesn't tell us much about what was generally happening. Plus, even if the kids were in a situation that makes them hyper, who is to say that the study could not determine if kids who had sugar were even more hyper? In other words, if the entire study were done in this manner, would it make it impossible to determine the effect of these sugars and sugar substitutes? Not necessarily - and it wasn't the entire study that was done in this way.

(E) may be tempting - perhaps, as the poster above suggests, if kids can tell the difference they'll act differently. However, you need to add in quite an assumption here (that the kids would modify their behavior based on this knowledge). There are some other problems with this: the kids "believe" they can tell, but can they? And again, it's "some" kids, so maybe that's 2.

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Start by picturizing the experiment in your head. There are three experimental groups (**what this means is each group has children with ADD, who show hyperactivity and so on**) and three control groups. Each experimental group received a type of sugar, and each control group received a sugar substitute (one or more types, we don't know). The observation was that there was no statistically significant difference in the way each experimental group and corresponding control group thought and behaved. Again, at this point think what that means - **that each control group also showed a statistically similar level of ADD symptoms as each experimental group**. This is prompting the author to propose the argument that the suspicion that sugars increase hyperactivity in children with ADD can be dismissed, i.e. sugars do NOT increase hyperactivity symptoms in children with ADD

The stem of the question asks which of the following, if true, would most weaken the argument, i.e., if true, would prevent us from conclusively saying that sugars do not cause / increase hyperactivity symptoms in children with ADD

(C) - Again, think of what the author is trying to argue - *because the children without ADD (control group) showed no significantly different behavior than children with ADD, we cannot say sugars cause hyperactivity in ADD*. This is the absolute crux, cutting out all the fluff. However, if sugar substitute(s) given in the experiments themselves also caused hyperactivity, then the similar behavior is because both groups showed hyperactivity and *not because both were calm (because we know for a fact that the experiment group definitely showed hyperactivity)*. So if sugar substitute(s) cause hyperactivity, that weakens the argument that sugar does not.

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What you need to do is identify the argument, and then weaken *that*. So what has happened here? Three experimental groups have been set up (one for each type of sugar). Each experimental group, per established research methodology, also has a corresponding control group. Each experimental group has children with ADD, and each such group of children will be given one type of sugar in their type. The 3 control groups were either given a placebo or nothing at all.

I am going into more detail here than is required (but you will need to learn all of this as part of even MBA statistics courses, so best to give you a small initiation). So what was done was that the hyperactivity in each of the research groups was quantified through a measure of central tendency (mean value most usually - so the sucrose group has a hyperactivity of x with a confidence interval of  $\pm y\%$  say; same for the other sugar groups. It is also a norm to measure and report a measure of dispersion such as what the SD for the hyperactivity was). For each sugar group, the exact same measure was operationalized for its corresponding control group. Then the null hypothesis was set up for each pair of research and control group - that the means for hyperactivity are not statistically significantly different (the alternate hypothesis is that the means are indeed different; i.e. sugars cause hyperactivity in ADD). This is done through measuring something called the p-value. Usually, if the p-value is especially small, the null hypothesis is rejected (something interesting is happening; we are being able to show sugars cause ADD hyperactivity). Here it was found (**and from here on is the only thing you need to understand**) that the hyperactivity in each research and its corresponding control group was not that different (high p-value). This means that (**and this is the argument**) sugars *don't* seem to cause / exacerbate hyperactivity in children with ADD.

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To weaken the argument we need a reason that why the scientific study is inaccurate.

**(A) Only one of the three types of sugar used in the study was ever widely suspected of exacerbating hyperactivity.**

**This just strengthens the argument. Eliminate**

**(B) The consumption of sugar actually has a calming effect on some children.**

This does not broadly weakens as it applies to only some children with a positive impact. What about the rest of the other children? Was it negative or neutral effect on them?  
Eliminate

**(C) The consumption of some sugar substitutes exacerbates the symptoms of hyperactivity.**

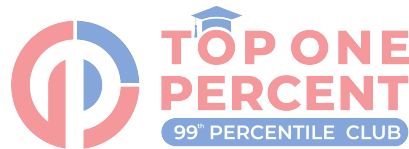
This weakens the argument that sugar substitutes also have the same issue as regular sugar and hence we may not see any difference(which was the results of the scientific experiment). So the scientific experiment itself is inaccurate and hence option C is the best answer choice.

**(D) The study included some observations of each group in contexts that generally tend to make children excited and active.**

D does not weaken the argument. D says that there are some activities in the study that tend to make children excited and active. But if all the groups were included in these activities, then these activities would have no impact on the outcome of the study and more importantly, on the conclusion. Eliminate

**(E) Some children believe that they can tell the difference between the taste of sugar and that of sugar substitutes.**

Taste is irrelevant.



*Example 10:*

The cattle egret is a bird that lives around herds of cattle. The only available explanation of the fact that the cattle egret follows cattle herds is that the egrets consume the insects stirred up from the grasses as the cattle herds graze.

**Which one of the following, if true, would most seriously undermine the claim that the explanation given above is the only available one?**

- A. Birds other than cattle egrets have been observed consuming insects stirred up by the movement of cattle.
- B. Cattle egrets are known to follow other slow-moving animals, such as rhinoceroses and buffalo.
- C. The presence of cattle dissuades many would-be predators of the cattle egret.
- D. Cattle egrets are not generally known to live outside the range of large, slow-moving animals.
- E. Forests are generally inhospitable to cattle egrets because of a lack of insects of the kind egrets can consume.

The claim is that the only explanation for egrets following cattle is that they can eat the insects the cattle stir up when grazing. The correct answer will suggest a benefit that the egret derives from following cattle herds other than having insects to eat.

- A. 180. This makes the author's claim even more likely. Eliminate.
- B. Irrelevant Comparison. Presumably, rhinos and buffalo stir up insects, too. Eliminate.
- C. **Correct.** Receiving protection is a distinct benefit for the egrets. Maybe having bugs stirred up isn't the only explanation.
- D. Outside the Scope. Why they follow cattle herds is the question, not whether they live elsewhere, too. Eliminate.
- E. Outside the Scope. The author claims to know why egrets follow cattle herds, not why they don't live in the forest. Eliminate.

The causal argument in this stimulus is that the cause of the cattle egret following herds of cattle is that it consumes the insects the herd stirs up when grazing. To attack this relationship simply provide an alternate cause to explain why the egrets follow the herd of cattle.

Answer choice (A): Other birds do not address the conclusion about cattle egrets.

Answer choice (B): Since we do not know if these animals herd or not, this cannot be thought to attack the causal relationship.

Answer choice (C): This is the correct answer choice. This tells us that the herds protect the egrets from predators, thus giving an alternate cause to the one in the stimulus (eating insects).

Answer choice (D): This merely supports the idea that the egrets tend to follow herds of animals, so it does not attack the argument.

Answer choice (E): This supports the stimulus because it reinforces the notion that they follow the herds to eat insects.

The only available explanation for the cattle egret living near cattle herds is that the birds eat the insects that the cattle kick up in the grass. Which piece of information, we are asked, would weaken the fact that this reason is the only reason. We are looking for an answer that provides another reason the birds would choose to live there. (C) explains that cattle provide a modicum of protection for the birds, and is therefore correct.



(A) does not provide a reason for the birds choice of neighborhood.

(B) does not provide a reason for the birds choice of neighborhood.

(D) does not provide a reason for the birds choice of neighborhood.

(E) is tempting in that it discusses why cattle egrets do not live elsewhere, but it does not address the question of why they do live where they do.

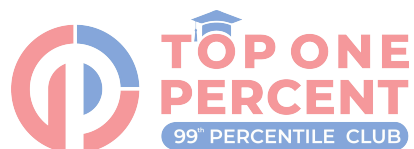
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B says that cattle egrets are known to follow **other** slow-moving animals, such as rhinoceroses and buffalo. This tells us that cattle are also slow-moving animals.

Now, we know that cattle egrets follow cattle herds. One possible reason is that '*egrets consume the insects stirred up from the grasses as the cattle herds graze*'.

B tells us that cattle egrets also follow other slow-moving animals. Doesn't this strengthen the argument to a certain extent? Probably the other slow-moving animals

also stir up insects from the grass. So now there is greater reason to believe that this is actually what causes cattle egrets to follow herds to cattle. Since B somewhat strengthens the argument, it is incorrect.





*Example 11:*

In modern deep-diving marine mammals, such as whales, the outer shell of the bones is porous. This has the effect of making the bones light enough so that it is easy for the animals to swim back to the surface after a deep dive. The outer shell of the bones was also porous in the ichthyosaur, an extinct prehistoric marine reptile. We can conclude from this that ichthyosaurs were deep divers.

**Which one of the following, if true, most weakens the argument?**

- A. Some deep-diving marine species must surface after dives but do not have bones with porous outershells.
- B. In most modern marine reptile species, the outer shell of the bones is not porous.
- C. In most modern and prehistoric marine reptile species that are not deep divers, the outer shell of the bones is porous.
- D. In addition to the porous outer shells of their bones, whales have at least some characteristics suited to deep diving for which there is no clear evidence whether these were shared by ichthyosaurs.
- E. There is evidence that the bones of ichthyosaurs would have been light enough to allow surfacing even if the outer shells were not porous.

A causes B

Porous bone means Ichthyosaurs were deep divers.

**To weaken:**

Option C

If non-deep divers have the same bone structure, then it is just as likely that ichthyosaurs were non-deep divers, too.

**Having porous bone shells may be a necessary condition for deep diving, but it is not a sufficient one.**

If most marine reptiles that are not deep divers have porous bones, this would show that having such bones is not a sufficient condition for an animal to be a deep diver. This would be consistent with the premise of the argument, but immediately undermine the conditional relationship upon which the conclusion depends.



Evidence—1) Ichthyosaurs had a porous outer shell of bone, and 2) modern deep-diving animals have a porous outer shell of bones (which make it easier to dive deep).

The author tells us that modern deep-diving animals have a porous outer shell of bone, but he doesn't tell us that only deep divers have this feature. If non-deep divers also have porous outer shells of bones, or if this feature has other benefits, the author's argument is suspect.

- A. Irrelevant Comparison. It must be harder for these deep divers to resurface, but that has no impact on the argument. The author needs to show that only deep divers have porous outer shells, not that only those with porous outer shells dive deep.
- B. Outside the Scope. Perhaps most modern reptiles are not deep divers. Eliminate.
- C. **Correct.** If non-deep divers have the same bone structure, then it is just as likely that ichthyosaurs were non-deep divers, too.
- D. Irrelevant Comparison. Whales may be better deep divers than ichthyosaurs, but that doesn't suggest that ichthyosaurs were not deep divers. Eliminate.
- E. 180. This makes it more likely that ichthyosaurs were deep divers, not less. Eliminate.

The author's conclusion is flawed for several reasons. First, ichthyosaurs are marine reptiles, not mammals. Due to the skeletal or other physiological differences between the two, it is possible that a marine reptile with porous bones uses them for a different purpose than a marine mammal does. Just because the ichthyosaur shares a feature common to all deep diving marine mammals does not necessarily mean that ichthyosaurs were also deep divers. Having porous bone shells may be a necessary condition for deep diving, but it is not a sufficient one. To weaken this argument, you can show that at least some animals whose bones have a porous outer shell are not deep divers.

Answer choice (A): This answer choice implies that having porous bones is not a necessary precondition for deep diving in general. This fact, however, is consistent with the author's premise in the first sentence of the stimulus, which only addressed deep-diving marine mammals, not marine species in general. Furthermore, the fact that having porous bones is not a necessary precondition for deep diving does not weaken the conclusion of the argument, because we already know that ichthyosaurs do have porous bones. The conclusion is assuming that having porous bones is a sufficient condition for an animal to be a deep diver, not a necessary precondition for deep diving.

Answer choice (B): The fact that most modern marine reptiles do not have porous bone shells is irrelevant, because it is unclear whether these marine reptiles are actually deep divers. Perhaps the ichthyosaur, a marine reptile, was unlike most modern marine reptiles in that it was a deep diver while the modern marine reptiles are not.

**Answer choice (C): This is the correct answer choice.** If most marine reptiles that are not deep divers have porous bones, this would show that having such bones is not a sufficient condition for an animal to be a deep diver. This would be consistent with the premise of the argument, but immediately undermine the conditional relationship upon which the conclusion depends.

Answer choice (D): Just because ichthyosaurs do not share some other characteristics suited to deep diving has no bearing on whether ichthyosaurs were themselves deep divers. There is no evidence that the characteristics shared by whales are necessary for deep diving: they are merely suited to it, and are shared by some marine mammals, not reptiles.

Answer choice (E): The fact that ichthyosaurs could have been deep divers even without porous bone shells only strengthens the conclusion of the argument. Again, the author is assuming that having porous bones is a sufficient condition for an animal to be a deep diver, not a necessary precondition for it. Therefore, it is entirely plausible that ichthyosaurs could have been deep divers for some reason other than their porous bone shells.

(E): Should be immediately eliminated on the bases of shifting the scope to "surfacing" from "to the surface"! Let me explain: The argument talks about the porous bones aiding in the swim from the depth of the ocean TO THE SURFACE! The argument NEVER talks about actually SURFACING! Those are two VERY different meanings and a often-used trap by test-writers... They prey upon test-takers inherent nature to make unwarranted assumptions without realising of doing this! During my first time reading this question, I initially interpreted the premise to mean "surfacing" as well. However, after closer inspection of the details, I noticed that this was a severe scope shift! You should confidently eliminate answers (A) and (E) based on the above. "Surfacing" means poking something out of the surface (as in whales sticking their blow-holes out of the water). "Swim back to the surface" means the process of swimming from deep depths TO THE SURFACE. The argument is specifically referring to this SWIM FROM DEPTH TO SURFACE... NOT the ACTUAL SURFACING (which is inherently wrong as

well due to the scope shift)!

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Whales (deep diving marine animals) have porous outer bones. *Because* Ichthyosaurs had porous outer bones, Ichthyosaurs must have been deep divers.

Anything that weakens this causality will weaken this argument. Let's eliminate Option (B) first - it does not talk about deep diving animals. Option (E) further strengthens the conclusion that Ichthyosaurs may have been deep divers. This option is eliminated. If we look at Option (D) (this confused me too), the thing is other characteristics being present in whales does not necessarily eliminate / weaken the possibility that the porous bones themselves caused / allowed them to be deep divers. So it is possible that this feature allowed both animals to be deep divers. Similarly, for Option (A), some species can deep dive without porous bones. One thing is these species are few in number, and the other thing is this does not necessarily indicate that for the majority of species that deep dive, it is *not* porous outer bones that are letting them deep dive. Some can mean only 1. 1 counterexample doesn't disprove or prove anything. Also 'surface' doesn't prove surface after a deep dive.

This leaves Option (C) as the correct answer. In most (large number) of reptile species that are not deep divers, if the outer bones are porous, then the causal relationship of porous outer bones and deep diving is weakened for sure

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D says that, whales have some other characteristics that help them to deep dive in addition to porous outer shell of the bones.

Now, this choice talks about some characteristics other than porous outer shell that helps whales to deep dive. These other characteristics are not the sole reason for them to become deep divers.

Now, irrespective of whether these characteristics are present in ichthyosaur, we cannot prove that ichthyosaur are not deep divers.

With respect to the word "suited" to deep diving: the second part of the option says that there is no evidence if these characteristics were present in ichthyosaur.

What if they were present? If they were present, it would be a deep diver-strengthening the argument. We have to weaken.

Can you say that since ichthyosaur does not have these characteristics, so they are not deep divers? No.

Hence, eliminate.

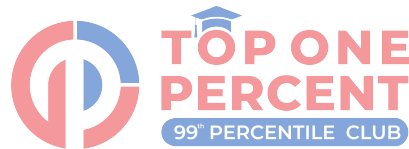
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Argument: The outer shell of the **bones being porous** has the effect of making the bones light enough so that it is **easy** for the animals to swim back to the surface after a deep dive.

(A) Some deep-diving marine species must surface after dives but do not have bones with porous outer shells.

Firstly, it talks about species that do not have bones with porous outer shells (making it out of scope).

Secondly, option A just states that animals that do not have bones with porous outer shells must swim back to the surface: whether it is easy or difficult we don't know.



*Example 12:*

On average, corporations that encourage frequent social events in the workplace show higher profits than those that rarely do. This suggests that the EZ Corporation could boost its profits by having more staff parties during business hours.

**Which one of the following, if true, most weakens the argument above?**

- A. The corporations that encourage frequent social events in the workplace do so to celebrate the high profits that they are already earning.
- B. Corporations that have frequent staff parties after business hours sometimes have higher profits than do corporations that have frequent staff parties during business hours.
- C. The EZ Corporation already earns above-average profits, and it almost never brings play into the workplace.
- D. Frequent social events in a corporate workplace leave employees with less time to perform their assigned duties than they would otherwise have.
- E. At one time the EZ Corporation encouraged social events in the workplace more frequently than it currently does, but it has not always been one of the most profitable corporations of its size.



**Conclusion**—More staff parties during business hours causes increased corporate profits. **(A causes B)**

**Evidence**—Frequent social events for employees correlate to higher profits.

The author assumes a causal conclusion from evidence of correlation. This can be weakened by showing

1) alternate causes; 2) reversed causation (likely here); or 3) mere coincidence.

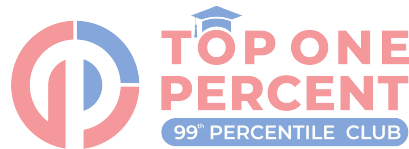
- A. **Correct.** This shows reversed causation. Already profitable companies are more likely to fete their employees. **(B causes A)**
- B. Outside the Scope. Maybe parties after work hours are even better, but that certainly doesn't damage the author's argument. Eliminate.
- C. Outside the Scope. The author concludes that more staff parties could boost profitability even more, not that EZ isn't profitable now. Eliminate.
- D. Irrelevant Comparison. We would need information about how employees' completion of their

- assigned duties affects profitability to assess the impact of this statement. Eliminate.
- E. Extreme. Many factors influence whether EZ is “one of the most profitable corporations.” The relevant question for the author would be: Was EZ more profitable when it encouraged more parties than it is now? Eliminate.

**Top 1% expert replies to student queries (can skip)**

(D) - We do not know if less time to perform duties has adverse effects on boosting profits. The correlation is not known.

D also does not address why companies with frequent social activities tend to have higher than average profits.



*Example 13:*

When people show signs of having a heart attack an electrocardiograph (EKG) is often used to diagnose their condition. In a study, a computer program for EKG diagnosis of heart attacks was pitted against a very experienced, highly skilled cardiologist. The program correctly diagnosed a significantly higher proportion of the cases that were later confirmed to be heart attacks than did the cardiologist. Interpreting EKG data, therefore, should be left to computer programs.

**Which one of the following, if true, most weakens the argument?**

- A. Experts agreed that the cardiologist made few obvious mistakes in reading and interpreting the EKG data.
- B. The practice of medicine is as much an art as a science, and computer programs are not easily adapted to making subjective judgments.
- C. The cardiologist correctly diagnosed a significantly higher proportion of the cases in which no heart attack occurred than did the computer program.
- D. In a considerable percentage of cases, EKG data alone are insufficient to enable either computer programs or cardiologists to make accurate diagnoses.
- E. The cardiologist in the study was unrepresentative of cardiologists in general with respect to skill and experience.

**Conclusion**—EKG data should be interpreted by computers, not by doctors.

**Evidence**—A study. **Methodology:** Computers and skilled, experienced doctors both interpreted EKG data. **Result:** Computer correctly diagnosed heart attacks more often than doctors did.

The study shows that computers are more accurate when patients did have heart attacks. But are doctors better at another aspect of interpreting EKGs, such as when patients' symptoms were due to something else? The correct answer will likely point out an overlooked advantage to having doctors interpret EKGs.

In this case, a computer program and a very experienced, highly skilled cardiologist are compared on the basis of the quality of their diagnoses. The computer was significantly better at true heart attack diagnoses, which by extension means that the cardiologist under-diagnosed a number of actual heart attacks. While this is an important metric (since underdiagnosing might result in inadequate care), it is not the only measure of



quality. It is also important to avoid over-diagnosing, since concluding that someone is suffering a heart attack incorrectly could result in expensive treatments, hospital stays, or even dangerous surgeries. A good diagnostician avoids both over- and under-diagnosis, which the argument does not address.

Answer choice (A): If it is true that the cardiologist did not make obvious mistakes but still underdiagnosed, then there is little reason to believe that another cardiologist would perform better. (A) supports that conclusion that interpreting EKG data should be left to computer programs.

Answer choice (B): Determining if a patient has had a heart attack is not subjective—it either happened or it did not. The data may be difficult to interpret and experts may even disagree over what the data suggest, but that does not mean the judgment is subjective, only challenging. (B) does not weaken the stimulus. This choice deals with the entire practice of medicine, which is in part an art and in some cases includes the need for subjective judgment. The author's argument is much more limited, though, and it is unclear how much subjective judgment comes into play when interpreting EKGs. This choice doesn't fit with the conclusion in the stimulus which says that "interpreting EKG data" should be left to machines. Given that big mismatch between "the practice of medicine" and "interpreting EKG data," answer choice

(B) is an easy one to eliminate.

**Answer choice (C): This is the correct answer choice.** For the reasons suggested above, it is important to avoid over-diagnosis, as well as under-diagnosis. If (C) is true, then the computer program was more likely to diagnose heart attacks which did not occur than the cardiologist. Thus, both the computer program and the cardiologist have weaknesses in interpreting EKG data, but it would be unwise to leave interpreting entirely to computer programs. This choice weakens this conclusion by providing another consideration: if the cardiologists were more successful at diagnosing the non-heart attack cases--that is, all other cases, then this significantly weakens the author's broad conclusion that all EKG diagnosis should be left to computer programs.

To be clear, if 90 out of 100 cases fall into the "heart attack" category the computer program would be the clear winner in making the most accurate diagnoses. But if 90 out of 100 cases ended up not being heart attacks, the doctor would have the overall better track record.



What if the cardiologist performed better in cases which resulted in no heart attacks? What if she was able to better interpret the data in those situations? Then can we say that computers are better at interpreting data? No. We need to see overall results to find out who/what did a better job.

Suppose you had 1000 people, and 45 were having heart attacks. Ideally, you'd want to label the 45 people as "having heart attacks" and the other 955 people as "not having heart attacks".

A cardiologist might catch 43 of the heart attacks, miss two, and incorrectly say that 3 of the non-heart attack patients had heart attacks. Not bad, overall.

What do we know about the computer program? All we know is that of the 45 people with heart attacks, it correctly labelled more of them. So, 44 or 45. A bit better. But we don't know how the computer did with the other 955 people. If the program also said that 900 of the healthy people were having a heart attack, then it would be a useless program. It thinks everyone is having a heart attack!

A good program or cardiologist must identify both when a heart attack is happening and when one is not happening.



Choice C shows that the computer had a high "false positive" rate ... i.e., The computer was sending healthy people to the hospital, while the cardiologist correctly determined that many people were not having heart attacks. You could make a computer program that says every situation was a heart attack. It would identify 100% of heart attacks, but still be a useless program because it would have an atrocious false positive rate.

Answer choice (D): Suggesting that both the computer program and cardiologist failed to diagnose a considerable percentage of cases does not outweigh the fact that the cardiologist was significantly more likely to under-diagnose than the computer program. So, in some cases, neither solution is adequate, and in the remaining cases, the computer is superior. This suggests that interpreting EKG data should be left to computer programs.

Answer choice (E): We are told in the stimulus that the cardiologist was highly skilled and very experienced. If (E) is true and other cardiologists are unlikely to be as skilled or experienced, then it is probable that they would perform even worse than this cardiologist did. Thus, the author's argument is strengthened, not weakened, by this answer choice.

We know that the cardiologist in the study was highly skilled. If he was unrepresentative of cardiologists in general, it means general cardiologists are not this skilled. If even he could not do a better job than the computer, then it does seem that the job should be left to the computer.

### **Top 1% expert replies to student queries (can skip)**

The computer program was able to diagnose a higher proportion of cases than the doctor that later indeed turn out to be cases of heart attacks using the EKG data.

Based upon this observation, the conclusion is drawn which is that the EKG data should be read by computers.

Alright.

The computer did correctly diagnose a higher proportion of the cases where heart attack were deemed to take place but what do we know about the cases where the attack hearts weren't a firm a possibility? Do we have any data on that? We don't.

See a diagnosis is two faced: positive or a negative for a heart attack.

Showing good performance on one end does not necessarily tell us there'll be similar results on the other end.

Now, if we get to know about the other side, the argument will indeed help us weaken the drawn conclusion.

For that, option C does the trick, perfectly.

If the doctors are actually able to assess the cases where heart attacks aren't imminent better than computers, then that weakens the said conclusion.

*Example 14:*

The owners of a book store and a nearby coffee shop have decided to combine their businesses. Both owners believe that this merger will increase the number of customers and therefore the gross revenue, because customers who come for one reason may also decide to purchase something else.

**Which of the following, if true, most weakens the owners' conclusion that a merger will increase revenue?**

- A. Books and drinks can both be considered impulse purchases; often, they are purchased by customers without forethought.
- B. Profit margins at a coffee shop are generally significantly higher than profit margins at a book store.
- C. People who are able to read the first chapter of a book before buying are more likely to decide to buy the book.
- D. A large majority of the book store's current customer base already frequents the coffee shop.
- E. A combination book store and coffee shop that opened in a neighboring city last year has already earned higher than expected profits.



- A. This could be a reason why people would buy more. If they normally just buy coffee but see a book they like, maybe they'll be more likely to buy. That would strengthen the plan to merge, but we want to weaken the plan. Reverse Logic trap!
- B. That might make the coffee shop owner not want to merge, but it than profit margins at a book store. doesn't address the revenue side of the equation at all—and the conclusion has to do with revenues, not profits.
- C. This helps the owners' argument again! If we can sit there and read while having our coffee, then we are more likely to buy the book, which would increase revenues.
- D. **Correct!** Most of the people who shop at the book store also already go to the coffee shop. That's not so good for the owner's plan—it means that they're not going to pick up as many new customers as we might have thought before.
- E. Two problems here. One, the author's not talking about the same book store and coffee shop. Two, this choice talks about profits, not revenues.

*Example 15:*

Traditionally, public school instructors have been compensated according to seniority. Recently, educational experts have criticized the system as one that rewards lackadaisical teaching and reduces motivation to excel. Instead, these experts argue that, to retain exceptional teachers and maintain quality instruction, teachers should receive salaries or bonuses based on performance rather than seniority.

**Which of the following, if true, most weakens the argument of the educational experts?**

- A. Some teachers express that financial compensation is not the only factor contributing to jobsatisfaction and teaching performance.
- B. School districts will develop their own unique compensation structures that may differ greatly from those of other school districts.
- C. Upon leaving the teaching profession, many young, effective teachers cite a lack of opportunity for more rapid financial advancement as a primary factor in the decision to change careers.
- D. In school districts that have implemented pay for performance compensation structures, standardized test scores have dramatically increased.
- E. A merit-based system that bases compensation on teacher performance reduces collaboration, which is an integral component of quality instruction.

- A. So maybe we should also consider other ways to reward good teachers too, but as long as financial compensation is a factor, then tying compensation to performance might be a good plan. According to this answer, financial compensation is a factor (though not the only one). Of course, there are probably other motivations, but if financial compensation is one of the motivations, then this argument is still as solid as when we started. The argument never claimed that it has to be the only motivation.
- B. The argument isn't claiming that every school district has to be identical. It just makes a recommendation that compensation be tied to performance in general. The exact structures of the different school districts don't matter. We are discussing the overarching principle, not the details.
- C. This would strengthen the experts' claim! It shows that teachers do care about the

financial side of things and causes some good teachers to leave the profession at a young age.

- D. Again, if anything, this makes the experts' plan sound better. Students in the school districts that have already followed the experts' recommendation are doing better on tests! So, this also strengthens the argument by showing positive results in school districts that have taken this action, and therefore this is another trap.
- E. **Correct!** The experts' plan has a drawback: it reduces something that is considered an "integral component" of good teaching. If that's true, it could hurt the idea that basing compensation on performance will result in maintaining good instruction.

Here the educational experts are arguing that, in order to retain exception teachers and therefore maintain quality instruction, teachers should receive compensation based on performance and not seniority. According to them, paying teachers based on seniority encourages lackadaisical teaching and reduces motivation. Choice E shows something that would occur that would reduce the quality of instruction if teachers were paid based on performance, and therefore weakens the argument that doing this would result in improved instruction.



### Top 1% expert replies to student queries (can skip)

The main argument posited in the passage is that teaching performance, and not age / seniority, should dictate financial reward, and, that such a system will be better (will be one with better instruction and so on). Now even before looking at any of the options, think what is something that would weaken this argument? It is something that will show a system that provides financial reward commensurate with teaching performance has its own faults that hamper the quality of the system. Look at Option (E) and it does so almost verbatim. So, it is our answer.

Option (A) may cause some confusion, but it is only relevant to a few teachers, whereas the argument is about the entire system in general. Also, Option (A) talks about teachers' feelings, but not objectively whether a merit-based compensation system actually improves or hampers an education system

*Example 16:*

**Which of the following most logically completes the argument given below?**

Deep-brain stimulation is a new technique for combating severe depression. In a recent experiment, electrodes were implanted into the brains of six patients who had not responded to any currently approved treatment for depression. When an electrical current to the electrodes was switched on, four of the patients reported feeling a dramatic reduction in depressive symptoms. The long-term prospects of the new treatment are not promising, however, because\_\_\_\_\_.

- A. other treatments for depression may also be effective
- B. the other two patients reported only a slight reduction of depressive symptoms during the treatment
- C. deep-brain stimulation relies on the expertise of highly skilled physicians
- D. when the electrical current is interrupted, the effects of the treatment are reversed
- E. in a subsequent experiment, a one-hour treatment with the electrodes resulted in a sustained remission from depression in the four patients for six months

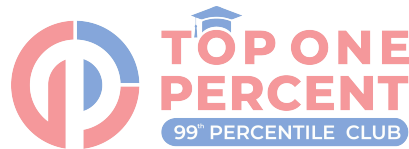


- A. This is probably true in the real world, but talking about other treatments doesn't explain why deep-brain stimulation won't be a good treatment long-term.
- B. The word "only," can make you suspect that they had a bad result, but actually having even a slight reduction is better than nothing, especially for people who have tried other treatments that haven't worked. So, if anything, this is a plus for deep-brain stimulation. That's not what we want.
- C. We can believe this is true, but we would expect any major medical treatment to be performed by skilled physicians, so why would this make deep-brain stimulation not work long-term?
- D. **Correct!** When the current is on, the symptoms go away, but when the current is off, the depression comes back. That means they'd have to be connected to some machine all the time— they couldn't just get a treatment once a week or once a month. That definitely makes the treatment less practical and promising.
- E. This is almost the opposite of choice (D). If you get a one-hour treatment, then the symptoms go away for 6 months—that's great for deep-brain stimulation! This can't be the right answer.

## Top 1% expert replies to student queries (can skip)

The simplest reason why Option (A) cannot be the answer is that it does not matter if there are other treatments available. As long as this *specific* treatment is effective, the longevity of its own long-term prospects (independent of those of the other treatments, if any) should not be in question.

The reason Option (D) is correct is because it questions the very veracity of the treatment. If the treatment is not good by itself, how can it be a good solution in the long-term?



## Questions for class discussion ... Contd.

8. Because dinosaurs were reptiles, scientists once assumed that, like all reptiles alive today, dinosaurs were cold-blooded. The recent discovery of dinosaur fossils in the northern arctic, however, has led a number of researchers to conclude that at least some dinosaurs might have been warm-blooded. These researchers point out that only warm-blooded animals could have withstood the frigid temperatures that are characteristic of arctic winters, whereas cold-blooded animals would have frozen to death in the extreme cold. **Which one of the following, if true, weakens the researchers' argument?**
- A. Today's reptiles are generally confined to regions of temperate or even tropical climates.
  - B. The fossils show the arctic dinosaurs to have been substantially smaller than other known species of dinosaurs.
  - C. The arctic dinosaur fossils were found alongside fossils of plants known for their ability to withstand extremely cold temperatures.
  - D. The number of fossils found together indicates herds of dinosaurs so large that they would need to migrate to find a continual food supply.
  - E. Experts on prehistoric climatic conditions believe that winter temperatures in the prehistoric northern arctic were not significantly different from what they are today.



9. There is relatively little room for growth in the overall carpet market, which is tied to the size of the population. Most who purchase carpet do so only once or twice, first in their twenties or thirties, and then perhaps again in their fifties or sixties. Thus, as the population ages, companies producing carpet will be able to gain market share in the carpet market only through purchasing competitors, and not through more aggressive marketing. **Which one of the following, if true, casts the most doubt on the conclusion above?**

- A. Two of the three mergers in the industry's last ten years led to a decline in profits and revenues for the newly merged companies.
- B. Most of the major carpet producers market other floor coverings as well.
- C. Most established carpet producers market several different brand names and varieties, and there is no remaining niche in the market for new brands to fill.
- D. Price reductions, achieved by cost-cutting in production, by some of the dominant firms in the carpet market are causing other producers to leave the market altogether.
- E. The carpet market is unlike most markets in that consumers are becoming increasingly resistant to new patterns and styles.



**10.** In the United States, of the people who moved from one state to another when they retired, the percentage who retired to Florida has decreased by three percentage points over the past ten years. Since many local businesses in Florida cater to retirees, these declines are likely to have a noticeably negative economic effect on these businesses and therefore on the economy of Florida.

**Which of the following, if true, most seriously weakens the argument given?**

- A. People who moved from one state to another when they retired moved a greater distance, on average, last year than such people did ten years ago.
- B. People were more likely to retire to North Carolina from another state last year than people were ten years ago.
- C. The number of people who moved from one state to another when they retired has increased significantly over the past ten years.
- D. The number of people who left Florida when they retired to live in another state was greater last year than it was ten years ago.
- E. Florida attracts more people who move from one state to another when they retire than does any other state.



**11.** In the past, most children who went sledding in the winter snow in Verland used wooden sleds with runners and steering bars. Ten years ago, smooth plastic sleds became popular; they go faster than wooden sleds but are harder to steer and slow. The concern that plastic sleds are more dangerous is clearly borne out by the fact that the number of children injured while sledding was much higher last winter than it was ten years ago.

**Which of the following, if true in Verland, most seriously undermines the force of the evidence cited?**

- A. A few children still use traditional wooden sleds.
- B. Very few children wear any kind of protective gear, such as helmets, while sledding.
- C. Plastic sleds can be used in a much wider variety of snow conditions than wooden sleds can.
- D. Most sledding injuries occur when a sled collides with a tree, a rock, or another sled.
- E. Because the traditional wooden sled can carry more than one rider, an accident involving a wooden sled can result in several children being injured.



**12.** Twelve years ago, and again five years ago, there were extended periods when Darfir Republic's currency, the pundra, was weak: its value was unusually low relative to the world's most stable currencies. Both times a weak pundra made Darfir's manufactured products a bargain on the world markets, and Darfir's exports were up substantially. Now some politicians are saying that, in order to cause another similarly sized increase in exports, the government should allow the pundra to become weak again.

**Which of the following if true provides the government with the strongest grounds to doubt the politician's recommendation, if followed, will achieve its aim?**

- A. several of the politicians not recommending that the pundra be allowed to become weak made that same recommendation before each of the last two periods of currency weakness.
- B. after several decades of operating well below its peak capacity, Darfir's manufacturing sector is now operating at near-peak levels
- C. the economy of a country experiencing a rise in exports will become healthier only if the country's currency is strong or the rise in exports is significant.
- D. those countries whose manufactured products compete with Darfir's on the world market currently all have stable currencies
- E. a sharp improvement in the efficiency of Darfir's manufacturing plants would make Darfir's products a bargain on the world markets even without weakening of the pundra relative to other currencies.

**13.** Kernland imposes a high tariff on the export of unprocessed cashew nuts in order to ensure that the nuts are sold to domestic processing plants. If the tariff were lifted and unprocessed cashews were sold at world market prices, more farmers could profit by growing cashews. However, since all the processing plants are in urban areas, removing the tariff would seriously hamper the government's effort to reduce urban unemployment rate over the next five years.

**Which of the following, if true, most seriously weakens the argument?**

- A. Some of the byproducts of processing cashews are used for manufacturing paints and plastics.
- B. Other countries in which cashews are processed subsidize their processing plants.
- C. More people in Kernland are engaged in farming cashews than in processing them.
- D. Buying unprocessed cashews at lower than world market prices enables cashew processors in Kernland to sell processed nuts at competitive prices
- E. A lack of profitable crops is driving an increasing number of small farmers in Kernland off their land and into the cities.



**14. Guidebook writer:** I have visited hotels throughout the country and have noticed that in those built before 1930 the quality of the original carpentry work is generally superior to that in hotels built afterward. Clearly carpenters working on hotels before 1930 typically worked with more skill, care, and effort than carpenters who have worked on hotels built subsequently.

**Which of the following, if true, most seriously weakens the guidebook writer's argument?**

- A. The quality of original carpentry in hotels is generally far superior to the quality of original carpentry in other structures, such as houses and stores.
- B. Hotels built since 1930 can generally accommodate more guests than those built before 1930.
- C. The materials available to carpenters working before 1930 were not significantly different in quality from the materials available to carpenters working after 1930.
- D. The better the quality of original carpentry in a building, the less likely that building is to fall into disuse and be demolished.
- E. The average length of apprenticeship for carpenters has declined significantly since 1930.



**15.** Before the printing press, books could be purchased only in expensive manuscript copies. The printing press produced books that were significantly less expensive than the manuscript editions. The public's demand for printed books in the first years after the invention of the printing press was many times greater than demand had been for manuscript copies. This increase demonstrates that there was a dramatic jump in the number of people who learned how to read in the years after publishers first started producing books on the printing press.

**Which one of the following statements, if true, casts doubt on the argument?**

- A. During the first years after the invention of the printing press, letter writing by people who wrote without the assistance of scribes or clerks exhibited a dramatic increase.
- B. Books produced on the printing press are often found with written comments in the margins in the handwriting of the people who owned the books.
- C. In the first years after the printing press was invented, printed books were purchased primarily by people who had always bought and read expensive manuscripts but could afford a greater number of printed books for the same money.
- D. Books that were printed on the printing press in the first years after its invention often circulated among friends in informal reading clubs or libraries.
- E. The first printed books published after the invention of the printing press would have been useless to illiterate people, since the books had virtually no illustrations.

**16.** Several companies will soon offer personalized electronic news services, delivered via cable or telephone lines and displayed on a television. People using these services can view continually updated stories on those topics for which they subscribe. Since these services will provide people with the information they are looking for more quickly and efficiently than printed newspapers can, newspaper sales will decline drastically if these services become widely available.

**Which one of the following, if true, most seriously weakens the argument?**

- A. In reading newspapers, most people not only look for stories on specific topics but also like to idly browse through headlines or pictures for amusing stories on unfamiliar or unusual topics.
- B. Companies offering personalized electronic news services will differ greatly in what they charge for access to their services, depending on how wide a range of topics they cover.
- C. Approximately 30 percent of people have never relied on newspapers for information but instead have always relied on news programs broadcast on television and radio.
- D. The average monthly cost of subscribing to several channels on a personalized electronic news service will approximately equal the cost of a month's subscription to a newspaper.
- E. Most people who subscribe to personalized electronic news services will not have to pay extra costs for installation since the services will use connections installed by cable and telephone companies.





17. Navigation in animals is defined as the animal's ability to find its way from unfamiliar territory to points familiar to the animal but beyond the immediate range of the animal's senses. Some naturalists claim that polar bears can navigate over considerable distances. As evidence, they cite an instance of a polar bear that returned to its home territory after being released over 500 kilometers (300 miles) away.

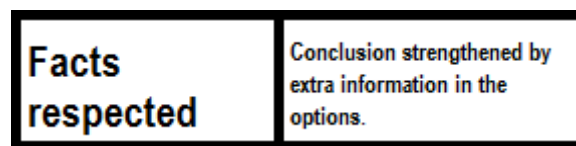
**Which one of the following, if true, casts the most doubt on the validity of the evidence offered in support of the naturalists' claim?**

- A. The polar bear stopped and changed course several times as it moved toward its home territory.
- B. The site at which the polar bear was released was on the bear's annual migration route.
- C. The route along which the polar bear traveled consisted primarily of snow and drifting ice.
- D. Polar bears are only one of many species of mammal whose members have been known to find their way home from considerable distances.
- E. Polar bears often rely on their extreme sensitivity to smell in order to scent out familiar territory.

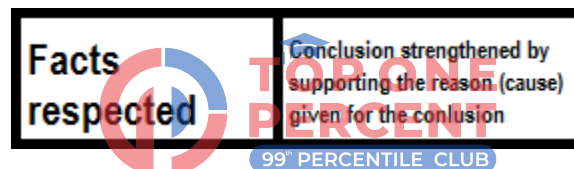
# Strengthen Questions

## *Approach for Strengthen Questions:*

- All strengthen questions will have either a FACT-CONCLUSION or a FACT-REASON (A causes B) relationship.
- We can never strengthen a fact. We can strengthen only the conclusion or the reason by providing some extra facts. So, the model will be:



Or



## **Steps:**

1. Identify the conclusion
2. Choose the answer that directly strengthens the conclusion

## **Cause and effect reasoning:**

**If the conclusion is:** A causes B

The correct strengtheners are:

- B did not cause A
- C did not cause B
- C did not cause both A and B

*Example 17:*

In the 18th and 19th centuries, it was believed in many coastal American cities that the waterfront was an undesirable location for residential buildings. As a result, much of the waterfront in these cities was never developed aesthetically and instead was left to industry and commerce. Today, however, waterfront properties are generally seen as prestigious, as evidenced by the large sums paid for homes along the beach front. A developer who wishes to make a large profit would be wise to buy urban waterfront lots and erect residential buildings on them.

**Which of the following, if true, most strongly supports the claim made about urban waterfront properties?**

- A. People today have more money, relatively speaking, to spend on real estate than they did in previous centuries.
- B. Many coastal American cities are encouraging developers to rehabilitate the waterfront through tax incentives.
- C. Homeowners will be willing to spend large sums on residential properties in traditionally industrial or commercial districts.
- D. Many urban waterfront lots are available for purchase.
- E. Properties in interior residential districts in coastal American cities are significantly more expensive than those along the waterfront.

The conclusion is that a developer who wishes to make a **large profit (stick to the 'large profit' part while answering)** would be wise to buy urban waterfront lots and erect residential buildings on them. The basis for that claim is that people pay large sums for beach front homes. We are asked to strengthen this argument.

(A) This choice states that people have more buying power today than in previous centuries. This does not strengthen the claim that a developer will make money on urban waterfront properties. What if people don't buy at all?

(B) This choice states that many coastal cities are giving tax breaks to developers who rehabilitate the waterfront. But this does not suggest that anyone will buy the developed properties.

(C) CORRECT. This choice states that homeowners will be willing to spend **large sums** of money on residential properties in traditionally industrial or commercial districts. Since we know from the argument that urban waterfronts have traditionally been industrial, this fact strengthens the claim that a developer can make a profit on urban waterfront properties. If you negate this statement and say: Homeowners will NOT be willing to spend large sums on residential properties in traditionally industrial or commercial districts. ... in this case, no matter what, the developer won't be able to make a large profit.

(D) This choice states that many urban waterfront lots are available for purchase. This does not suggest, however, that a developer will be able to sell them after he or she builds on them.

(E) This choice states that properties in the interior of cities are more expensive than those on the waterfront. Although waterfront properties are therefore cheaper to acquire, this does not necessarily mean that a developer can make a profit after buying such properties.

Much of the waterfront was never developed aesthetically and instead was left to industry and commerce. Today, waterfront properties are generally seen as prestigious, as evidenced by the large sums paid for homes along the beach front. To make a large profit, buy urban waterfront lots and erect residential buildings on them.

Much of the waterfront was developed as industry / commerce area. Today, residential properties along the beach are seen as prestigious. We don't know how many such current residential properties there are and how far they are from industry/commerce area. They could be very few and away from industry, we don't know.

We are concluding that to make a large profit, buy "urban" waterfront lots and make residential buildings. The "urban" waterfront would be industry/commerce area. We don't know whether people would be willing to pay large sums for residential places in these districts.

Hence (C) supports the claim made about urban waterfront properties.

**B.** Developers would be getting tax incentives to rehabilitate waterfront areas. So their cost might be lower than the cost of setting up residential properties inland. But to make profits, they will still need people to buy these properties. If people don't buy, whatever the cost may be, they may not be able to even recover that.

*Example 18:*

On the Caribbean island of Guadeloupe, a researcher examined 35 patients with Parkinson's disease and compared their eating habits to those of 65 healthy adults. She found that all of the patients with Parkinson's regularly ate the tropical fruits soursop, custard apple, and pomme cannelle, whereas only 10 of the healthy adults regularly ate these fruits. From this, she concluded that eating these fruits causes Parkinson's.

**Which one of the following, if true, most strengthens the researcher's reasoning?**

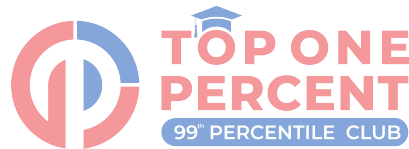
- A. For many of the Parkinson's patients, their symptoms disappeared when they stopped eating soursop, custard apple, and pomme cannelle.
- B. Of the healthy adults who did not regularly eat soursop, custard apple, and pomme cannelle, most had eaten each of these fruits on at least one occasion.
- C. In areas other than Guadeloupe, many people who have never eaten soursop, custard apple, and pomme cannelle have contracted Parkinson's.
- D. The 10 healthy adults who regularly ate soursop, custard apple, and pomme cannelle ate significantly greater quantities of these fruits, on average, than did the 35 Parkinson's patients.
- E. Soursop, custard apple, and pomme cannelle contain essential vitamins not contained in any other food that is commonly eaten by residents of Guadeloupe.

Conclusion—Eating certain fruits causes Parkinson's disease (A causes B).

Evidence—Study: Thirty-five Parkinson's sufferers all ate the fruits. Of 65 unaffected adults, only 10 ate the fruits.

- A. **Correct.** If the disease reversed when the patients stopped eating these fruits, the cause and effect is strengthened.
- B. Extreme. The author doesn't claim that having eaten the fruits a few times would be enough to cause the disease. Eliminate. We don't care if the healthy people have tried these weird fruits at least once in their lives.
- C. Outside the Scope. The author's conclusion is that eating these fruits causes Parkinson's, not that it's the only cause. Eliminate.

- D. 180. This makes it less likely that the fruits are the causal agents. Why aren't these 10 even worse off, after all? This drifts towards Weakening. If these fruits really caused Parkinson's, we'd expect the people who eat the most of these fruits to have Parkinson's, not to be healthy. Eliminate.
- E. Outside the Scope. This might be a good reason to eat the fruits, but makes them no more or less likely to be the cause of Parkinson's. Eliminate. This offers a reason for why people regularly eat these fruits but doesn't connect in any way to whether these fruits cause Parkinson's.



*Example 19:*

Essayist: Politicians deserve protection from a prying press. No one wants his or her private life spread across the pages of the newspapers. Furthermore, the press's continual focus on politicians' private lives dissuades talented people from pursuing a career in politics and turns reporters into character cops who walk their beats looking for minute and inconsequential personality flaws in public servants. It is time to put a halt to this trivial journalism.

**Each of the following, if true, strengthens the essayist's argument EXCEPT:**

- A. The press is unusually inaccurate when it reports on people's private lives.
- B. Reporting on politicians' private lives distracts voters from more important issues in a campaign.
- C. Much writing on politicians' private lives consists of rumors circulated by opposing candidates.
- D. In recent elections, the best local politicians have refused to run for national office because of the intrusiveness of press coverage.
- E. Politicians' personality flaws often ultimately affect their performance on the job.

Conclusion— "Trivial" journalism focused on politicians' personal lives should end.

Evidence—Three negative effects of such journalism:

1) private lives exposed; 2) qualified people dissuaded from public service; and 3) journalists look for inconsequential character flaws.

The author points out three negatives of journalism that investigates politicians' private lives. What about the positives? The four wrong answers will add to the negatives or rule out potential positives. The correct answer is likely to point out one of the positives of such journalism the author has overlooked.

- A. Strengtheners. This points out another negative aspect of journalism that investigates politicians' personal lives. If the press is inaccurate when it reports on people's private lives, that is yet another reason to avoid doing so. This answer choice strengthens the argument and is therefore incorrect. Eliminate.
- B. Strengtheners. This points out another negative aspect of journalism that investigates politicians' personal lives. If such reporting tends to distract voters from the important issues in a campaign, the author's main point is reaffirmed. This answer

choice is incorrect. Eliminate.

- C. **Strengtheners.** This points out another negative aspect of journalism that investigates politicians' personal lives. If the reporting in question consists of biased rumors circulated by opposing candidates, it is probably not a good idea to continue with this practice. This answer choice strengthens the argument and is therefore incorrect. Eliminate.
- D. **Strengtheners.** This points out another negative aspect of journalism that investigates politicians' personal lives. This answer choice directly supports the premise that talented people are often dissuaded from pursuing a career in politics. Eliminate.
- E. **Correct.** This answer points out a potential positive effect of journalism that investigates politicians' personal lives. Not only does this answer choice fail to strengthen the argument in the stimulus, but it actually suggests a hidden benefit that stems from reporting on politicians' private lives. If their personality flaws often affect their performance on the job, it might be a good idea to continue with this practice.



**Top 1% expert replies to student queries (can skip)**

The essayist is saying press reports on private lives and this pursuit is not only trivial and inconsequential, it also dissuades good candidates from running for public office (as nobody likes a prying press).

Question is all the answer choices strengthen this argument, except one. That is, the correct answer weakens the argument.

Option (E) says personality flaws in private lives of politicians actually have an impact on their work performances. The solution says if this is true, it weakens the argument i.e. if true it shows that what the press does in this matter is *not* trivial, inconsequential and so on. The solution says the option, if true, has a potential positive effect and provides a hidden benefit - these are, as you have identified, that the press doing such journalism helps actually prevent negative impact on politicians' performances. Press will pry and expose personality flaws, this will prevent people with problematic personalities from running for public office, arguably the performances of the 'good' people will be better.

**Top 1% expert replies to student queries (can skip)**

Option (A) says the press is unusually inaccurate, not that it is accurate? If the press is inaccurate (even more so than it usually is about other things, which is what



unusually inaccurate here means), it should be fairly simple to understand how this option actually strengthens the author's argument - that such prying journalism is trivial, turns journalists into character cops and sometimes also does harm by dissuading people from running for public office.

Note - What is expected from the press? They they be accurate, let's say 99 percent of the time.

Unusually inaccurate will mean they are correct, maybe, 1% of the time.

Option (E), if true, would mean that the character flaws such journalism exposes actually hamper public servants' work performance, and hence would mean that such journalism is actually not so trivial and may be useful



*Example 20:*

The redemption rate for e-mailed coupons is far lower than that for traditionally distributed paper coupons. One factor is the “digital divide”—those who might benefit the most from using coupons, such as homemakers, the elderly, and those in low-income households, are less likely to have the knowledge or equipment necessary to go online and receive coupons.

**Which of the following, if true, does the most to support the claim that the digital divide is responsible for lower electronic coupon redemption rates?**

- A. Computers are available for free in libraries, schools, and community centers.
- B. The redemption rate of ordinary coupons is particularly high among elderly and low-income people who do not know how to use computers.
- C. Many homes, including those of elderly and low-income people, do not have high-speed internet connections.
- D. More homemakers than elderly people would use computers if they had access to them.
- E. The redemption rate for coupons found on the internet has risen in the last five years.



- A. If this is true, then people who don't have computers can still use them. Maybe they could even take classes to learn how to use them! If anything, this weakens the author's claim, and this is a Strengthen question. This is a Reverse Logic trap. This would weaken the argument because it is belittling the idea of the digital divide by showing other resources that these people can use to obtain the coupons. This is a trap answer, because we are trying to strengthen the argument.
- B. **Correct!** The argument only says that these people without computers are the ones who would “benefit the most” from coupons, but it doesn't say that these people actually do use coupons more. This choice tells us that; this strengthens the conclusion. This strengthens the argument and is thus correct. If some of the people discussed in the second premise, the people who would benefit most from using coupons, use an abnormally large amounts of ordinary coupons then most likely they would use more e-mailed coupons if they were more readily available. One factor is the "digital divide"—those who might benefit the most from using coupons, such as homemakers, the elderly, and those in low-income households, often do not have the knowledge or equipment necessary to go online and receive

coupons. The redemption rate of ordinary coupons is particularly high among elderly and low-income people that do not know how to use computers. Hence the claim that the digital divide is responsible for lower electronic coupon redemption rates is true. This makes sense as an argument because we now have an additional data point that the usage of coupons is higher among those people who do not have the means to redeem e-coupons. This explains why there is more redemption of paper coupons.

- C. The argument doesn't say that people have to have high-speed connections in order to get coupons. The issue was whether these groups had internet access at all, not how fast the internet access is. This argument makes an Irrelevant Distinction. The argument says nothing about having to have high-speed internet connections. The lack of resources has already been covered in the second premise, so this does not strengthen the argument. Repeating a premise will never strengthen or weaken an argument.
- D. The argument doesn't make any distinction between homemakers and the elderly; rather, they're both equally part of the group of people without easy access to the internet. This is irrelevant. This answer is making an Irrelevant Distinction between two groups that are treated the same in the argument. This is out of scope. The difference in usage amongst different members of the group is not important.
- E. This means that more people are using electronic coupons today, but the argument doesn't claim that people aren't. Instead, it talks about the fact that paper coupons are still in wider use because some people find it harder to access the electronic coupons. This answer does nothing to affect the conclusion. This answer has No Tie to the Argument. The argument claims that paper coupons are in wider use because some people have difficulty accessing electronic coupons. This is out of scope also. The redemption rate of e-coupons now compared to in the past doesn't matter.

*Example 21:*

Despite the enormous number of transactions processed daily by banks nowadays, if a customer's bank account is accidentally credited with a large sum of money, it is extremely unlikely that the error will not be detected by the bank's internal audit procedures.

**Which one of the following, if true, most strongly supports the claim above?**

- A. Banks initially process all transactions using one set of computer programs, but then use a different set of programs to double-check large transactions.
- B. Recent changes in banking standards require that customers present identification both when making deposits into their accounts and when making withdrawals from their accounts.
- C. Banks are required by law to send each customer a monthly statement detailing every transaction of the previous month.
- D. The average ratio of bank auditors to customer accounts has slowly increased over the past 100 years.
- E. The development of sophisticated security software has rendered bank computers nearly impervious to tampering by computer hackers.

Claim: a bank's internal audit procedures will normally know if you accidentally got credited with a large sum of money.

(A) **Correct!** There's a fallback system for large transactions, which is what we're focused on. So, a mistake would have to make it past two separate computer programs. Banks actually have another set of programs that specifically target large transactions. So large transactions must not only face the scrutiny of an initial blanket review, but also of this second program. That makes it quite unlikely that accidental large credits to accounts will slip through the cracks. Banks actually have another set of programs that specifically target large transactions. So large transactions must not only face the scrutiny of an initial blanket review, but also of this second program. That makes it quite unlikely that accidental large credits to accounts will slip through the cracks. Choice (A) is much more closely tailored to the stimulus.

(B) This has nothing to do with someone getting an accidental infusion of money in their account.

(C) This might help the customer spot the unusual credit, but this has nothing to do with the bank's internal procedures.

(D) is wrong because it doesn't focus on the action inside of a person's account (the transactions). Slowly increased is not very strong. There's also an implication that "nowadays" we have significantly more transactions than 100 years ago. It focuses on the auditors to customer ratio (which would not strengthen the argument). For example, let's say that in the past (1950) 1 auditor monitored 10 customer accounts and each person made 10 transactions a month. Today however, 1 auditor monitors 5 accounts (an increase in ratio) and each person makes 100 transactions a month. Would (D) strengthen? **No!** The ratio has increased. But does that give us any indication that banks are adequately equipped to deal with the accidental credits to these accounts, especially in such a high-volume environment? Suppose ratio has increased. What if that increase is miniscule? The stimulus gives no reason to believe why that can't be the case.

(E) We don't care about hackers getting into bank's computers. We care about bank auditors discovering that a bunch of money was accidentally put in someone's account. This answer tells us nothing about how they do that.



## Questions for class discussion ... Contd!

**18.** Tiger beetles are such fast runners that they can capture virtually any nonflying insect. However, when running toward an insect, a tiger beetle will intermittently stop and then, a moment later, resume its attack. Perhaps the beetles cannot maintain their pace and must pause for a moment's rest; but an alternative hypothesis is that while running, tiger beetles are unable to adequately process the resulting rapidly changing visual information and so quickly go blind and stop.

**Which of the following, if discovered in experiments using artificially moved prey insects, would support one of the two hypotheses and undermine the other?**

- A. When a prey insect is moved directly toward a beetle that has been chasing it, the beetle immediately stops and runs away without its usual intermittent stopping.
- B. In pursuing a swerving insect, a beetle alters its course while running and its pauses become more frequent as the chase progresses.
- C. In pursuing a moving insect, a beetle usually responds immediately to changes in the insect's direction, and it pauses equally frequently whether the chase is up or down an incline.
- D. If, when a beetle pauses, it has not gained on the insect it is pursuing, the beetle generally ends its pursuit.
- E. The faster a beetle pursues an insect fleeing directly away from it, the more frequently the beetle stops.

**19.** During the 1930s, Roosevelt's New Deal expanded federal authority by creating several new government agencies designed to administer financial relief to the country, which had been devastated by the 1929 stock market crash and the ensuing economic depression. In the decades following the depression, however, policymakers grew uncomfortable with the amount of power that had been given to the federal government and sought to discontinue many of the agencies created under the New Deal. Although they feared another economic depression, many prominent economists of that time sided with those policymakers.

**Which of the following, if true, most strengthens the stance taken by the prominent economists?**

- A. further expansion of federal authority would hinder economic growth and increase the risk of another economic depression.
- B. many agencies created under the New Deal were designed to provide financial relief, not to maintain economic stability.
- C. most Americans feared expansion of federal authority more than they feared another economic depression.
- D. the power and authority of many agencies created under the New Deal had expanded well beyond the limits defined in their respective agency charters.
- E. most policymakers of that time considered federal regulation of the market to be an emergency measure that, as such, should only be temporary.



**20.** There should be a greater use of gasohol. Gasohol is a mixture of alcohol and gasoline, and has a higher-octane rating and fewer carbon monoxide emissions than straight gasoline. Burning gasohol adds no more carbon dioxide to the atmosphere than plants remove by photosynthesis.

**Each of the following, if true, strengthens the argument above EXCEPT:**

- A. Cars run less well on gasoline than they do on gasohol.
- B. Since less gasoline is needed with the use of gasohol, an energy shortage is less likely.
- C. Cars burn on the average slightly more gasohol per kilometer than they do gasoline.
- D. Gasohol is cheaper to produce and hence costs less at the pump than gasoline.
- E. Burning gasoline adds more carbon dioxide to the atmosphere than plants can remove.

**21.** Consumer advocate: The introduction of a new drug into the marketplace should be contingent upon our having a good understanding of its social impact. However, the social impact of the newly marketed antihistamine is far from clear. It is obvious, then, that there should be a general reduction in the pace of bringing to the marketplace new drugs that are now being tested.

**Which one of the following, if true, most strengthens the argument?**

- A. The social impact of the new antihistamine is much better understood than that of most new drugs being tested.
- B. The social impact of some of the new drugs being tested is poorly understood.
- C. The economic success of some drugs is inversely proportional to how well we understand their social impact.
- D. The new antihistamine is chemically similar to some of the new drugs being tested.
- E. The new antihistamine should be on the market only if most new drugs being tested should be on the market also.



**22.** In the year following an eight-cent increase in the federal tax on a pack of cigarettes, sales of cigarettes fell ten percent. In contrast, in the year prior to the tax increase, sales had fallen one percent. The volume of cigarette sales is therefore strongly related to the after-tax price of a pack of cigarettes.

**Which of the following, if true, would most strengthen the argument given?**

- A. During the second year after the tax increase, cigarette sales increased by a significant amount.
- B. The information available to consumers on the health risks of smoking remained largely unchanged in the period before and after the tax increase.
- C. Most consumers were unaware that the tax on cigarettes was going to increase.
- D. During the year following the cigarette tax increase, many consumers had less income, in inflation-adjusted dollars, than they had had in the previous year.
- E. During the year after the tax increase, there was a greater variety of cigarettes on the market than there had been during the previous year.



# FLAW questions

The approach to solving **Flaw** questions is identical to the approach to solving **Weaken** questions.

*The GMAT mainly tests only three types of flaws:*

1. Number percentage flaws (refer to the previous handout on inferences to understand number-percentage concepts)
2. Cause effect flaws (refer to the previous handout on inferences to understand cause-effect concepts)
3. Wrong sample flaws

## Number Percent Examples

1. Two-thirds of college-educated people support a proposal to limit access to guns to only those who have passed a security check, while one-third of those without a college degree support it. Thus, more people support the proposal than reject it.
2. The idea that comic book collectors are especially likely to attend science fiction movies on opening weekend is wrong. A large-scale study found that comic book collectors make up only 15% of opening weekend audiences for science fiction movies.
3. A certain airport security scanner designed to detect explosives in luggage will alert the scanner's operator whenever the piece of luggage passing under the scanner contains an explosive. The scanner will erroneously alert the operator for only one percent of the pieces of luggage that contain no explosives. Thus, in ninety-nine out of a hundred alerts explosives will actually be present.

1. In the arguments above, the essential flaw is ignoring the total from which each percent (or fraction) is taken. The number of college-educated people could be far smaller than the number of those without a college education. Thus, it's impossible to use the fractions to compare actual numbers.
2. The total number of comic book collectors could be (and, of course, actually is) much smaller than the number of non-comic book collectors. If, say, only 5% of the population collects comic books, then the fact that these collectors make up 15% of opening weekend audiences at sci-fi films suggests that they are three times more likely to attend than others. (If you were wondering if there is a Sampling Flaw in this argument, note that the premise cites a "large-scale study." The sample size is large, and the wording indicates that we should accept the finding.)

### **Top 1% expert replies to student queries (can skip)**

Let's take some numbers - 100 people go to watch sci-fi movies on the opening weekend. Among these, 15 people are comic book lovers. If this 15 is a very large percentage of that population (e.g., let's say there are a total of 16 comic book collectors, out of which we see 15 came to the opening weekend show), then the argument that comic book lovers are especially likely to attend science fiction movies on the opening weekend *still holds true*.

3. Think about the real numbers of the groups being discussed. How many bags will have bombs? Let's say 10 per day, which is still horrifyingly high. How many bags will not have bombs in them? Let's say 1,000 per day. With these numbers, we'll get 10 alerts from actual bomb bags (100% of 10 = 10) and we'll get 10 false alerts (1% of 1,000 = 10). Thus, there will be 20 alerts, but a bomb will be present for only 10. That's 50% of alerts, not 99%. The correct answer points out that the author "substitutes one group for a different group in the statement of a percentage." (If the argument had concluded that "99% of the time that there isn't a bomb, there will be no alert," that would be correct, as it would draw a conclusion within the same group—bags without explosives.)

### **Top 1% expert replies to student queries (can skip)**

To understand the flaw in the reasoning, let's look at the evidence first: the scanner will erroneously alert the operator for 1% of the luggage that contains no

explosives. So, out of 100 bags that have *no* explosives, the scanner will sound an alarm exactly once, indicating a false positive rate of only 1%. So, the proportion of negatives that are correctly identified as such is 99% (the scanner's *specificity rate*). FYI, "specificity" measures the proportion of negatives which are correctly identified as such. In our case, 99/100 bags with no explosives were correctly identified as such.

**This does not mean, of course, that in 99/100 alerts an explosive will actually be present.** Imagine scanning 10,000 bags, none of which containing any explosives. Given a false positive rate of 1%, you should expect that the scanner will sound an alarm 100 times. In none of these alerts will explosives actually be present. It is impossible to draw the conclusion we want, because we have no information as to how many of the scanned bags will actually have explosives. If all we are testing is clean bags, then of course 100% of the alarms will be false positives.



*Example 22:*

A survey of clerical workers' attitudes toward their work identified a group of secretaries with very positive attitudes. They responded "Strongly agree" to such statements as "I enjoy word processing" and "I like learning new secretarial skills." These secretaries had been rated by their supervisors as excellent workers—far better than secretaries whose attitudes were identified as less positive. Clearly these secretaries' positive attitudes toward their work produced excellent job performance.

**Which one of the following identifies a reasoning error in the argument?**

- A. It attempts to prove a generalization about job performance by using the single example of clerical workers.
- B. It restates the claim that the secretaries' positive attitudes produced their excellent job performance instead of offering evidence for it.
- C. It does not consider the possibility that secretaries with very positive attitudes toward their work might also have had very positive attitudes toward other activities.
- D. It uses the term "positive attitudes" to mean two different things.
- E. It identifies the secretaries' positive attitudes as the cause of their excellent job performance although their attitudes might be an effect of their performance.

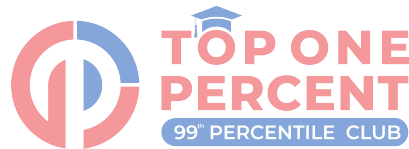
**Conclusion—**Positive attitudes cause highly rated secretaries' excellent job performance.  
**(A causes B)**

**Evidence—**Secretaries with positive attitudes were more likely to be rated highly than those with less positive attitudes were.

On the basis of a correlation (positive attitude and excellence) the author assumes causation (positive attitudes are the reason for the excellence). The author overlooks three possibilities:

- 1) B causes A (excellent performance brings about positive attitudes); 2) C causes B; and 3) mere coincidence.
- A. Extreme. The author limits his conclusion to secretaries and does not try to prove a generalization. Eliminate.
- B. Distortion. The author offers evidence: the correlation between secretaries' survey results and their performance ratings. Eliminate.

- C. Irrelevant Comparison. The author has no need to investigate attitudes toward anything other than work; his conclusion is limited to the effect of positive attitudes on job performance. Eliminate.
- D. Distortion. The term “positive attitudes” appears to be used the same way throughout the argument.  
Eliminate.
- E. **Correct.** This describes the first of the three “causation versus correlation” overlooked possibilities.  
**(B causes A)**



*Example 23:*

The more modern archaeologists learn about Mayan civilization, the better they understand its intellectual achievements. Not only were numerous scientific observations and predictions made by Mayan astronomers, but the people in general seem to have had a strong grasp of sophisticated mathematical concepts. We know this from the fact that the writings of the Mayan religious scribes exhibit a high degree of mathematical competence.

**The argument's reasoning is most vulnerable to criticism on the grounds that the argument**

- A. fails to provide an adequate definition of the term “intellectual achievement”
- B. bases a generalization on a sample that is likely to be unrepresentative
- C. overlooks the impressive achievements of other past civilizations
- D. relies on two different senses of the term “scientific”
- E. takes a mere correlation to be evidence of a causal relationship

Conclusion—Mayan astronomers and lay people understood high-level math concepts. Evidence—Mayan religious scribes' writings display high-level mathematical competence.

The author draws a conclusion about astronomers and ordinary people from evidence about religious scribes. The group in the evidence may not be representative of those in the conclusion.

There's no reason to believe that religious scribes represent the general Mayan population. Suppose most American priests are good at kung fu. Would it be reasonable to infer that Americans in general are good at kung fu? No. We'd need a more representative sample of the population. (B) makes the most sense.

- A. **Distortion.** The author's chief example— “mathematical competence”—fits the plain-language understanding of “intellectual achievement.” The argument does not explicitly define intellectual achievements, but this term appears in a bit of background/context fluff. Also, it's fairly clear what the author means by 'intellectual achievements' - there's no reason we really need to be more specific. Eliminate.
- B. **Correct.** This points out the untenable shift in scope between the author's

evidence and his conclusion.

- C. Outside the Scope. Both conclusion and evidence are about the Mayans. Other groups are irrelevant. Who cares about other civilizations? We're talking about what we know about the Maya. Eliminate.
- D. Distortion. "Scientific" is used just once in the argument, and nothing implies two understandings of that word. The argument doesn't even use this term twice, much less use it in two different ways. Eliminate.
- E. Distortion. The conclusion does not claim that one thing caused another. If the author had said "therefore, being a scribe causes one to learn more math" or "learning more math causes one to be a scribe", then causation could be in play. The author makes no causal claim in the argument. Eliminate.

### Top 1% expert replies to student queries (can skip)

The argument really hinges on the following:

The writings of Mayan **religious scribes** were mathematically very competent.

Therefore

Ancient Mayans **in general** had a solid grasp of sophisticated mathematical concepts.

How can we make such a broad statement about Ancient Mayans **in general** just from analyzing the **writings of religious scribes**?

There's no reason to believe that religious scribes represent the general Mayan population. Suppose most American priests are good at kung fu. Would it be reasonable to infer that Americans in general are good at kung fu? No. We'd need a more representative sample of the population. (B) makes the most sense.

(E) - there is absolutely no cause-effect relationship here. This question is a **generalization error** ... should take 5 seconds to understand.

**PREMISE:** *Mayan religious scribes' writing showed high math competence.*

**CONCLUSION:** *Mayan people in general got sophisticated math.*

Gross generalization! We move from evidence about one subcategory to a sweeping statement about the entire population of Mayans. There's no reason to think that the religious scribes were a good proxy for the population as a whole. **(B)** nails this disconnect.

**(A)** The argument does not explicitly define intellectual achievements, but this term appears in a bit of background/context fluff. Also, it's fairly clear what the author

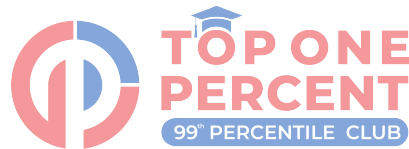


means by 'intellectual achievements' - there's no reason we really need to be more specific.

**(C)** Who cares about other civilizations? We're talking about what we know about the Maya.

**(D)** The argument doesn't even use this term twice, much less use it in two different ways.

**(E)** The conclusion does not claim that one thing caused another. If the author had said "therefore, being a scribe causes one to learn more math" or "learning more math causes one to be a scribe", then causation could be in play.



*Example 24:*

In a poll of a representative sample of a province's residents, the provincial capital was the city most often selected as the best place to live in that province. Since the capital is also the largest of that province's many cities, the poll shows that most residents of that province generally prefer life in large cities to life in small cities.

**The argument is most vulnerable to the criticism that it**

- A. overlooks the possibility that what is true of the residents of the province may not be true of other people
- B. does not indicate whether most residents of other provinces also prefer life in large cities to life in small cities
- C. takes for granted that when people are polled for their preferences among cities, they tend to vote for the city that they think is the best place to live
- D. overlooks the possibility that the people who preferred small cities over the provincial capital did so not because of their general feelings about the sizes of cities, but because of their general feelings about capital cities
- E. overlooks the possibility that most people may have voted for small cities even though a large city received more votes than any other single city

Conclusion—Most residents prefer life in large cities to life in small cities.

Evidence—The province's largest city received more "best place to live" votes than did any other city in the province.

The author bases her conclusion about "most residents" on evidence that the largest city received more votes than any other place. But what about all other places in aggregate? It's possible that most residents voted for small cities. To simplify this, imagine that the largest city received 100 votes, while 20 small cities received 10 votes apiece.

To see that here's an example

45% Province's capital (large city)

30% City B (small city)

25% City C (small city)

This argument is not about living in a particular city. Though one would typically expect

that people would vote for their own city, right? If everyone voted for his or her own city, than the largest city would win, and yet even in the United States, New York may be the largest city and may get the most votes, but wouldn't have "most" Americans voting for it. **This flaw is expressed perfectly in answer choice (E)**

Just for hypothetical purposes:

Large City A: 5,000 votes

Small City B: 4,500 votes

Small City C: 4,400 votes

Small City D: 4,300 votes

As we can see, it does not have to be the case that a majority of voters want to live in a large city. Just because that was picked most often does not tell us that most people would want to live there. In fact, in the hypothetical above, the data suggests that people generally prefer to live in a small city.

- A. Outside the Scope. The entire argument is about this province and its residents. The stimulus concerns residents of this province. What residents of other provinces believe is irrelevant to the argument. Eliminate.
- B. Outside the Scope. The entire argument is about this province. This is not a comparative poll. What occurs in other provinces is totally irrelevant to this poll, this province, and the author's conclusion. Eliminate.
- C. 180. The author does not take this for granted; she states it. This is not a flaw committed in this argument. Arguments always assume the evidence to be true. This argument says that the poll is representative. It would be better to find a flaw related to drawing the conclusion from the evidence. This is not a weakness—that is exactly what this poll is seeking to measure: what city residents of a particular province consider the best place to live. Eliminate.
- D. Outside the Scope. Why residents felt or voted as they did is irrelevant. is the most tempting of the incorrect answer choices, because it plays off the more obvious flaw. If this answer choice had been about people who preferred the province's capital to small cities, it would have been a better candidate. D says that the argument 'overlooks the possibility that the people who preferred small cities over the provincial capital blah blah'. Am i correct to assume that D is incorrect because of the SMALL cities? Since the stimulus is saying that people preferred large city,

D seems out of scope. The flaw in the stimulus does not involve a misinterpretation of what drove respondents' preferences. Again, the flaw: just because the capital city received more votes than any other single city does not mean that there was a preference for larger cities in general. Eliminate.

- E. **Correct.** This summarizes the author's flaw nicely. This choice reflects the flaw in the interpretation of the survey. While the capital city did receive more votes than any other single city, this does not necessarily mean that large cities received more votes in total than small cities.

### Top 1% expert replies to student queries (can skip)

The point is not the definition of 'most'. The point is the generalization of the fact that **people prefer large cities to small cities generally**.

Even if most people are in favour of the provincial capital, it is not necessary that people prefer large cities in general to small cities. It's possible that all the small cities in that province are horrible. The fact that people picked the big city in their province doesn't mean that they like big cities *generally*. **OR** it's possible that the big city in their province is awesome. Maybe these people only actually like this one big city, and would hate other big cities. If this were true, then people would not *generally* prefer big cities, just this one in particular.



### Top 1% expert replies to student queries (can skip)

Flaw in the reasoning: This stimulus presents a poll of the residents of a province, in which the provincial capital is the city most often selected as the best place to live. The capital is also the largest city in the province, and the writer's conclusion is that the poll reflects a majority preference among respondents for large cities in general. This flawed reasoning presumes that it was the size of the capital city that was so appealing to respondents, in spite of the fact that other factors might have come into play (access to goods and services would likely be greater in a capital city, for example). Further, looking exclusively at the "winner" of the poll doesn't tell us much about the voting—only that that one capital city got more votes than any other single city.

The question asks us to identify a vulnerability of the argument. While there may have been more respondents who chose the capital than any other town, this is not sufficient to conclude that most respondents would prefer large towns to small ones.

Also the words that segment the percentages are important to keep in mind in questions like this.

A **majority** out of a 100 would be anything north of 50% so at the minimum a 51. Meanwhile when a whole would be divided into smaller portions, the one with the biggest count would become the **most** out of all, simply put.

In numbers, let's say, that in the poll, there were a bunch of cities in the province out of which 1 was a 'big city and others were 'small cities'. Many people may like the small cities while others may like the big city, to each their own.

Let's say out of a 100 people, 13 people preferred that they would prefer large cities and at max only 12 people were in favour of smaller city 1, 11 people for smaller city 2, so on and so forth. At the end, out of 100, only 13 people preferred a large city in contrast to 87 people preferring smaller cities. The number is huge cumulatively for smaller cities against the large city but when looked individually, the large city will get the token as the most preferred city of the province with the most votes. That's the most basic way to put it.

Thus, option E in this regard, makes perfect sense as it would actually weaken the drawn conclusion.

Answer choice (A): The stimulus concerns residents of this province. What residents of other provinces believe is irrelevant to the argument.

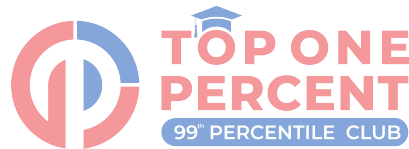
Answer choice (B): This is not a comparative poll. What occurs in other provinces is totally irrelevant to this poll, this province, and the author's conclusion.

Answer choice (C): is twisting the fact as they were asked the best city to live in, not their preferences among the different cities. Eliminate.

Answer choice (D): we're not concerned whether/why small city people prefer small cities while the capital city won the votes. Even if this is true indeed, it does not change/help with the argument. Eliminate.

Answer choice (E): This is the correct answer choice. This choice reflects the flaw in the

interpretation of the survey. While the capital city did receive more votes than any other single city, this does not necessarily mean that large cities received more votes in total than small cities.



*Example 25:*

While it was once believed that the sort of psychotherapy appropriate for the treatment of neuroses caused by environmental factors is also appropriate for schizophrenia and other psychoses, it is now known that these latter, more serious forms of mental disturbance are best treated by biochemical— that is, medicinal—means. This is conclusive evidence that psychoses, unlike neuroses, have nothing to do with environmental factors but rather are caused by some sort of purely organic condition, such as abnormal brain chemistry or brain malformations.

**The argument is vulnerable to criticism because it ignores the possibility that**

- A. it is possible that the organic conditions that result in psychoses can be caused by environmental factors
- B. the symptoms of mental disturbance caused by purely organic factors can be alleviated with medicine
- C. organic illnesses that are non-psychological in nature may be treatable without using biochemical methods
- D. the nature of any medical condition can be inferred from the nature of the treatment that cures that condition
- E. organic factors having little to do with brain chemistry may be at least partially responsible for neuroses

What is the evidence for the conclusion's extreme claim of causation? The argument starts with an opposing point ("While it was once believed ..."), then provides an observation about the best treatment for schizophrenia and other psychoses.

Answer choice (A) addresses the alternative possibility that environmental factors may have an effect on psychoses by causing organic conditions that in turn cause psychoses. This is our answer! **Answer choice (A) is correct.**

(B) didn't happen. The argument doesn't overlook this possibility; on the contrary, the argument establishes that psychoses are best treated medically and then concludes that they are caused by organic conditions.

(C) is out of scope. We are not concerned with non-psychological illnesses.

(D) is tricky because it looks very much like an assumption of the argument. However, we're looking for a possibility that the argument ignores, so this is the opposite of what we want. Be careful not to lose track of the task at hand! Even if we did want an assumption, this wouldn't be quite right. The author does assume a connection between the type of treatment and the cause of a condition, but notice the extreme word "any." Does the author make an assumption about any condition? No, only about this particular subgroup.

(E) is out of scope. The author's claim is that organic factors are responsible for psychoses. Whether these factors are related to brain chemistry is irrelevant. The phrase "such as" in the conclusion introduces examples of organic causes, not the only types of organic causes.





*Example 26:*

Studies show that impoverished families give away a larger percentage of their income in charitable donations than do wealthy families. As a result, fundraising consultants recommend that charities direct their marketing efforts toward individuals and families from lower socioeconomic classes in order to maximize the dollar value of incoming donations.

**Which of the following best explains why the consultants' reasoning is flawed?**

- A. Marketing efforts are only one way to solicit charitable donations.
- B. Not all impoverished families donate to charity.
- C. Some charitable marketing efforts are so expensive that the resulting donations fail to cover the costs of the marketing campaign.
- D. Percentage of income is not necessarily indicative of absolute dollar value.
- E. People are more likely to donate to the same causes to which their friends donate.

In this case, the fundraising consultants are recommending that the charities target lower income families in order to maximize the number of dollars they get in donations. The consultants assume that donating a greater percentage of income also means donating a greater dollar amount collectively. If that's not actually the case, then that's a flaw.

- A. This might be true, but it just indicates that there might be other ways, in addition to marketing efforts, to raise money. That doesn't affect the consultants' recommendation to target lower-income families in particular. This answer discusses an Irrelevant Distinction. It may be true that there are other ways to solicit donations besides marketing efforts, but the argument itself is about marketing efforts.
- B. How does it affect the conclusion? It doesn't. The argument never claims that ALL impoverished families donate to charity—only that, in general, they donate a larger percentage of income to charity. This answer is One Word Off. It makes a statement about “all” impoverished families, but the argument never says that all of these families act in the same way. (Note: many people will eliminate this answer because the word “all” is extreme. It's true that this argument does not

provide support for the extreme word “all,” but extreme words can appear in correct answers— if the argument provides support for the extreme word.)

- C. If you spend more on the marketing than you make from donations, that can't be a very successful marketing campaign. Whether the marketing covered costs isn't part of the conclusion—it just depended on how much money they get in donations. This is an especially tricky No Tie to the Argument answer. The argument never talks about whether the marketing campaign will be “profitable” (that is, make more money than was spent on the marketing campaign). It might seem like this should be the goal of any charitable marketing campaign, but the argument doesn't address this.
- D. **Correct!** The really rich person donating \$10 million! You can have a bunch of low-income people give 10% of their income and one billionaire give 9% of her income...and the billionaire could be giving more in terms of absolute dollars. This indicates the flawed assumption made by the fundraising consultants. The consultant concludes that marketing should be directed to families from socio-economic classes just on the basis of their percentage contribution stats. Think about it, someone who earns less, can donate almost all of his earnings and can still not contribute as much as someone wealthy who contributes a small percentage of his earning. In quantitative terms, imagine that someone from lower socio-economic background earns 100\$ and contributes 90% of his income. His contribution will be 90\$. Now the wealthy man. Imagine he earns 1000\$ and only donates 10% of his earnings, which makes his donation to be 100\$. So even though he contributed lesser percentage of his income, he actually donated more money! From this we can prove that the consultant's reasoning is flawed.
- E. We can believe that this is true, but the argument doesn't address which causes people choose for charity. Rather, the argument talks about amount of money donated. This sounds plausible in the real world, but it's just a distraction here — the argument doesn't address this issue.

*Example 27:*

Those who support the continued reading and performance of Shakespeare's plays maintain that in England appreciation for his work has always extended beyond educated elites and that ever since Shakespeare's own time his plays have always been known and loved by comparatively uneducated people. Skepticism about this claim is borne out by examining early eighteenth-century editions of the plays. These books, with their fine paper and good bindings, must have been far beyond the reach of people of ordinary means.

**Which one of the following describes a reasoning error in the argument?**

- A. The argument uses the popularity of Shakespeare's plays as a measure of their literary quality.
- B. The argument bases an aesthetic conclusion about Shakespeare's plays on purely economic evidence.
- C. The argument anachronistically uses the standards of the twentieth century to judge events that occurred in the early eighteenth century.
- D. The argument judges the literary quality of a book's text on the basis of the quality of the volume in which the text is printed.
- E. The argument does not allow for the possibility that people might know Shakespeare's plays without having read them.



The conclusion has nothing to do with judging the quality of Shakespeare's works. It only is making a claim about whether lower/middle class people were into Shakespeare. How can it be that the plays were indeed put out in expensive editions but poor folks still did know and love his plays? Well, after all, they were plays. Couldn't the poor people have seen them? This is what the **correct answer, (E), points out**. E demonstrates the importance of reading all of the answer choices and sorting them into contenders and losers before choosing an answer. A test taker who is tempted to answer (C) will probably get to answer choice (E) and realize that it is a better answer.

The author concludes that many people are incorrect in their claim that Shakespeare's plays have always been known and loved by relatively uneducated people. Her evidence that supports this conclusion is the fine paper and good bindings of the early 18th

century versions of these plays. Obviously, the relatively educated may not have been able to buy the books, but that does not in any way demonstrate that they did not know or love them. Again, once you have discovered the flaw in this stimulus, you must find the answer choice that accurately reflects this flaw.

We're not told that fine paper and good bindings is a 20th century standard either, therefore, we don't know for sure that that is what the author is incorrectly doing. (2) Notice that (C) addresses a potential issue in the premise, but not necessarily an issue that directly impacts the conclusion. Remember that the flaw you are looking for is ALWAYS a flaw that relates to how the evidence is used to prove the conclusion.

Conclusion: Uneducated people in Shakespeare's time probably weren't knowing and loving Shakespeare.

WHY? The editions of the plays from Shakespeare's time have fancy paper and bindings, and thus must have been too expensive to be attained by ordinary (uneducated) people.

"Who says you needed to OWN an edition of a play in order to know and love someone's work! There are lots of musicians I know and love, even though I don't own any physical artifacts of their work. Maybe these poor people just saw Shakespeare's plays in the park, or read his plays at the library, or heard about them secondhand from the rich people they worked for."

"Who says the 18th century fancy editions you're talking about were the ONLY editions available? Maybe the fancy ones have survived two centuries, while the cheap, affordable ones have all deteriorated by now."

(A) This has nothing to do with literary quality. There is no argument about the literary quality of Shakespeare's plays in the stimulus; therefore, it cannot be an important element in the correct answer choice.

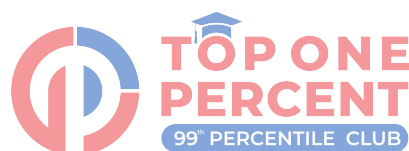
(B) Ditto for (B). "Aesthetic quality" means judging the artistic merit of Shakes' work. We're only here to judge whether a poor person would have had a way to know/love Shakespeare's work. Again, there is no argument about aesthetics in the stimulus, so this element will not be present in the correct answer choice. Remember to which family Flaw in the Reasoning questions belong, and remember that the arrow moves from stimulus to answers.

(C) In what sense did we impart 20th century standards on the early 18th? This answer

may tempt some test takers. You may reason in your mind that we determine the popularity of 20th century authors by the sale of their books, so this answer choice seems to make sense. However, that is an assumption you cannot make because nothing in the stimulus mentions the 20th century or its methods of judging popularity.

(D) This argument has nothing to do with judging the quality of Shakespeare's works. Like the first two answer choices, this choice mentions an element not present in the stimulus: literary quality. Perhaps this would be an example of faulty reasoning, but it does not apply to this stimulus.

(E) This addresses how a poor person in the 18th century could have known and loved Shakes, even though they couldn't afford a fancy edition.



*Example 28:*

Monroe, despite his generally poor appetite, thoroughly enjoyed the three meals he ate at the TipTop Restaurant, but, unfortunately, after each meal he became ill. The first time he ate an extra-large sausagepizza with a side order of hot peppers; the second time he took full advantage of the all-you-can-eat friedshrimp and hot peppers special; and the third time he had two of TipTop's giant meatball sandwiches with hot peppers. Since the only food all three meals had in common was the hot peppers, Monroe concludes that it is solely due to TipTop's hot peppers that he became ill.

**Monroe's reasoning is most vulnerable to which one of the following criticisms?**

- A. He draws his conclusion on the basis of too few meals that were consumed at TipTop and thatincluded hot peppers.
- B. He posits a causal relationship without ascertaining that the presumed cause preceded the presumedeffect.
- C. He allows his desire to continue dining at TipTop to bias his conclusion.
- D. He fails to establish that everyone who ate TipTop's hot peppers became ill.
- E. He overlooks the fact that at all three meals he consumed what was, for him, an unusually largequantity of food.

**C may have caused B**

**He has small appetite but he ate the largest possible meals.** The peppers may just be coincidence.

Monroe is concluding that the hot pepper that was common to all the three meals he had and got sick afterward, is the cause of his sickness. Monroe is described as someone who generally has poor appetite, implying he usually eats little portions of food per meal. Furthermore, the argument informs us that the first meal he ate comprises extra-large sausage pizza with a side order of hot pepper. Take note that for someone with generally poor appetite, the description of the food he ate seems quite larger than normal. In his second meal, he took full advantage of the all-you-can-eat fried shrimp and hot peppers special. In hindsight, all-you-can-eat fried shrimp also suggest that Monroe probably took more than he usually does considering his generally poor appetite. The third time, he reportedly took two of Tip-Top's giant meatball sandwiches with hot peppers. This

also suggests another possibility that he ate much more than he does. So, while Monroe could be right in his conclusion that his three illnesses were caused by the hot pepper, he could be wrong based on the information above. He ate portions that were generally more than he usually eats. So, it is possible that the seemingly large portions of the various foods he ate on the three different occasions could account for his sickness. Since we are dealing with a cause and effect argument, an easy flaw in Monroe's argument is that he failed to consider the possibility of other potential causes of his ailments. So we need an answer choice that suggests that Monroe drew a wrong conclusion by pin-pointing the hot peppers as the cause of his ailments when it could easily be the unusually large portions he took on all three occasions. This is exactly what answer choice E says, hence the right answer is E.

Monroe has a generally poor appetite (this means he doesn't eat a lot; it does not mean he has a poor diet—if it meant that, they would say that). He ate three meals at the Tip-top, and became ill after each one. Each of the three meals he ate features hot peppers, but also giant-sized portions. **Monroe concludes that the peppers are the sole cause.** While peppers were common to each meal, note that Monroe is someone with a generally poor appetite and here he is eating sizable portions in each case. Could that perhaps be the cause? Yes, definitely, and this problem focuses on that oversight.

(E) says the argument has overlooked something that might have caused Monroe's illness other than the peppers. Perhaps he just ate too much. In other words, maybe the correlation between peppers and illness was just a coincidence. Thus, this is a flaw in the argument. **C caused B.** What answer choice (E) is suggesting is that Monroe overlooked a possible alternate cause. Monroe said that the hot peppers caused the illness, but (E) is saying he could just as well have eaten too much. So, this answer still fits the mistaken causality view that we agree is occurring here. Looking further at (E), the test makers would break it down as follows: We know Monroe has a "generally poor appetite." This means he tends to not eat a lot. At each meal, it's established that he ate large portions:

"The first time he ate an extra-large sausage pizza..."

"the second time he took full advantage of the all-you-can-eat fried shrimp"

"the third time he had two of Tip-Top's giant meatball sandwiches"

So, when Monroe goes on to "solely" conclude that the hot peppers at each meal were



the cause, he is definitely overlooking the fact that he was eating big meals, which could also have been the cause. Thus, (E) is supported by the facts here.

(A) is tempting because it describes a Sampling Flaw and this does draw on a small sample. But so what? The conclusion is only about those three meals; there is no generalization made. The information provided in the argument is enough for him to draw a conclusion. This choice is irrelevant to the argument.

didn't happen. Stand your ground! The author does posit ("put forth") a causal relationship, but we know that the presumed cause (eating peppers) happened before the presumed effect (getting sick). This option suggests that Monroe should have reversed the causal relationship he established between the hot pepper and getting sick. The problem is that it is illogical to reverse the causation. Monroe cannot get sick as the cause that led to the effect of eating hot pepper.

(B) also didn't happen. We have no information about whether he wants to dine at TipTop in the future. This is completely out of scope. No desire is expressed in the argument above.

(C) begins with the phrase "fails to establish." That's the same thing as saying "assumes." Is it a necessary assumption of this argument that everyone became ill? No! We don't care if everyone became ill; we just want to know the cause of Monroe's illness. This is unreasonable. Our bodies do not respond the same way. A food that one person is allergic to is another person's delicacy. All diners at Tip-Top do not have to become ill after taking the hot pepper before Monroe's illness can be attributed to it.





*Example 29:*

Why should the government, rather than industry or universities, provide the money to put a network of supercomputers in place? Because there is a range of problems that can be attacked only with the massive data-managing capacity of a supercomputer network. No business or university has the resources to purchase by itself enough machines for a whole network, and no business or university wants to invest in a part of a network if no mechanism exists for coordinating establishment of the network as a whole.

**Which one of the following indicates a weakness in the argument?**

- A. It does not furnish a way in which the dilemma concerning the establishment of the network can be resolved.
- B. It does not establish the impossibility of creating a supercomputer network as an international network.
- C. It fails to address the question of who would maintain the network if the government, rather than industry or universities, provides the money for establishing it.
- D. It takes for granted and without justification that it would enhance national preeminence in science for the government to provide the network.
- E. It overlooks the possibility that businesses or universities, or both, could cooperate to build the network.

**Conclusion:** The government, rather than businesses or universities, should fund a network of supercomputers. The wording that hints at the argument's flaw is "No business or university has the resources to purchase by itself enough machines..." We accept that no business or university could foot the bill on its own, but to jump to the conclusion that the government must pay for a network of supercomputers overlooks another possibility—a group of businesses/universities.

Couldn't a business and a university cooperate and join together to form this network? They don't have enough by themselves, but together they may. Second, why is the government the default choice for this burden? Why not non-profit groups? Why not charity? It isn't as if there are ONLY 3 are available to pay for this network.

(A) didn't happen. The argument does suggest a solution: get the government to pay! This is out of scope. The argument concerns who should pay for the network, not how it will be established. Also, no "dilemma" is ever outlined.

(B) is tempting since it introduces what seems like another possibility: perhaps the network could be an international one. Indeed, the argument never suggests that this is impossible, but so what? We still don't know who will pay for the network of supercomputers. The argument never defines the supercomputer network as national, so it doesn't need address whether or not an international network is possible. This answer choice could be temptingly taken to identify a source of \$\$ beyond the government, industry, or universities. Why does the inability of universities and businesses to pay for a supercomputer network mean that government must fund the network? Don't other sources of funding exist? However, (B) articulates the possibility of an international supercomputer network, not an internationally funded supercomputer network. (B) fails to adequately address this weakness.

(C) is about maintenance of the network. We're interested only in putting the network in place. Whether the proposal is executable once in place is irrelevant. (C) is similar to (A). The argument revolves around funding the supercomputer network, not maintaining it. This is out of scope.

(D) is out of scope. The issue is who will pay for the network of supercomputers, not what the outcome of completing a network of supercomputers will be. There's nothing about science or national preeminence in the argument.

(E) addresses the False Choice set up in the argument. Beyond the choices mentioned in the argument —the government or a single university/business pays for the network—there are other possibilities, such as a group of businesses/universities. **Correct!** No business or university wants to invest in a coordinated whole, right? How, then, could they cooperate to build that whole? Notice that the second premise comes in conditional form. It tells us that no business wants to invest in a part of a network IF no mechanism exists for coordinating establishment of the network as a whole. But perhaps this mechanism does indeed exist! The argument never eliminates this possibility. Businesses and universities might want to collaboratively invest in this case. (E) is correct.

## Question for class discussion (Contd...)

*Use the Weaken technique in all the questions under Flaw:*

- 23.** Some people believe that good health is due to luck. However, studies from many countries indicate a strong correlation between good health and high educational levels. It is well known that high educational levels allow people to make more informed lifestyle choices. Thus, research supports the view that good health is largely the result of making informed lifestyle choices. **The reasoning in the argument is most vulnerable to criticism on the grounds that the argument**
- A. presumes, without providing justification, that only highly educated people make informed lifestyle choices
  - B. overlooks the possibility that people who make informed lifestyle choices may nonetheless suffer from inherited diseases
  - C. presumes, without providing justification, that informed lifestyle choices are available to everyone
  - D. overlooks the possibility that the same thing may causally contribute both to education and to good health
  - E. does not acknowledge that some people who fail to make informed lifestyle choices are in good health



**24.** Premiums for automobile accident insurance are often higher for red cars than for cars of other colors. To justify these higher charges, insurance companies claim that, overall, a greater percentage of red cars are involved in accidents than are cars of any other color. If this claim is true, then lives could undoubtedly be saved by banning red cars from the roads altogether. **The reasoning in the argument is flawed because the argument**

- A. accepts without question that insurance companies have the right to charge higher premiums for higher-risk clients
- B. fails to consider whether red cars cost the same to repair as cars of other colors
- C. ignores the possibility that drivers who drive recklessly have a preference for red cars
- D. does not specify precisely what percentage of red cars are involved in accidents
- E. makes an unsupported assumption that every automobile accident results in some loss of life



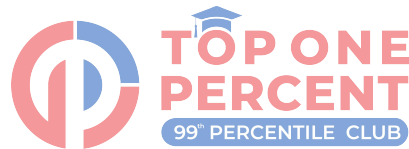
**25. Restaurant manager:** In response to requests from our patrons for vegetarian main dishes, we recently introduced three: an eggplant and zucchini casserole with tomatoes, brown rice with mushrooms, and potatoes baked with cheese. The first two are frequently ordered, but no one orders the potato dish, although it costs less than the other two. Clearly, then, our patrons prefer not to eat potatoes. **Which one of the following is an error of reasoning in the restaurant manager's argument?**

- A. concluding that two things that occur at the same time have a common cause
- B. drawing a conclusion that is inconsistent with one premise of the argument
- C. ignoring possible differences between what people say they want and what they actually choose
- D. attempting to prove a claim on the basis of evidence that a number of people hold that claim to be true
- E. treating one of several plausible explanations of a phenomenon as the only possible explanation



**26.** A controversial program rewards prison inmates who behave particularly well in prison by giving them the chance to receive free cosmetic plastic surgery performed by medical students. The program is obviously morally questionable, both in its assumptions about what inmates might want and in its use of the prison population to train future surgeons. Putting these moral issues aside, however, the surgery clearly has a powerful rehabilitative effect, as is shown by the fact that, among recipients of the surgery, the proportion who are convicted of new crimes committed after release is only half that for the prison population as a whole. **A flaw in the reasoning of the passage is that it**

- A. allows moral issues to be a consideration in presenting evidence about matters of fact
- B. dismisses moral considerations on the grounds that only matters of fact are relevant
- C. labels the program as "controversial" instead of discussing the issues that give rise to controversy
- D. asserts that the rehabilitation of criminals is not a moral issue
- E. relies on evidence drawn from a sample that there is reason to believe is unrepresentative



- 27.** The violent crime rate (number of violent crimes per 1,000 residents) in Meadowbrook is 60 percent higher now than it was four years ago. The corresponding increase for Parkdale is only 10 percent. These figures support the conclusion that residents of Meadowbrook are more likely to become victims of violent crime than are residents of Parkdale. **The argument above is flawed because it fails to take into account**
- A. changes in the population density of both Parkdale and Meadowbrook over the past four years
  - B. how the rate of population growth in Meadowbrook over the past four years compares to the corresponding rate for Parkdale
  - C. the ratio of violent to nonviolent crimes committed during the past four years in Meadowbrook and Parkdale
  - D. the violent crime rates in Meadowbrook and Parkdale four years ago
  - E. how Meadowbrook's expenditures for crime prevention over the past four years compare to Parkdale's expenditures



## Answers to Questions for class discussion:

1. E
2. E
3. E
4. C
5. D
6. E
7. E
8. D
9. D
10. C
11. C
12. B
13. E
14. D
15. C
16. A
17. B
18. B
19. B
20. C
21. A
22. B
23. D
24. C
25. E
26. E
27. D





1. Summary:

The government increased all the elderly people's pensions but, for some reason, the elderly people don't actually have any more money now. Our challenge is to find the "some reason" here. We need a reason why the increase will have NO EFFECT on the elderly people's income. In other words, we must find some factor that will immediately cancel out the effect of the increase, since we know that the elderly people are indeed getting the money.

A. This would mean that an increase in pension would definitely result in better financial status for the old people. **180° answer.**

B. We know that the 20% increase happened 2 years ago. Despite the 3-week delay, the pensioners must have got the increased pension, thereby contributing to their financial welfare.

C. As the inflation is negligible, this can't be the answer at all.

**D. It doesn't matter how rich / poor the person is ... the richest person in the world also would become financially better off (technically) even if s/he were to get even one extra cent.**

Note that we are trying to assess why the elderly are NOT financially better off now than they were before the increase. Even if this were true, given the 20% increase, the elderly below the poverty line must be in a slightly better state now than they were before. **Doesn't explain anything.**

E. CORRECT

If the elderly people's income is supplemented by their children - up to a FIXED amount ("a comfortable living") - then it makes absolutely no difference how much pension those elderly people are receiving, as long as the pension is less than "a comfortable living". In other words, their children are just going to pay the difference anyway.

Example:

Person A needs \$ 200 per month for "comfortable living".

Previously pension was \$100, so Person A used to take \$100 for his livelihood from his /her children.

Now the increased pension is \$120, so that person takes \$80 from his/her children. But the net income is still \$200, therefore their financial condition continues to remain the same.

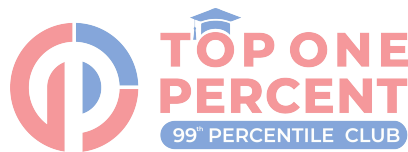
### **Top 1% expert replies to student queries (can skip)**

We have to think of person why elderly are not better off in spite of increase in 20% income.

D talks about poverty level.

If their income increases they might still be in poverty level but will improve their standings. D really does not matter.

E is a winner here as it says whatever the increased income of elderly will get was already supplemented by another factor. So they are no better off.



## 2. E. CORRECT.

This indicates that all people taking the survey plan to use the highway even after the railways are expanded. Therefore, if all these people continued to drive to work, the congestion on the highway won't ease despite the expansion of the railways. Imagine you face the following question: "Do you support the expansion of a new railway system and why?" If your answer is, "Yes, I do, so that other people (not me) will start taking the train and there will be less congestion for myself". It shows the poll respondents have no intention whatsoever of taking the train, they still want to commute by car.

### **Top 1% expert replies to student queries (can skip)**

Railway is going to be expanded, this will result in fewer people driving on the highway, this will result in lesser congestion on the highway - this is the thought process the passage wants us to follow. Then it asks what can possibly prevent this from materializing.

This question will require you to think a little. Look at Option (E) - it says most people in the survey think that a lesser congested highway will be the result of the project. Notice that they are not saying they will use the railway en masse, just that they think highways will be less congested. If most people think so, then they will just think that others will not use the highway, but if most people think so, they will still all end up being on the highway! This is why Option (E) is the correct answer here.

Option (D) may cause some confusion, but note that building rail beds has no effect on congestion on the highway

3. Summary: Fact 1: Federal government implemented a tax amnesty program.

Fact 2: Tax amnesty program allows tax delinquents to pay all owed tax without added financial penalty.

Prediction: This program will not be as effective for the federal government as it was for the state government.

We need an option that supports this prediction:

A. We are not told that the Federal government's amnesty program was less widely publicized than the State governments'.

B. This should mean that Federal government's and State government's amnesty program will meet with equal success.

C. The amnesty program will allow the delinquents to pay taxes WITHOUT financial penalty (this is out of scope as penalties are not being charged at all – **this answer should be your first elimination**). This means that the incentive for Federal tax delinquents must be higher to pay the taxes.

D. We are not told whether the Federal tax is higher. It is possible that the Federal tax could be lower than the tax in most states or the opposite could also be true. Without this information, this option does not help us understand why "Federal government would collect a far lower percentage of total tax owed by delinquents than did state governments implementing similar programs".

E. CORRECT.

This tells us that the federal tax delinquents do not pay their taxes intentionally while the state tax delinquents do so because of an oversight (just because they have forgotten).

If people are intentionally not paying taxes, then the amnesty program will not provide an incentive to do so, unlike in the state, where people who had overlooked paying their taxes might be tempted to pay it without a financial penalty. If delinquents consciously make a decision not to pay, then the amnesty program will have no effect. E clearly indicates that most delinquents for state tax fail to pay due to oversight unlike federal tax delinquents who choose not to pay.

Those who default on State taxes are mostly those who forget about taxes. Hence once given an opportunity are more likely to pay taxes.

Those who default on Federal taxes are those who have decided not to pay. Such people are not likely to pay even after the mentioned incentive because they don't pay their taxes in the first place and now with no ADDED incentive (like reduction in the amount that needs to be paid) it is likely that they won't pay still. If delinquents consciously make a decision not to pay, then the amnesty program

will have no effect. E clearly indicates that most delinquents for state tax fail to pay due to oversight unlike federal tax delinquents who choose not to pay.

Those who default on State taxes are mostly those who forget about taxes. Hence once given an opportunity are more likely to pay taxes.

Those who default on Federal taxes are those who have decided not to pay. Such people are not likely to pay even after the mentioned incentive because they don't pay their taxes in the first place and now with no ADDED incentive (like reduction in the amount that needs to be paid) it is likely that they won't pay still.

### **Top 1% expert replies to student queries (can skip)**

Option (D) has absolutely nothing to do with the argument at hand. It does not matter what the state taxes are, what the federal tax is / are etc. None of this explains why a larger percentage of outstanding state taxes will be recovered vs. the percentage of outstanding federal taxes. However, if most state tax delinquents only default because of oversight rather than an actual desire to evade taxes (as is the case with federal tax delinquents), then there is a strong likelihood that most state tax delinquents will actually pay their outstanding taxes when incentivized to do so. So state governments will likely recover more taxes as a percentage of what is outstanding



4. If we introduce a new product at a very high price, we can't be accused of "increasing" the price ... increase happens on an existing price.

"Per-capita expenditure" is the total price paid for drugs (price per pill \* # of pills) divided by the number of people. If the per capita expenditure is increasing, either the numerator has to be increasing or the denominator has to be decreasing or both. So, either the price is increasing, the number of pills is increasing. Premise: product prices can't be raised (note: by definition, this only addresses existing products; new products not yet introduced do not yet have assigned prices). So, I can't raise the price of existing products, but I could introduce more expensive products. Premise: the use of prescription drugs did not increase after the price freeze. So, the number of pills isn't changing.

A. if this changes anything, it would decrease the per capita expenditure (if the new people didn't take any drugs) - though the more reasonable assumption is that the new people are taking drugs at the same rate as the old people, meaning there's no change in per capita expenditure. Either way, per capita expenditure is not increasing.

B. we're concerned with why the per capita expenditure is still increasing and profit levels don't affect that calculation.

C. **Correct** ... new medications = new price introductions. If these prices are higher than the prices for the old products, then that's how I can increase the numerator of my "per capita expenditure" calculation.

D. the government can encourage anything it wants - that doesn't mean it happened. And, anyway, if the government were to be successful in this plan, the action should have lowered per capita expenditure, not increased it!

E. This would decrease the per capita expenditure (people aren't buying as many of the expensive drugs anymore)

5. This problem is an exact analogue of the real-world situation with such maladies as heart disease and breast/prostate cancer, which generally strike older individuals. There are often strikingly low rates of death from those maladies in countries with otherwise horrible public health (such as sub-Saharan African countries). This isn't due to better prostate/heart/breast health in those countries, though; it's simply because most people in those countries don't live anywhere near long enough to get these problems in the first place.

You need to pick a choice that actually points out a salient difference, regarding prostate cancer, between the two countries. Furthermore, that difference must register in the correct direction: i.e., the evidence must indicate that prostate cancer is LESS likely to be found in Terland.

Choice (B) does no such thing. In fact, choice (B) is perfectly neutral, giving absolutely no reason to suspect different levels of prostate cancer in the two countries. (First, "does not increase one's risk" implies equality of risk, not a disparity in either direction. Second, this statement has absolutely no bearing whatsoever on differences between the two countries mentioned in the problem.)

**Choice (D)**, on the other hand, mentions a factor that is DIRECTLY responsible for the relatively low rate of prostate cancer in Terland. Namely, if people in Terland don't live long enough to GET prostate cancer in the first place, then you aren't going to see a lot of prostate cancer there.

Choice (E) This should ideally mean people died of cancer lesser in Rubaria than in Terland.

## 6. CORRECT option: E

The government is giving away money (negative budget) to farmers who take 25% of their farms' acreage out of cotton.

If the farmers have operating losses as of now, they are likely to have a lower income and hence they would pay less tax to the government (negative budget).

If by taking 25% acreage, the cotton prices go up again and if the farmers can grow something else on the remaining 25% of the farmland, the farmers are likely to have a lot of extra income ... so they will pay more tax on their incomes (positive budget).

So, something is being given to farmers (negative) and eventually more tax is being collected ... so no NET burden on the budget. **Also, the language of the question is "how it could be so". Your reasoning doesn't have to be watertight because of the word "could".**

The first two sentences tell us the farmers made so much cotton that the prices dropped. The third sentence tells us that the government tried to boost prices by giving money to some farmers in exchange for their making less cotton. Apparently, the government was concerned. But notice the stimulus did not establish that the government was actually hurt by these diminished prices. What if (for some reason) lower cotton prices would not have harmed the government? Then, they would have given away free money for no reason.

The question is asking you to find a fact that would ensure that the government's plan was not at a loss. What we need is a choice that tells us that without their money-giving plan, the government would have lost money because of the diminished cotton prices. Choice E gives us a way that the lower cotton prices would harm the government: it would not be collecting as much tax from the farmers.

The government is giving money to the farmers in exchange for their producing less cotton. This will only be worth it for the government if excess cotton (due to hyper-production) would have meant a budgetary deficit for the government. If the excess cotton (leading to depressed prices) would not have hurt the federal budget, then the government is just wasting money by giving it to the farmers.

For the program not to be a net burden on the budget, Government needs to get something which nullifies the effect of direct support payment.

Option E explains this by stating that tax offsets the money given towards direct support payment.

None of the other options explain how the government would benefit through the support scheme.



### Top 1% expert replies to student queries (can skip)

The conclusion is that "The government's program, if successful, will not be a net burden on the budget." Let's review what we have so far...

- Cotton prices fell because there was too much cotton on the market.
- The government wanted to boost cotton prices. How? By offering farmers incentive to take 25% of their cotton acreage out of production.
- What is that incentive? If you take 25% of your cotton acreage out of production, then the government will give you "direct support payments up to a specified maximum per farm." So we don't know how much the farmers would get, but if they take away 25% of their cotton acreage, the government will give them some money.
- For example, if you currently use 60 acres to grow cotton, the government will pay you to bring that amount down to 45 acres.

The goal of the program is to reduce the supply. The government hopes that reducing the supply will cause cotton prices to increase. This makes sense. If the cotton supply is sufficiently reduced, cotton prices should eventually go up. But this plan has a cost. For every farm that reduces their cotton acreage by 25%, the government has to make a payment. Even if the plan successfully causes cotton prices to increase, it seems as though the government will be losing money by making all of those payments. If costs are increased and nothing else changes, the plan will be a net burden (i.e. cause a net loss) for the government.

The only way the government will NOT lose money is if the plan also somehow increases the government's revenue. If the increased revenue is at least as much as the increased costs, then the plan will NOT be a net burden.

Since the conclusion states that the plan will not be a net burden, let's look for something that could explain increased revenue IF the plan succeeds:

Option A: This is evidence that the plan will have limited success the first year, but that's not what we're after. Even if the plan succeeds, the government's costs will go up as they make payments to the farms. We need something that could explain how the government might avoid a net loss despite these increased costs. Eliminate it.

Option E: Depressed cotton prices meant operating losses for cotton farms, and the government lost revenue from taxes on farm profits. With low cotton prices, the government's revenue from taxes is reduced. If the plan succeeds and prices go up, the government's revenue will also go up. So even though the plan will increase the government's costs, it should also increase its revenue. Remember, we don't need to PROVE that the plan will succeed or PROVE that, if the plan succeeds, the increase in revenue will exceed the increase in costs. Choice E) is the *basis* for a possible explanation, and that's good enough to answer the question. Hence, it is correct.

### Top 1% expert replies to student queries (can skip)

Let us say that this year (the base year), the government started the support-payment program. Why did the government start this program? To reduce the production of cotton in order to boost cotton prices.

Now, B is saying that one year later (one year after the base year), cotton production fell by 5%. So the plan worked to a certain extent, because cotton acreage decreased. But B does not tell us anything about why the plan will not be a net burden on the budget. B simply says that the cotton acreage/production decreases by 5% one year after the program started. Since B does not address the 'net burden on the budget' portion, it cannot be our answer.

### **Top 1% expert replies to student queries (can skip)**

The argument starts by saying that the cotton farms of country Q were so productive (or produced so much cotton) that there wasn't enough demand for it. Consequently, cotton prices fell (due to excess supply). Now, to boost prices, the government decided to decrease the supply of cotton. How did they do this? By offering direct support payments to farmers who took 25% of their cotton acreage out of production. Now, the conclusion is that this program, if successful, will not be a net burden on the budget, or it will not be a net loss for the government. We need to choose an option that provides a basis to conclude this.

Now, think of it this way. Every time a farmer reduces the acreage by 25%, the government would have to pay the farmer a certain sum of money. If the government does this without realising any benefit from an increase in the price of cotton, then the plan will be a net burden on the budget. So, the only way for the plan to not be a net burden on the budget is if the government realises revenue from the increase in cotton prices.

Look at E now. A says that *'Depressed cotton prices meant operating losses for cotton farms, and the government lost revenue from taxes on farm profits'*. Bingo! This is exactly what we were looking for. E is saying that the decrease in cotton prices means that the government lost revenue from taxes. But since now the government program will increase the cotton prices, the government will not lose this revenue and can use this extra revenue to pay the farmers who decreased their production. Therefore, while the government's costs increased (in terms of payout to the farmers), so did its revenue (in terms of additional revenue from taxes on farm profits). E is our answer.

7. The number of orders placed = those by subscribers + those by nonsubscribers

If say 100 subscribers placed orders and 30 of them were below thirty-five. If there were 1000 nonsubscribers who placed orders, out of whom 900 were below thirty-five, we can reason thus: The total orders placed = 1100 and out of them 930 are from people below thirty-five. This makes both the statement stand true.

Of the orders placed by subscribers in response to ads, only 30% were from the under- 35 crowd. Of the orders placed by anyone in response to ads, most of them (i.e., over 50%) were from the under-35 crowd. There's the discrepancy. Now let's examine which option helps resolve the above discrepancy:

(A) Irrelevant. By discussing the age of the people who have never ordered merchandise in response to advertisement, the GMAC is only looking to confuse you!

(B) Irrelevant. The argument discusses the % of under 35 subscribers last year. The % this year is immaterial to the argument.

(C) This option is already stated by the first part of the problem which indicates that only 30% of the subscribers were under-35. It does not help solve the discrepancy.

(D) We are talking of the number of orders placed and not the amount of dollars spent on these orders. That people over 25 years of age spent more on their orders is irrelevant to us.

(E) CORRECT. This option clearly explains why although only 30% of the "Subscribers" who placed orders last were less than 35 years of age, of the total number of people who placed an order most of them were under 35 years of age i.e., these people were NOT SUBSCRIBERS. "Most" means more than 50%.

### **Top 1% expert replies to student queries (can skip)**

Options A, C & D can't be eliminated because they mention '35 or over'. Even though one might get the correct answer here by chance but it is possible to create an option consisting of '35 or over' which might be correct

8. Dinosaur fossils in northern arctic + Only warm-blooded animals can withstand arctic winters -> Some dinosaurs were warm-blooded. What are the gaps in this argument? For one, perhaps the winters may have been different when the dinosaurs were around. Perhaps arctic winters weren't as cold back then as they are now, and cold-blooded dinosaurs could have survived. For another, perhaps the dinosaurs migrated north in the warmer summer, and migrated to warmer areas in the south for the winter. In this case, they wouldn't need to survive arctic winters.

(A) Does this generalization have any impact on our conclusion? No. The fact that the reptiles generally live in temperate or tropical climates has no impact on our argument- this doesn't mean reptiles don't live in cold climates. Furthermore, we're assuming a lot in connecting the behavior of reptiles today with the behavior of dinosaurs.

(B) It's unclear what relevance the size of the dinosaurs has for this argument. So, what if they were small? Perhaps you can imagine some relationship between size and heat-retention. However, if you need to add another premise to justify an answer, that answer is incorrect. However, that requires assumptions that go too far beyond the text.

(C) If this is true, it would seem the dinosaurs died during very cold temperatures. It supports the idea, perhaps, that the dinosaurs died in the winter. That would make it so the author's argument sounds better, and we're looking to weaken! We can eliminate this answer because it plays a reverse role. By the way, we can also eliminate this answer because it doesn't actually indicate whether these plants (and thus the dinosaurs) actually died in extremely cold temperatures; we simply know that these plants were capable of withstanding cold temperatures. If you noticed this, perhaps you also noticed that this answer has no direct bearing on the conclusion-that some dinosaurs may have been warm-blooded. It's often true that answers are wrong for multiple reasons.

(D) These herds migrated. If they migrated, perhaps they were in the north only during the summer months. Notice how this answer helps to break the bond between premise and conclusion. Thus, this answer weakens the author's argument by deflecting the impact of evidence the author uses to prove that there were warm-blooded dinosaurs.

**(D) is correct.**

(E) This is a very tempting answer. Of all the choices, this one addresses a gap in the argument most directly. However, notice that this is an answer that would strengthen the argument. It's another answer that's the opposite of what we're looking for.

## Alternate sol from gmatclub

(A) Today reptiles are generally confined to regions of temperate or even tropical climates.

- This sentence doesn't help us say some dinosaurs are not warm-blooded. It merely restates a fact given in the passage "cold blooded animals would freeze to death" when it says today's reptiles are generally confined to regions of temperate/tropical climate.

(B) The fossils show the arctic dinosaurs to have been substantially smaller than other known species of dinosaurs.

- Out of scope.

(C) The arctic dinosaur fossils were found alongside fossils of plants known for their ability to withstand extremely cold temperatures.

- Still can't disprove the researcher's conclusion

(D) The number of fossils found together indicates herds of dinosaurs so large that they would need to migrate to find a continual food supply.

- This is the answer. The dinosaurs that died might have been migrating to find a food supply (meaning they just happened to pass by the arctic and died there because reptiles would freeze to death in such cold climates) as opposed to living at the arctic.

(E) Experts on prehistoric climatic conditions believe that winter temperatures in the prehistoric northern arctic were not significantly different from what they are today.

- Doesn't tell us a thing apart from the climate being similar

D it is.

## Top 1% expert replies to student queries (can skip)

Even if C is true, we cannot say that plants provided shelter to dinosaurs. Just because the two sets of fossils were found alongside each other, can we say for sure if there was any relationship between dinosaurs and plants? No we cannot. And let's take a giant leap here. Even if we could, how does that weaken the researchers' conclusion that 'at least some dinosaurs might have been warm blooded'?

Also, we cannot say plants would have been able to provide shelter to dinosaurs, given the humongous difference in their size.

All we know from C is that the plants were capable of withstanding extremely cold temperatures. The fact that the two sets of fossils were found together tells us ABSOLUTELY NOTHING about whether dinosaurs were cold-blooded or

warm-blooded. C is therefore incorrect.

E only tells climatic conditions of today and prehistoric to be same.

To weaken we have to break the bond between the premise and conclusion which the author has established. E does not do that.

How does E help that cause.

E only help us infer that prehistoric arctic winters were also cold. It only adds to the author's assumption that prehistoric arctic winters were cold.

If the conditions were similar, then it strengthens the argument.

D addresses the apart by breaking the linkage between premise and conclusion and saying that the fossils in north arctic could be of migratory ones.

### Top 1% expert replies to student queries (can skip)

What does the argument tell us (you can put it into symbols and check)

- *because* fossils were found in the arctic, that must mean the dinosaurs were warm-blooded (cold-blooded creatures cannot survive arctic winters). What can possibly weaken this? What if we showed that fossils of other confirmed cold-blooded creatures were also found in the arctic? That would weaken this argument for sure. What if we can show that while the fossils were indeed found in the arctic, there is strong indication that the dinosaurs did not live there for a significant amount of time? Then too, the argument would be weakened, because then it shows that they need not have been warm-blooded, and still the fossils could have been found (so basically something else may have caused the fossils to be found).

Looking at the answer choices, we don't see anything that tells us of the former - i.e. nothing tells us that fossils of other cold-blooded creatures have been found. However, we look at Option (D) and see that here is indication that the dinosaurs did not necessarily live in the arctic for long - they simply moved on and so didn't need to survive and may not have been warm-blooded (just that the group whose fossils were found died when they were in the arctic region). Option (D) then clearly is the answer.



9. The key to success is to isolate the conclusion, which appears in the last sentence: “companies producing carpet will be able to gain market share in the carpet market only through purchasing competitors.”

Answer choice (A) is about a decline in profits (nothing to do with the market share) and revenues (market share is about percentage ... not absolute revenue ... a company may have declining revenues but increasing market share over the years ... in the same vein, a company may have increasing revenues but declining market share over the years. The two are not the same, and so the information in the answer choice does not weaken the conclusion.

Answer choice (B): This answer goes beyond the scope of the argument, which is limited to the carpet market (and not other floor coverings).

Answer choice (C): This is an Opposite answer that strengthens the argument. If there are no remaining niches to fill, then there is no way to expand other than to purchase a competitor.

Answer choice (D), on the other hand, does suggest a way for companies to gain market share without purchasing competitors, thereby attacking the conditional statement given in the stimulus. **Thus, answer choice (D) is correct.** If price reductions drive out some of the carpet producers, then other producers can take the market share left behind. This scenario shows that a company can gain market share without purchasing a competitor, thus attacking the necessary condition in the conclusion.

Answer choice (E): This Opposite answer strengthens the argument. If the consumers are resistant to new styles, then one fewer possibility exists if a company is trying to increase market share. By eliminating this option, the conclusion is strengthened (by eliminating an idea that would hurt the argument, one can strengthen the argument because it has fewer “competitors.”).

### **Top 1% expert replies to student queries (can skip)**

Option D - The main argument says that the only way to gain market share is through purchasing competitors. But option D gives us an alternate way to gain market share. It says that one can gain market share through price reductions (C causes B)

10.

A. Distance is irrelevant.

B. We are concerned specifically with the number of retirees moving to Florida.

C. CORRECT

Assume that last year 1000 people retired and moved to another state. Out of these 1000 people, 100 of them move to Florida. That means, 10% of the people moved to Florida. This year, the % of the people moved to Florida decreased by 3%. That means, only 7% of the total people moved to Florida. Now, choice C states that the total number of people who retired and moved to other states increased significantly. Let us assume that a total of 10,000 people moved this year (where as it was 1000 people last year). Now, 7% of 10,000 = 700 is the number of people who moved to Florida. Even though the % decreased, the actual number of people moved to Florida increased. This would weaken the argument.

D. We are not bothered about all kinds of people. We are bothered only about retirees.

E. We are supposed to compare the two numbers that went to Florida ... if there is a 3 percent point drop in this number, then whether Florida attracts the largest number among all states or the lowest number among all states ... the conclusion is unaffected.

### **Top 1% expert replies to student queries (can skip)**

It is weakened not destroy. Also, we don't have to disprove anything.

So, any answer that gives a slight probability of weakening is correct.

If the denominator has increased, then we have reason to believe that the argument may be weakened.



11. The passage connects an increased NUMBER of injuries with a contention that the plasticsleds are MORE LIKELY to cause injuries (i.e., that the plastic sleds cause a higher RATE / FREQUENCY of injuries). If you've done enough critical reasoning, then you should know that this sort of connection — between ABSOLUTE NUMBERS and RATES / PROPORTIONS — is seriously flawed, because it assumes that the underlying totals match. For example, if more high school seniors graduate this year, that doesn't necessarily imply a higher graduation rate; instead, it could simply be the case that there are more seniors to start with, with the same graduation rate (or even a lower rate) than before.

**A.** This is irrelevant. It does not explain the relationship between plastic sleds and accidents. Also, we need an answer that compares the two: plastic and wooden. OUT!

**B.** We need an answer that compares the two: plastic and wooden. Since this does not mention if they do so only while using plastic sleds, it is not relevant to the argument. OUT!

**C.** CORRECT.

This indicates that the accidents may not have been because the plastic sleds are more dangerous but rather because they are being used more often—they make sledding possible in conditions that weren't possible before. Imagine this: the number of occasions that wooden sleds are used = 100, the number of accidents = 10; the number of occasions that plastic sleds are used = 1000, the number of accidents = 20 ... the rate of accidents is 10% for wooden sleds and only 2% for plastic sleds. Remember, the word 'danger' is always related to rate / probability, not absolute numbers.

**D.** We need an answer that compares the two: plastic and wooden.

**E.** We need an answer that compares the two: plastic and wooden.

## Alternate sol from gmatclub

Since we are looking for an answer choice that most undermines the force of the evidence cited, let's start by identifying that evidence: "the number of children injured while sledding was much higher last winter than it was ten years ago."

According to the author, this evidence "clearly" leads to the concern that plastic sleds, which became more popular ten years ago, are more dangerous than wooden sleds. To recap the author's argument:

- Wooden sleds, with runners and steering bars, were used in the past.
- Ten years ago, plastic sleds became popular.
- Plastic sleds are faster, harder to steer, and harder to slow down.
- "The number of children injured while sledding was much higher last winter than it was ten years ago." Remember that ten years ago plastic sleds had just become popular, so it is likely that wooden sleds were still prevalent as well (it's possible to have more than one *popular* option). But we can infer that plastic sleds are probably more popular now than they were ten years ago.
- The evidence in the last bullet clearly leads to the concern that plastic sleds are more dangerous than wooden sleds.

Now let's look for the answer choice that most undermines the force of the evidence cited:

A. A few children still use traditional wooden sleds.

Again, the evidence cited is "that the number of children injured while sledding was much higher last winter than it was ten years ago." This evidence seems to suggest that plastic sleds are more dangerous than wooden sleds. Even if a few children still use traditional wooden sleds, if injuries have increased since plastic sleds became popular, this still seems to suggest that plastic sleds are more dangerous.

The evidence cited does not require that ALL children use plastic sleds, so (A) can be eliminated.

B. Very few children wear any kind of protective gear, such as helmets, while sledding.

This statement might explain why sledding is dangerous *regardless* of the type of sled. However, it doesn't give us any reason to suspect that plastic sleds are safer than wooden sleds or vice versa. Thus, choice (B) has no impact on the evidence cited and can be eliminated.

C. Plastic sleds can be used in a much wider variety of snow conditions than wooden sleds can.

Imagine that plastic sleds and wooden sleds were both equally safe. But if plastic sleds can be used in a much wider variety of snow conditions, then children last winter might have simply gone sledding more times, on average, than children ten years ago. In other words, the *odds* of getting injured while riding a plastic sled could be the same as the *odds* of getting injured while riding a wooden sled. But if you can go sledding more times with a plastic sled, then you will have more opportunities to injure yourself.

Answer choice (C) provides an alternative explanation for the evidence, and this explanation does not require that plastic sleds are *more* dangerous than wooden sleds. So (C) undermines the force of the evidence cited. Keep this one.

D. Most sledding injuries occur when a sled collides with a tree, a rock, or another sled.

As with choice (B), this is a general statement that presumably applies to sledding with both wooden and plastic sleds. It has no bearing on the evidence and can be eliminated.

E. Because the traditional wooden sled can carry more than one rider, an accident involving a wooden sled can result in several children being injured.

We are GIVEN the fact that "the number of children injured while sledding was much higher last winter than it was ten years ago." Maybe there are more injuries per accident with wooden sleds, but this does not change the fact that, overall, there were more injuries last winter than there were when wooden sleds were more prevalent. We are not trying to *change* the evidence; rather, we are trying to *undermine the force* of the evidence. Choice (E) has no impact on the evidence and can be eliminated.

Choice (C) is the best answer.

12. "Which of the following, if true, provides the government with the strongest grounds to doubt that the politicians' recommendation, **if followed**, will achieve its aim?"

Answer choice E does not address "if followed". E says, essentially: there is a better way to achieve the goal of increasing exports. In this case, we are not following the recommendation of the politician.

B, on the other hand, tells us essentially that: conditions are different now than they were in the past. Already that gives us reason to dismiss the evidence from five and twelve years ago. And, if manufacturers are incapable of producing any more than they do now, then there's certainly reason to doubt they'd be able to produce more goods to export.

They're already making almost as much as they can today. In addition, they were not making anywhere near as much as they could 12 years ago and 5 years ago. That's a change from the last two times when exports went up a lot. This indicates that the weakening the currency this time may not work as expected. **Remember, it is the manufacturing sector ... so even if there is more business, they will not be able to cater to the extra demand ... hence, exports won't go up.**

- A. Irrelevant. If anything, it looks to strengthen the politician's stand.
- C. Irrelevant. We are not looking for the best plan to strengthen Darfir's economy. Rather we need to find what will weaken the politician's argument.
- D. Irrelevant. Is the issue whether other countries have stable currencies? Do we know about those other countries during the previous 2 periods (12 years ago and 5 years ago)? No – not from the argument and not from this choice

### **Top 1% expert replies to student queries (can skip)**

Darfir has a local currency (as all countries do). The currency is called Pundra. Say the value of Pundra against the USD is 1 USD = 100 Pundra. Say you are an exporter of products from Darfir. On the world market, for imports and exports, countries will pay each other most of the times in USD (which is why the USD is called world's reserve currency). Now you export 1 unit of product X to the US whose price is 100 Pundra (to make matters very simple). How much will the buyer (which is a company that imports thing into the US from Darfir) pay you? 1 USD. The moment you get the money and cash it in Darfir, today you are getting 100 Pundra for it. Say tomorrow Pundra becomes weaker - say it is now such that 1 USD = 200 Pundra. Everything else remaining the same, the price of the same 1 unit of X, when bought by your US buyer is now 0.5 USD. So the foreign buyer is now having to pay lesser because the Pundra has become weaker. In general, when a country's home currency becomes weaker, exporters like it (they can sell more goods for the same USD value their purchaser will pay, helping gain market share etc), and importers don't

like it (if I was an importer in Darfir buying products worth 1 USD, earlier I paid 100 Pundra, and now I have to pay 200 Pundra).

Option (A) actually makes the government believe the politicians asking the Pundra to be weakened have some logic to it (if they have said so both times before, and the result was increased exports, then they might be on to something?)

Option (E) - 'make Darfir's products a bargain' means what I said above. Products worth the same number of Pundra will cost fewer USD, so international buyers will get Darfir's products at a cheaper price compared to before. Think about if, by your own logic, this international buyer was 'bargaining' with the seller (an exporter in Darfir, the shopkeeper in your thought process). The buyer got a bargain right, because they got the product at a lower price? If this option were to be true, then what the politician is saying (that the Pundra needs to be weakened to make Darfir's exports more attractive internationally) does not need to be followed necessarily, and this gives the government reason to doubt what the politician is saying.

### **Top 1% expert replies to student queries (can skip)**

Politician's recommendation: government should allow the pundra to become weak again.

The intention of the recommendation: To increase exports.

The point: Weakening the Pundra will cause an increase in exports. We need to weaken this point. Basically, supporting that even after Weakening the Pundra, this action will NOT cause an increase in exports. What other factors can increase exports is not relevant in this question.

We are concerned about the outcome when currency is weakened, not about other stimuli/factors which might/might not affect the exports. Option E mentions other factors that can increase the exports but does not weaken this- "Weakening the Pundra will cause an increase in exports".

13. **E is right** because it shows us that without good crops to grow for profit, poor farmers move to the city. Well, the tariff, if removed, would allow those poor farmers to make money growing cashews (**and maybe they will come back from the cities – where they were working in the domestic processing plants – and will start growing the profitable crop**). As a result, they wouldn't need to move to the city to find work. Hence, the unemployment rates in the city would not go up.

Everything in this argument is tied together. It is essential that you see important words like "however" and the relationships that these words create among various parts of the argument. The conclusion here has nothing to do with the welfare of farmers.

**E** indicates that the current low price for cashews, a consequence of the tariff, is prompting farmers to go to the city in search of work. Thus, removing the tariff would lead to layoffs in the city, but would likely allow farmers to stay on their farms and avoid joining the ranks of the 'urban employed'. In a nutshell, **E** makes it evident that the tariff is preserving urban jobs, but also forcing farmers to look for jobs in the city.

**C is wrong:** the passage talks about unemployment rate. So, the absolute numbers are totally irrelevant here. If we say 'more people work in IT than in telecom.' So, which sector has a higher unemployment rate? Obviously, we can't tell.

ALSO ... people who farm cashews probably do not do so in the city: this answer choice is a trap for those of us who overlooked the word 'urban' in the conclusion. The argument talks of reducing urban unemployment and not improving the general economic situation of Kernland. So, we need to deal with this from the perspective of urban unemployment only.

A. Irrelevant. We are discussing removing tariff on unprocessed cashew. The byproducts and its manufacture are irrelevant.

B. Irrelevant. We are discussing Kernland only.

D. This strengthens the argument slightly by indicating the advantages of lowered tariffs for processing plants.

### **Top 1% expert replies to student queries (can skip)**

We need to weaken this: removing the (high tariff on the export of unprocessed cashew nuts) would seriously hamper the government's effort to reduce urban unemployment over the next five years

Statement (E) suggests that domestic plant workers might lose their jobs if the tariff is NOT removed. Furthermore, with more and more people (the former small



farmers who left their land) moving to the cities looking for work, it is quite possible that urban unemployment will rise.

If statement (E) is true, removing the tariff would encourage more farmers to stay in Kernland and grow cashews that need to be processed. Thus, statement (E) is evidence that removing the tariff will NOT seriously hamper the government's effort to reduce urban unemployment

### **Top 1% expert replies to student queries (can skip)**

When the government imposes taxes/tariffs on the exported unprocessed cashew nuts, the price of those cashew nuts increases in the international market. (price of the exported cashew nuts > international market price)

Now, given the increased price, these cashew nuts become less attractive for international buyers (that is, international processing plants), who can probably get the nuts at a relatively low price from some other country. Since the demand for these cashew nuts in the international market is scarce, the cashew nuts are sold to the DOMESTIC processing plants (since they're the only ones that would have to buy them).

Now, if the tariffs were lifted/removed, the price of the cashew nuts would be close to the world market price (that is, they would go down). Since the price has now gone down, there would obviously be greater international demand for those cashew nuts and farmers would have a bigger market to cater to. Therefore, farmers would be incentivised to grow cashews.

Understand this now. If the farmers cater to a much larger market with the removed tariffs, then there is a probability that the domestic processing plants aren't getting as much unprocessed cashew nuts as they used to when the tariffs were present. If there is a lower volume of cashew nuts that has to be processed in the domestic processing plants, then there would also be a lower volume of workforce required to process the cashew nuts. So some workers would be laid off. And all the processing plants are in the urban areas. Therefore, the urban unemployment due to the cashew nuts processing industry would go up. But this would hamper the Government's efforts to reduce urban unemployment. So for the government to realise this goal, it should not remove the export tariffs on unprocessed cashew nuts.

We need to weaken this argument.

14.D. CORRECT.

Imagine that prior to 1930, 1000 hotels were built and only 100 were of good quality (10%) and the rest 900 were of bad quality ... also imagine that these 900 with bad quality were demolished. So, there will be 100 good quality hotels from the old era. Also, imagine that 100 hotels are built today, 50 of which are good quality (50%) and that none are demolished. If the guidebook writer is ignorant of this fact, he would find 100 out of 100 hotels of good quality from before 1930 era and only 50 out of 100 good quality from the current era ... hence he would report that the hotels of the earlier era were made with more care etc., a fact that is wrong. The comparison is between carpentry evident in hotels of the two eras that still exist. If there is some reason to think that hotels with good carpentry survive longer than those with bad carpentry, then the hotels from the old era will have a disproportionately more hotels with good carpentry, even if there were no difference in skill, care and effort of the carpenters from the two eras.

- A. This option applies equally to both eras and has no bearing on the argument.
- B. It is not clear whether the carpenters working on larger hotels would exercise more, less or the same skill and care as those working on smaller hotels; this option does not weaken the argument.
- C. The argument does not rely, even implicitly, on there being any difference in the quality of materials used in the two eras, so it does not weaken the argument to point out that no such difference exists.
- E. The longer a carpenter works as an apprentice, the more skill he is likely to have. This slightly strengthens rather than weakens the argument.

**Top 1% expert replies to student queries (can skip)**

Option E might imply that today's carpenters are less-skilled than pre-1930 carpenters. This may explain why carpenters work with less skill, care & effort today- thus, strengthening the argument. Please note that we have to weaken the argument.



15. Our core is:

Increase in demand for printed books over manuscripts → dramatic jump in number of people who could read

(A) This certainly doesn't offer another explanation for the increased demand. If anything, this seems to strengthen the argument! If unassisted letter writing increased, we could make a case that literacy rates (reading ability) were increasing at that time, and possibly might explain why more people wanted books. Remember, we want to weaken this argument. Eliminate this.

(B) This is completely out of scope and irrelevant. Writing in the margins has nothing to do with an explanation for why demand increased. Get rid of it.

(C) **CORRECT.** Ah, yes! More books for the same money! This would give an alternate reason for the increase in demand. Keep it for now.

(D) Great, but this doesn't give an explanation for why demand increased. The circulation doesn't require that more books are purchased. Eliminate it.

(E) Tempting (since it mentions illiteracy), but the fact that books would have been useless to illiterate people doesn't weaken the claim that an increase in reading ability accounted for an increase in demand. Get rid of this.

**Top 1% expert replies to student queries (can skip)**

(A) No. If anything, this statement tends to support the conclusion that literacy rates increased after the invention of the printing press.

(B) No. This is irrelevant.

**(C) Yes.** This shows that the jump in sales was not due to an increase in literacy. Rather, the same people who bought the manuscript copies simply bought more of the printed books. **CORRECT.**

(D) No. This is irrelevant.

(E) No. Although this may be true, the argument claims there was a drastic jump in the literacy rate after the printing press was invented.

16. These (electronic news) services will provide people with the information they are looking for more quickly and efficiently than printed newspapers can -> newspaper sales will decline drastically if these services become widely available.

Do people primarily read newspapers searching for stuff they already know about? No. People often read with no idea of what's going to be in the paper ... we read in part to see what's in the paper. People also buy newspapers for other reasons ... for the crossword or for coupons, for example. The fact that people can identify information they are looking for faster through other forms is not the sole characteristic that needs to be considered in determining whether newspaper sales will drastically decrease. Let's evaluate the answer choices:

**(A)** You should be able to recognize that this answer presents an alternative reason that needs to be considered when thinking about whether newspaper sales will drastically decline. If (A) is true, people may want to continue buying the paper. **(A) is the best available answer, and it is the correct answer.**

**(B)** A comparison within companies offering personalized electronic news services (as opposed to a comparison between such companies and newspapers) is of no relevance to this argument. We can quickly eliminate this answer choice.

**(C)** It's unclear how this relates to the conclusion. We're concerned about the people who do currently buy newspapers. Will they switch to the new medium? This answer is out of scope.

**(D)** Ahh. This answer perhaps brings to light a potential gap in the argument. Perhaps newspaper sales won't decline because electronic services will be more costly. However, this answer choice states the opposite, it states that the costs are equal. This answer eliminates a potential gap we didn't see initially. In doing so, it strengthens the argument.

**(E)** This answer touches on the same issue as (D) — cost. But again, it doesn't weaken the argument because it's information about how people won't have to pay additional costs to switch away from the paper.

### **Top 1% expert replies to student queries (can skip)**

What is the conclusion here? That *'Since these services will provide people with the information they are looking for more quickly and efficiently than printed newspapers can, newspaper sales will decline drastically if these services become widely available.'*

We have to weaken this argument. Meaning we have to choose an option that gives us a reason to believe that newspaper sales will not go down drastically.

Now look at option E. What does it say? That *'Most people who subscribe to personalized electronic news services will not have to pay extra costs for installation since the services will use connections installed by cable and telephone companies.'*

Do you feel this attacks the conclusion in any way, shape or form? In other words, does it at all talk about newspapers or **does it give us any information that helps us conclude that newspaper sales might not go down?** No, it does not. All E does is talk about the cost of setting up the 27personalized electronic news services. Since this is irrelevant for our purposes, E is incorrect

In fact, this option strengthens the argument at best. If people don't have to pay extra costs for installation, then they're getting personalized news at lower costs. Such an incentive might lead to a decrease in newspaper sales. Again, E is incorrect.

### **Top 1% expert replies to student queries (can skip)**

Argument- Personalized electronic news services are threat for printed newspapers. Weaken the Argument pre-thinking: Anything additional attribute provided by newspaper but not by personalized electronic news services (PENS) will weaken the Argument.

POE -

A. Very much in-line of pre-thinking. Most people like to browse newspapers idly which they possible won't be able to in PENS. CORRECT.

B. talks about cost of PENS but no mention of Newspapers

C. This strengthens the argument

D. Says - PENS will cost as Newspaper - Irrelevant or kind of weakly strengthens the argument.

E. Same as D - - Irrelevant or kind of weakly strengthens the argument.



17. (B) is correct. **First of all, to fit the definition of navigation, the animal must find its way from unfamiliar territory to familiar territory beyond the range of its senses. Next, a polar bear returned home after being released 300 miles away.**

(A) ... so what? Nothing in the given definition of navigation says that changing direction is not allowed.

(B) **weakens!** If the place the bear was released was on its annual migration route, then that place is not unfamiliar! This is definitely our answer, but we'll check the others.

(C) ... so what?

(D) says other species can find their way home. Great! This has no bearing on the evidence whatsoever.

(E) ... so what? In order for this to weaken, we would need to know that the bear actually used its sense of smell in this case. If this choice said something like "the bear could smell its home from where it was released," it would be a good answer, because one of the conditions that must be met is "beyond the range of the senses."



**Top 1% expert replies to student queries (can skip)**

The question stem is asking us to cast **the most doubt on the validity of the evidence offered in support of the naturalists' claim**. That is, the evidence itself is being called into question, as opposed to the argument that that evidence is being used to support. So what evidence is on offer in the passage?

Sentence 1 provides a definition for the term **navigation in animals**. There are two parts to the definition. First, the animal must be able to get to familiar territory from unfamiliar territory, and second, the destination must lie **beyond the immediate range of the animal's senses**. Seems straightforward to me.

Sentence 2 gives us our claim: **polar bears can navigate over considerable distances**, according to **some naturalists**.

Sentence 3 is the evidence cited for the claim, namely that a polar bear **returned to its home territory after being released over 500 kilometers (300 miles) away**. In other words, the distance is the evidence.

To weaken the evidence, we must find a flaw in the reasoning that a distance of 500 km traveled by a polar bear from **unfamiliar to familiar territory** may not necessarily fit the working definition of navigation in animals.

Option B: Perhaps 500 km was far enough away for the polar bear to no longer be able to use its senses to simply get back to Point A, but if the bear used the same route once

a year to return to that same destination, then it might not be unfamiliar, and that would fall outside our definition. If the evidence no longer holds to support the claim, then we have found our answer.

Option E: This can appear to be an attractive option, using the rationale that if the bear had been able to smell its way back to Point A, then the 500 km distance might not have been far enough away, so the bear did not *navigate* per se.

However, **extreme sensitivity to smell** is vague, with no range given to qualify it, and just because a bear possesses a certain extraordinary sensory ability, we cannot automatically assume that such an ability would weaken the evidence given.

Perhaps the researchers had known about such capabilities of polar bears within a range of, say, 200 km, so they more than doubled that distance to provide a comfortable margin within which to observe the navigational tendencies of the animal. In short, this is a could-be-true answer, but we have to fill in some gaps and make necessary assumptions to qualify it.

### Top 1% expert replies to student queries (can skip)

Let us say that a polar bear can also see clearly only upto a distance of  $x$  metres from its current position. Meaning if the polar bear is located at the point  $(0,0)$ , then its clear vision is limited to a circle of radius  $x$  and centred at  $(0,0)$ . This is an example of the immediate range of the polar bear's senses.

Similar arguments can also be made for other senses such as smell, hearing, etc.

So "immediate range of senses" essentially refers to what we are immediately aware of in an intentional mental state.

18.

The keywords here are: **rapidly changing** visual information ...

The word “move / moving” does not guarantee rapidly changing visual information. An

insect can move at the rate of 1 inch per hour as well. So, A and C can be eliminated.

**B: Correct:** In pursuing a swerving (swerving means very fast zigzag moving ... to swerve is to change direction abruptly) insect, a beetle alters its course while running [Weakens the hypothesis that the beetle stops intermittently because it cannot process visual information] and it pauses become more frequent as the chase progresses [Strengthens the hypothesis that the beetle stops because it gets tired: as the chase continues and the beetle grows wearier, the stops become more frequent.]  
Correct.

OR

To answer this question, you need to know the two theories:

1. Beetles cannot maintain their pace
2. Beetles cannot process rapidly changing visuals and go blind

B. Correct. When the insect swerves so does the beetle ... theory 2 is weakened. As the chase progresses, it pauses more frequently – this agrees with theory 1 that the beetle cannot keep its pace. So, you have both strengthen and weaken statements.

D. Doesn't have anything to do with either theory – outside the scope. The argument is not about why the beetle ends its pursuit but about why the beetle stops intermittently during a pursuit.

E. Doesn't weaken the hypothesis that the beetle cannot process visual information. Has nothing to do with rapidly changing visuals.

A: Outside the scope: the argument is not about why the beetle stops and flees when an insect is brought toward the beetle but about why the beetle stops intermittently when it chases an insect.

### **Alternate sol from gmatclub**

There are two hypotheses:

- the beetles cannot maintain their pace and must pause for a moment's rest;
- while running, tiger beetles are unable to adequately process the resulting rapidly changing visual information and so quickly go blind and stop

What would support one of the two hypotheses and undermine the other?

(B) In pursuing a swerving insect, a beetle alters its course while running and its pauses become more frequent as the chase progresses.

If the beetle alters its course while running, it is obviously processing changing visual information and changing its course accordingly WHILE running. If it pauses more frequently as the chase progresses, it is tiring out more and more because of the long chase and hence taking more frequent breaks.

Option (B) strengthens "it cannot maintain its speed and pauses for rest" and undermines "it cannot process rapidly changing visual information"

(C) In pursuing a moving insect, a beetle usually responds immediately to changes in the insect's direction, and it pauses equally frequently whether the chase is up or down an incline.

This undermines both the hypotheses.

If it responds immediately to changes in direction, it is able to process changing visual information.

If it takes similar pauses going up or down, it is not the effort of running that is making it take the pauses. Otherwise, going up it would have taken more pauses since it takes more effort going up.

(D) If, when a beetle pauses, it has not gained on the insect it is pursuing, the beetle generally ends its pursuit.

It might strengthen that the beetle is not able to respond to changing visual information since it decides whether it is giving up or not after pausing (in case there is a certain stance that tells us that it has paused) but it doesn't undermine that it pauses to rest. It is very possible that it pauses to rest and at that time assesses the situation and decides whether it wants to continue the chase.

(E) The faster a beetle pursues an insect fleeing directly away from it, the more frequently the beetle stops.

This strengthens both the hypotheses. The faster it runs, the more rest it would need. The faster it runs, the more rapidly visual information would change and more it will need to pause.

Only option (B) strengthens one and undermines the other.

Answer (B)



19.

The conclusion is that "many prominent economists of that time sided with those policymakers", implying that the economists, like the policymakers, "grew uncomfortable with the amount of power that had been given to the federal government and sought to discontinue many of the agencies created under the New Deal." How do we arrive at that conclusion?

The agencies created under the New Deal were designed to administer financial relief to the country DURING an economic depression.

- AFTER the economic depression ("in the decades following the depression"), economists and policymakers were more concerned with the amount of power those agencies had given to the federal government than with the administration of financial relief... why?
- If the agencies administering financial relief are useful in *preventing* an economic depression, we wouldn't expect the economists to want to discontinue those agencies.
- However, if those agencies are only useful in helping to *end* an economic depression and not necessarily in *preventing* a new economic depression, then the economists' desire to discontinue those agencies AFTER the depression makes sense.

(A) According to this statement, FURTHER expansion of federal authority would increase the risk of another economic depression. This answer choice is tempting because we know that the economists feared another recession. But the policymakers and economists wanted to DISCONTINUE many of the New Deal agencies, not just prevent further expansion of federal authority. Choice (A) does not explain why the economists want to REDUCE the level of federal authority, so we can eliminate (A).

(B) **Correct!** We are told that the policymakers and economists wanted to discontinue many of the New Deal agencies AFTER the economic depression, not during the depression. If the agencies administering financial relief are useful in preventing an economic depression, we wouldn't expect the economists to want to discontinue those agencies. However, choice (B) tells us that those agencies were designed only to provide financial relief (i.e., DURING an economic depression), not to maintain economic stability (i.e., AFTER an economic depression). This statement explains the economists' point of view.

(C) This statement tells us how "most Americans" felt but does not explain



the point of view of the economists, so choice (C) can be eliminated.

(D) The power and authority of the government agencies exceeded the limits defined when those agencies were created, but is that necessarily a bad thing? This information only tells us that the power of those agencies expanded but does not explain WHY economists grew uncomfortable with that expansion of power. Furthermore, choice (D) does not explain why the economists would want to get rid of agencies that are seemingly designed to combat economic depressions. We can eliminate choice (D)

(E) This choice explains why the policymakers wanted to discontinue the New Deal agencies, but it does not explain why the economists wanted to do so. Choice (E) can be eliminated.

### **Top 1% expert replies to student queries (can skip)**

Some economists are Americans, but are 'Most Americans' as Option (C) mentions, economists? Economists are a subset of Americans.

The crux here is that economists feared another depression was imminent, but they still sided with closing the agencies. If we can show that the agencies are not really helping the economy's stability (or reducing the probability of a depression), then this strengthens the stance taken by the economists. Hence Option (B) is the correct answer.

**20.**

**(C) is correct.**

Here, the author's conclusion is that there should be a greater use of gasohol. The support given is that gasohol is higher in octane and has fewer emissions than gasoline. Also, burning gasohol adds no more carbon to the atmosphere than plants remove.

This is a simple argument with a wide range of potential "strengtheners" (there might be a thousand additional reasons to use more gasohol), so we should keep our minds open and focus on eliminating choices that strengthen the conclusion.

(A) adds a reason that gasohol is superior to gasoline. This strengthens.

(B) tells us that gasohol use reduces the likelihood of an energy shortage. Since energy shortages are undesirable, this is a good thing for gasohol and therefore strengthens the argument.

(C) weakens the argument by saying that gasohol is a less efficient fuel than gasoline. This is definitely our answer, but let's rule out the other two just to be sure.

(D) says gasohol is cheaper. This strengthens.

(E) is a tempting choice. At first glance it doesn't seem to say anything about gasohol. However, by stating that gasoline adds more carbon to the atmosphere than plants can remove, the case for using gasohol, which we know adds less carbon, is strengthened.

**Top 1% expert replies to student queries (can skip)**

Argument: There should be a greater use of **gasohol**.

E. Burning **gasoline** adds more carbon dioxide to the atmosphere than plants can remove. Our concern is the use of 'gasohol' and not gasoline.

21.

**(A) is correct.** Here's the core:

Introduction of drugs to marketplace should be contingent on understanding social impact + the social impact of a certain antihistamine (one already on the market) is unclear -> there should be a general reduction in the pace of bringing to market new drugs now being tested.

The word "general" in the conclusion immediately jumps out. Our task is to strengthen, most likely by supporting the connection of this particular antihistamine to the other drugs.

(A) does exactly what we want. If the social impact of the other drugs is understood even less than the antihistamine, then according to the argument, these other drugs should certainly not soon be brought to market. This is a good choice, so let's keep it.

(B) does not impact the argument in a clear way. It does not relate the antihistamine to the more general conclusion. Furthermore, the word "some" has a weak impact. Without knowing how prevalent the "some" is, it's tough to prescribe a general slowdown.

(C) is irrelevant-economic success does not play a role in the logic.

(D) may seem to strengthen if we read too quickly, but chemical similarity mayor may not have anything to do with social impact. Therefore, eliminate.

(E) is an error of reversed logic.

### **Top 1% expert replies to student queries (can skip)**

The activist's argument is for a *general* reduction in the pace of introduction of new drugs to the market, using the antihistamine as a basis for the argument. So, the answer has to have a comparison of the antihistamine with *most* of the drugs being tested, which Option (A) does nicely (note that this also eliminates Option (D), which may elicit some confusion). Now if we focus on the activist's argument, they say that even for the antihistamine in question that is being marketed, the social impact is clear. *If the activist can fill in a missing link that says the understanding of the social impacts of the antihistamine is still better than other drugs being tested*, then they can strengthen their argument by saying that even with this if the antihistamine is problematic, then imagine what would be the case with other drugs (whose social impacts are understood even lesser)

## Top 1% expert replies to student queries (can skip)

the pace at which it (we are talking about new drugs and not about antihistamine) is being brought.....

Look for the logic of the argument.

The claim can be summarised thusly:

- 1) we shouldn't authorise drugs without enough information,
- 2) we don't have enough information about antihistamine,
- 3) conclusion: we should reduce drugs in general.

This argument doesn't make any sense, UNLESS we assume that we know even less about most drugs than we do about antihistamine. This is exactly what (A) tells us.

(A) The social impact of the new antihistamine is much better understood than that of most new drugs being used. If we know much less about other drugs, we definitely don't want to approve them.

Note - 1. Antihistamine cannot serve as the benchmark because even though it has been marketed, its launch fundamentally has faulted as we are unaware of the social impact the drug has making us ill informed about its utility. It thus cannot serve as an ideal/benchmark to the other drugs in testing for qualification.

2. Technically, the social impact understanding does not have a connection with the pacing, but broadly with the release itself. But the advocate has written that in the sense that as time passes, we can have an assessment of the impact the drug has. It does not matter how many drugs are in the pipeline though, each one has to pass a strict code which is what will make it worthy enough for public use.

**22.**

Note: this is an absolutely classic type of problem: it **CONFLATES CORRELATION WITH CAUSATION**.

It takes a statistical correlation between cigarette tax and cigarette consumption, and postulates that one has a **CAUSAL** effect on the other. (Here, the tax is taken to lead to decreased consumption.)

Anything disrupting the **CAUSAL** relationship between cigarette tax and cigarette consumption -> i.e., any **ALTERNATIVE EXPLANATION FOR WHY THE TWO ARE CORRELATED** -> will ruin the argument.

Therefore, you can **STRENGTHEN** the argument that eliminate such alternative explanations.

This is what choice (B) does. one possible alternative explanation is that consumers may have become more educated about the dangers of cigarettes, leading them to smoke fewer cigarettes regardless of the tax. this choice eliminates that possibility.

A causes B

Strengthen: C does not cause B



Increase in price caused cigarette sales to fall.

Strengtheners: Nothing else that caused cigarette sales to fall.

This “nothing else” is C, which can be anything like: information / education etc.

\*\*

Year x: tax price went up by eight cents. sales fell by 10%  
Year before x: tax price constant. Sales fell by 1%

Conclusion: the reason for the sales to fall from 1% to 10% is the 8-cent increase in the tax price ... "volume of cigarette sales is therefore strongly related to the after-tax price of a pack of cigarettes".

A. This weakens the argument by indicating that despite an increase in taxes, the sales amount also went up.

B. CORRECT

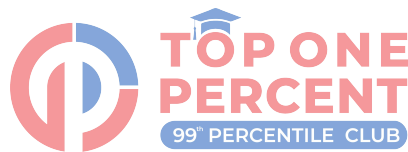
By telling us that the drop in sales post increases in taxes could not have been due to a change in the information available to consumers on the health risks of smoking, this option provides most support to the argument.

C. This is irrelevant. The question is, how did the consumers react once the prices went up?

D. This weakens the argument by stating an external reason that could have caused a decrease in sales. IF consumers had lesser income, they'd be less likely to spend.

E. This is irrelevant.

The variety of cigarettes on the market is not relevant unless we are told that a greater variety boosts or depresses sales.



23.

Note that the conclusion of the argument is an explicit claim of causation: "Thus research supports the view that good health is largely the result of making informed lifestyle choices." That is, making informed lifestyle choices has a direct impact on good health.

The evidence in this argument states a correlation between good health and high educational levels. What this means is that there is some statistical evidence that connects the people who happen to have good health and the people who happen to have high educational levels. Statistically speaking, having one changes the percentage chance that you have the other.

However, correlation is never sufficient to prove causation. That is, just because we know that there is a correlation between good health and high educational levels doesn't mean we know that good health is a part of the reason for high educational levels, or vice-versa. Perhaps both are consequences of another characteristic, such as living in a particular location. Or perhaps there is no causal connection, direct or indirect, between the two.



Let's think about our three questions.

- (1) Could B cause A?
- (2) Could C cause B?
- (3) Could C cause both A and B?

We know that the correct answer will typically address one of these issues.

(1) Could having good health help one make informed lifestyle choices? Maybe, but it is not likely. Regardless, we want to stay open-minded to this possibility when we evaluate the answer choices.

(2) Could having good health and making informed lifestyle choices have no impact (or, in this case, a small impact) on one another? Yes. We've got a pretty strong conclusion here ("is largely the result"), and not enough evidence to back it up.

(2) Could something else impact both good health and informed lifestyle choices? Absolutely. As stated before, where one lives is just one example of something that could have an impact on the likelihood of both.

**The correct answer for this question is (D):** The right answer addresses the second of the above concerns. But it was wise to remain open to the idea that it could have been any of them.

(A) This is a tempting answer because it addresses the mismatch between education levels and informed lifestyle decisions. However, the word "only" makes this answer choice too strong. The argument involves generalizations. -in shifting terms, the author is assuming a relationship between education and informed lifestyle choices, but not an exclusive one as this answer choice states.

(B) It may be true that they suffer from inherited diseases, but we've been given no indication that the rate of inherited diseases is different for the groups-those who don't make informed lifestyle choices may also suffer from inherited diseases, and so it's unclear what impact this information has on the argument being made.

(C) Whether the choices are available to everyone is not mentioned in the argument and has no direct bearing on it.

(E) The author does not conclude that only people who make informed lifestyle choices are healthy. The conclusion is that such choices are the major factor in good health.

**Top 1% expert replies to student queries (can skip)**



This is a question of correlation and causation. Imagine two parallel arrows going up - on the right is health (good health), on the left is education (higher education). There is a bridge between these two arrows from left to right - higher education in general helps people make better lifestyle choices (the bridge) and this bridge is the *cause of* better health. This is what the question is saying. Something that can criticize the argument will break this causality. Option (D) does this perfectly, it says that if there can be shown to be a variable *which* is actually causal, and it is causing the correlation between our two arrows from before, then the bridge between the two arrows we drew is not the cause. In Option (E), let's say there are indeed some people who don't make good lifestyle choices still have good health. This does not, however, prove that in people who did actually make good lifestyle choices, the choices did not cause good health

**Top 1% expert replies to student queries (can skip)**

The conclusion says that good health is **largely a result** of making informed choices. Meaning there are other factors as well that ensure good health.

Option E says that some people who fail to make informed choices have good health? Okay? The conclusion has already admitted that other factors might



also lead to good health. So, these people might be healthy due to these other factors. This does not weaken the conclusion though

If I say Indians are largely corrupt.

Then '**some** Indians are not corrupt' won't weaken the argument (because the author says largely, the author believes some are not corrupt).

In option E, the word some should be eliminated in seconds.

### **Alternate sol from gmatclub**

The argument contains a causal conclusion that asserts that good health is primarily caused by informed lifestyle choices (education):

Premise: Some people believe that good health is due to luck.

Premise: However, studies from many countries indicate a strong correlation between good health and high educational levels.

Conclusion: Thus research supports the view that good health is largely the result of making informed lifestyle choices.

The author errs in assuming that the correlation mentioned in the second premise supports a causal conclusion.

Answer choice (A): A disproportionate number of people (about one in three) select this answer. Does the argument presume that to make an informed lifestyle choice a person must be highly educated? The author certainly believes that high educational levels lead to informed choices, but the answer suggests that the author thinks that the highly educated are the only people able to make an informed choice. The wording is too strong and this answer is incorrect.

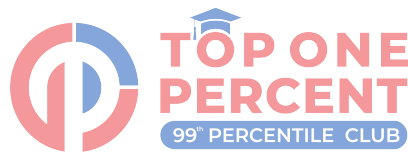
Answer choice (B): The author specifically notes that good health is largely the result of making informed lifestyle choices. There is no mention of poor health, nor need there be since the argument focuses on a correlation between good health and education. Thus, overlooking the possibility mentioned in this answer choice is not an error.

Answer choice (C): The author does not make the presumption that informed lifestyle choices are available to everyone, just that making good choices generally results in good health.

**Answer choice (D): This is the correct answer.** Remember, the error of causality is one with many facets, and one of those errors is assuming that no

third element caused both the stated cause and the stated effect. This answer choice indicates that a third element (such as money) could cause both the conditions described in the argument. Remember, if you know an error of causality occurred in the stimulus, look for the answer that uses the words cause or effect! This is the only answer to do so, and it is correct.

Answer choice (E): Unlike many causal conclusions, the conclusion in this argument is not ironclad. The author specifically says that the effect is largely the result of the cause, and that statement implicitly allows other causes to lead to the effect, even if one does not make an informed lifestyle choice



## 24. C is correct.

*Red color cars have highest likelihood of accident -> Lives could be saved by banning red cars.*

(1) Is it possible that having a higher likelihood of having an accident impacts whether the car is red?

This may seem implausible at first, but it actually makes a lot of sense. Perhaps those who are more inclined to drive in a manner that leads to accidents are more likely to buy red cars.

(2) Is it possible that the color red and the likelihood of being in an accident have no direct impact on one another?

Absolutely. Imagine that the most popular car in the world also happens to be the most dangerous, and it happens to only come in red. In that case, the color of the car could have no causal relation to the likelihood of an accident.

With that in mind, let's take a look at the answer choices:

(A) has no bearing on whether lives will be saved by banning red cars and therefore can be eliminated quickly. Whether insurance companies have this right is not what is at issue.

(B) has no bearing on whether lives will be saved by banning red cars and can be eliminated quickly.

(D) is tempting, in part because such information would be helpful for us in understanding the argument. However, a precise percentage is not required for this argument to hold, and thus this answer doesn't represent a reasoning flaw in this argument.

(E) sounds a lot like the second issue we predicted, and therefore is probably the most tempting incorrect answer. If we carefully inspect each word in (E), the term "every" jumps out at us. Certainly, the author is assuming a connection between accidents and loss of life, but is he assuming every accident results in loss of life? No.

That leaves us with answer (C): ignores the possibility that drivers who drive recklessly have a preference for red cars. (C) sounds exactly like an alternative mode of causation that we predicted. If we inspect each word in (C), nothing jumps out as questionable, and

(C) makes a lot of sense. In assuming one path of causation, the author is ignoring this other possibility. **Therefore, (C) is the correct answer.**

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"Percentage of red cars" and "number of cars" both are irrelevant to find flaw in this argument.

Try to understand the logic/reasoning; basically try to understand the entire argument:

In this stimulus the author presents two things that are correlated, and then draws a causal conclusion from them. This argument is a classic fallacy. Just because there is a higher percentage of red cars involved in accidents, this does not mean that the red cars cause the accidents. For the conclusion to follow, the argument must demonstrate that the red color actually causes accidents, but it only demonstrates a correlation between red and accidents. Read this stimulus and react to it with your own commonsense; can getting rid of red cars really prevent accidents? Attack the conclusion.

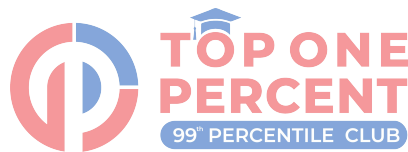
A) This answer choice is incorrect because the argument does not claim that insurance companies have or do not have the right to charge higher premiums. It simply mentions these rates as a premise to support its causal conclusion. This answer is not a part of the argument; therefore, it cannot be a flaw in the argument.

B) This answer choice is incorrect because it also deals with the higher premiums. If this fact were true, then it may justify the higher premiums for red cars. However, the argument has already justified these premiums in a different way, by stating that the red color of the car causes accidents. Therefore, this answer is unrelated to the argument.

C) This is the correct answer choice. Now, the causal connection between red color and accidents has been destroyed. If bad drivers prefer red, then they are the cause of the accidents, not the red color. Therefore, if the red cars were banned, these drivers would just have to buy other cars and lives would not be saved or accidents reduced.

D) This answer choice is incorrect because it tries to tempt you by naming something that is missing in the argument: an exact percentage. However, in this argument we do not need to know an exact percentage; it is irrelevant. As long as there is a "higher" percentage of red cars, the correlation between red cars and accidents exists. The flaw in the argument is mistaking this correlation for a cause and effect relationship.

E) This answer choice is incorrect, but it is tricky. The argument does make a big assumption in the conclusion, jumping from automobile accidents to lives being saved. However, the argument does not assume that every accident results in loss of life, as this answer choice states. Also, the flaw is not in this assumption, but in the cause and effect conclusion. If you attack the stimulus as you read it, you should see it



25. We can think of the argument core as follows:

No one orders the potato dish -> Our patrons prefer not to eat potatoes.

Did you see a flaw when you read the argument initially? The author concludes that the patrons must not prefer potatoes, and the evidence he presents is that no one orders the potato dish. Could there be another reason no one orders the potato dish? Could it be the way that it's prepared? Perhaps the chef thinks capers go well with potatoes, but patrons don't. Perhaps patrons don't like the cheese that is being used. Perhaps people prefer to eat potatoes at home, or only as an accompaniment with meat.

In using this evidence to validate the conclusion, the author has failed to consider other reasons why patrons don't order the potato dish—the author is thinking of one explanation as the only possible explanation. Answer choice (E), the correct answer, says just that: treating one of several plausible explanations of a phenomenon as the only possible explanation.

Let's discuss the incorrect answers quickly:

(A) This is a fault that is common to many arguments that appear in flaw questions, but this is not a fault of this particular argument. We are not considering two things that happen at the same time. When facing abstract flaw answers, stand your ground. Check that the answer corresponds with the argument. Did the argument really claim that? Did it conclude that? Often these abstract answers refer to claims and conclusions that are simply not in the argument.

(B) This is not representative of a common fault that appears in flaw arguments, and it's not representative of a flaw in this particular argument. Stand your ground! There is no inconsistency between the premise and the conclusion.

(C) This answer choice addresses a more specific flaw. However, it's not a flaw in this argument—there is no confusion of what people say they want and what they choose. The argument is about what people actually want and what they choose.

(D) We are not told that a number of people believe that the patrons don't like potatoes. Remember, the key to recognizing correct answers written in an abstract or generalized way is to read for the core and anticipate the reasoning flaw. When stuck between a couple of answer choices, do not simply compare them against one another—this will lead you nowhere! Instead, compare each one to the argument core. Figure out which one best applies to the situation in the argument, and to your understanding of the core.

26.

**(E) is correct.**

The conclusion that the surgery has "a powerful rehabilitative effect" contains a word that lets us know the author is asserting a causal relationship -"effect." Does surgery truly cause lower rates of recidivism? Let's go to our checklist.

**Could something else, however, have caused both surgery and a lower rate of recidivism?** Prisoners were "awarded" surgery for good behavior-could this good behavior (or some underlying factor that caused the good behavior) also be responsible for fewer crimes committed after release? Absolutely.

**This is a pretty big flaw**, and probably enough for us to go on when attacking the answers. Let's look at the choices. Many of them address the morality/controversy of the surgery. A large portion of the argument text deals with the moral implications of the surgery, but notice that the conclusion itself begins with the phrase "putting moral issues aside." This may help us do some rapid elimination.

(A) has no bearing on the argument. Morality is irrelevant to the primary conclusion of this argument.

(B) is tempting because it directly addresses the fact that the author sweeps morality aside. However, you must deal with the conclusion as given, and the conclusion as given excludes morality.

(C) has no bearing on the argument. The controversy is not relevant to the asserted causal link.

(D) has no bearing on the argument, and is factually inaccurate. The author never states that rehabilitation is not a moral issue.

This leaves us with (E), which may not seem at first to address the causation flaw we found. But take a closer look. How could the sample of prisoners be considered unrepresentative? The group that receives surgery is selected by good behavior, and is therefore not a clear control group to compare against the general population that does not receive the surgery. It is potentially difficult to separate the ultimate cause of the surgery (better behavior in prison) from the ultimate result (better behavior outside of prison). Therefore, (E) is our answer.

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Let's break down the argument cleanly:



**PREMISE:**

- 1) *Free plastic surgery is offered to well-behaved inmates*
- 2) *inmates that receive surgery have a much lower rate of committing new crimes than the rest of the inmates*

**CONCLUSION:** *The surgery has a rehabilitative effect*

Notice that I didn't include the "moral issues" anywhere in the breakdown of this argument? The author says two things about moral issues:

- 1) the program is obviously morally questionable, and
- 2) "putting these moral issues aside"

The first might sound like a premise at first. But when you realize that the conclusion is "surgery causes rehabilitation", it becomes clear that the questionable morality of the program isn't being used *as a support* for the conclusion. The questionable morality is a *fact*, but it is not a *premise*.

The second phrase is far more interesting - the author is explicitly telling us that he is *setting the morality issues aside*. In other words, the morality issues *have nothing to do with this argument*.

Okay, so enough of what the argument *isn't* about, let's return to what the argument *is* all about: the claim that the surgery caused the rehabilitation.

This argument assumes that there's no other possible explanation for this particular group of inmates having a lower than average rate for new crimes. That's bad enough, but there's a piece of information staring us in the face that highlights a potential alternative explanation: this group is handpicked for being well-behaved! This group might already be predisposed to have a lower new-crime rate - regardless of whether we do the surgery or not!

That leads us right into the arms of **(E)**: the sample (inmates getting surgery) is unlikely to be representative of the general prison population - they are the well-behaved inmates!

Notice that ALL the wrong answers deal with that morality issue - the one the author explicitly set aside!

**(A)** The author *didn't* allow moral issues to be considered. He explicitly set them aside!

**(B)** The author doesn't dismiss them as irrelevant, he simply sets them aside for this argument. Plus, for the conclusion that the author's making, moral considerations would *not* be relevant - so even if the author did this, it would not be a flaw.

**(C)** The author uses this label, but so what?

**(D)** The author never asserts that this isn't a moral issue. In fact, he clearly states that the morality is *obviously questionable*. He sets the moral issues "aside" - that's completely different from asserting that the issues don't exist.



Note - B says that the argument does not care about moral considerations and cares only about relevant facts/statistics. That is not the flaw in the argument, however.



27.

Crime Rate at Meadowbrook → 60% higher than 4 years ago  
Crime Rate at Parkdale → 10% higher than 4 years ago.

The argument concludes that people of Meadowbrook are more likely to become victims due to 60% increase. This obviously fails to take into account the initial rate of crime 4 years ago.

Let's say the rate was 5 crimes per 1000 citizens at Meadowbrook. A 60% increase will mean 8 crimes per day.

Let's say the rate was 10 crimes per 1000 citizens at Parkdale. A 10% increase will mean 11 crimes per day.

In this case, clearly the residents of Parkdale are more likely to become victims of crime.

- A. Since we are discussing the increase in crime rate, this is irrelevant.  
B. since the argument uses as evidence the number of violent crimes per 1,000 residents, not the total number of crimes, this is incorrect.  
C. The passage does talk about nonviolent crimes rates. We are discussing violent crimes only.  
D. CORRECT. Look at the example above. As long as the violent crime rate in both places was not the same 4 years ago, the conclusion is flawed.  
E. The prevention and money spent on it is out of scope.

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(E) - This is not relevant. We are concerned with violent crimes and not expenditures.



# Critical Reasoning

**“Evaluate the Argument” and “Assumption” Questions**

By Sandeep Gupta | GMAT 800/800, Harvard Final Admit



## “Evaluate the Argument” questions:

To “EVALUATE” means to check the soundness of conclusion and to find out which ‘relevant’ fact will make the conclusion more convincing or less convincing.

All Evaluate questions will have a FACT-CONCLUSION relationship. The given argument will be unsound, i.e., there will be inadequate facts to support the conclusion. In order to prove or disprove the argument, one will need more information. This is what the question asks...

*What extra information (the answer to which of the questions) will help you evaluate the conclusion better?*

### Steps:

- ID the conclusion.
- Take the choices to the extremes.
- **The Extremes Test:** One extreme should weaken and the other should strengthen the conclusion or vice versa.

### Example:

In order to increase its profits, MillCo plans to reduce costs by laying off any nonessential employees.



*The answer to which of the questions will help us evaluate whether MillCo’s plan will work or not?*

- A. Whether MillCo might reduce its costs more by eliminating some health insurance benefits for the remaining employees.
- B. Whether revenues will be affected adversely enough to threaten MillCo's profit structure.

Does that sound like a good plan? What is MillCo assuming in claiming that laying off nonessential employees will result in increased profits? Profits are a measure of revenues minus costs. So, for one thing, MillCo is assuming that revenues won't drop a lot as a result of these layoffs. If revenues dropped as much as or more than the expected cost savings, then MillCo's profits wouldn't increase.

*A. Whether MillCo might reduce its costs more by eliminating some health insurance benefits for the remaining employees.*

Evaluate the two paths:

**Yes,** MillCo can reduce costs more by eliminating some health benefits. How will this affect the given plan to lay off employees? Technically, this doesn't impact whether laying off certain employees will improve profits. It is true that reducing costs could help to increase profits, but the argument specifies that MillCo will reduce costs specifically by laying off nonessential employees. Whether the company could also reduce costs in some other way has no bearing on this specific argument.

**No,** MillCo cannot reduce costs more by eliminating some health benefits. This certainly doesn't strengthen the argument. It doesn't weaken the argument either, though, since the argument hinges on laying off employees. This path does nothing to the argument. This incorrect answer choice is trying to distract you by offering a different way to increase profits, but you aren't asked to find alternative ways to increase profits. You're asked to evaluate whether the existing argument involving this particular path to profits is valid. The answer doesn't provide a strengthen/weaken pair here, so the choice cannot be the right answer.

**B. Correct!** *Whether revenues will be affected adversely enough to threaten MillCo's profit structure.*

**Yes,** the plan will affect MillCo's revenues adversely enough to threaten profits. In this case, the plan to increase profits is less likely to work, so the argument is weakened.

**No,** the plan won't affect MillCo's revenues adversely enough to threaten profits. In this case, the plan to increase profits is a little more likely to work, so the argument is strengthened.

Example:

Computers tend to perform tasks more slowly after two years of use. One software designer believes that viruses, and not compatibility problems, are the primary cause of this phenomenon.

**Determining which of the following is likely to provide information that would help clarify what is causing computers to slow down after two years?**

- A. whether Apple computers are more likely to slow down than Dell computers
- B. whether infecting a computer with a virus will cause it to run more slowly
- C. whether the software designer owns a computer that is more than two years old
- D. whether viruses can be eliminated from a computer once it has been infected
- E. what percentage of computers suffer from compatibility problems?



## Explanation:

This question essentially asks us to choose a line of inquiry that would yield relevant information— information that would make it either more or less likely that viruses are responsible for the fact that computers slow down after two years of use.

**Choice B is correct.** Notice that only the inquiry described in answer choice **B** would provide information that either supports or undermines the conclusion. If infecting a computer with a virus *will* cause it to run more slowly, then it is *more likely* that viruses are responsible for slowing down older computers. If infecting a computer with a virus *will not* cause a computer to run more slowly, then it is *less likely* that viruses are responsible for slowing down older computers.

Answer choices A, C, D, and E each describe inquiries that would yield irrelevant information. For instance, suppose that the inquiry in answer choice A reveals that Apple computers are more likely to slow down than Dell computers. So what? That additional information would tell us nothing about whether viruses are responsible. Therefore, knowledge of the computer manufacturer's name is irrelevant to the argument.

## Top 1% expert replies to student queries (can skip)

Let's analyse the options as follows:

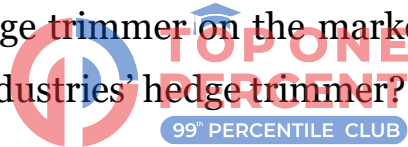
- A. Incorrect because (A) compares two types of computers (which could both be susceptible to viruses and compatibility problems) rather than identifying the distinction between viruses and compatibility problems.
- B. Correct because (B) identifies whether viruses slow down a computer. This information is necessary in order to determine whether they or software compatibility is the principal cause of slowing down computers.
- C. Incorrect because the software designer's personal experience is unlikely to shed light on which--viruses or compatibility problems--are more at fault for slowing computers down.
- D. Incorrect because (D) simply serves to determine whether a problem that could slow down a computer can be rectified. (D) does not preclude that the same could be true about compatibility problems.
- E. Incorrect because (E) provides no such information about the percentage of computers suffering from viruses or the age of those computers.

**Example:**

Advertisement: Most power hedge trimmers on the market do an adequate job of trimming hedges, but many power hedge trimmers are dangerous to operate and can cause serious injury when used by untrained operators. Bolter Industries' hedge trimmer has been tested by National Laboratories, the most trusted name in safety testing. So, you know, if you buy a Bolter's, you are buying a power hedge trimmer whose safety is assured.

**The answer to which one of the following questions would be most useful in evaluating the truth of the conclusion drawn in the advertisement?**

- A. Has National Laboratories performed safety tests on other machines made by Bolter Industries?
- B. How important to the average buyer of a power hedge trimmer is safety of operation?
- C. What were the results of National Laboratories' tests of Bolter Industries' hedge trimmer?
- D. Are there safer ways of trimming a hedge than using a power hedge trimmer?
- E. Does any other power hedge trimmer on the market do a better job of trimming hedges than does Bolter Industries' hedge trimmer?





**Explanation: Correct answer: (C)**

The advertisement reaches the conclusion that its product's safety is "assured." However, the only evidence offered on this point is that the product has been tested by a reputable laboratory. If the test results were positive, then the conclusion would seem fairly justified. However, if the test results were negative, then the ad would be grossly deceptive. The fact that the product has been tested is not enough; we need to know the results of the tests to determine the ad's truthfulness.

Using the Test, supply one response that says, "Bolter's hedge trimmer failed the safety test." If this is true, then the conclusion is unquestionably weakened. Now supply a response that says, "Bolter's hedge trimmer passed the safety test." If this is true, then the conclusion is strengthened. So, depending on the answer supplied to the question posed in answer choice (C), our view of the validity of the argument changes: sometimes we view the conclusion as stronger and other times as weaker. Therefore, according to the Test, this is the correct answer. In this instance, the Test reveals the flaw in the argument: the author simply assumed that being tested means safety is assured. Nowhere in the argument did the author mention that the hedge trimmer passed the tests, and the Test reveals this flaw.

(A) Since the ad only deals with the safety of the hedge trimmer, knowing whether other products have also been tested won't bring us any closer to judging the ad's validity. Answer choice (A) asks if National Laboratories has performed tests on other machines from Bolter Industries. To apply the Test, we should supply different and opposing answers to the question posed by the answer choice. First, try the answer "No." With this answer, would the fact that National Laboratories did not perform safety test on other Bolters machines affect the safety of the Bolter's hedge trimmer? No—this does not help us evaluate the safety of the hedge trimmer. What if the answer was "Yes"? Would the fact that National Laboratories performed safety tests on other Bolters machines affect the safety of the Bolter's hedge trimmer? Not at all. So, regardless of how we respond to the question posed in answer choice (A), our view of the conclusion is the same—we do not know whether the claim that the hedge trimmer is safe is good or bad. According to the Test, if the answer is correct, then supplying opposite answers should yield different views of the conclusion. Since our assessment of the conclusion did not change, the Test tells us that this answer is incorrect.

(B) How the consumers perceive the safety issue is one step away from the argument. Whether or not people regard safety as important, the hedge trimmer may still be safe or dangerous. The question in answer choice (B) is, “How important to the average buyer of a power hedge is safety of operation?” Again, apply the Test and supply opposite answers to the question in the answer choice. In this case, try “Very Important” and “Not Important.” If safety of operation is very important to a buyer of hedge trimmers, would that affect whether the Bolter’s hedge trimmer itself is safe? No. Let’s look at the opposite side: if safety of operation is not important at all to a buyer of hedge trimmers, would that affect whether the Bolter’s hedge trimmer itself is safe? No. Because our view of the validity of the conclusion does not change when we consider different responses to the question posed in answer choice (B), the Test tells us that answer choice (B) is incorrect.

(D) Who cares? The ad assures the safety of a hedge trimmer; alternative ways of trimming hedges are irrelevant. In answer choice (D), “Yes” and “No” responses do not change our view of the argument, and answer choice (D) is incorrect.

(E) Knowing the answer to this question won’t help us evaluate the ad, because the advertisement doesn’t claim that Bolter’s is the best for trimming hedges, only that its safety is guaranteed. In answer choice (E), “Yes” and “No” responses do not change our view of the argument, and answer choice (E) is incorrect.

**Example:**

The recording industry is fighting a losing battle: it simply does not have the resources to prosecute all of the individuals who illegally download music from the Internet. Because the number of individuals who will be charged with a crime is so limited, the actions of the recording industry will have a minimal impact on the number of people who illegally download music.

**The answer to which of the following questions would best help evaluate the accuracy of the conclusion above?**

- A. Will recording industry lawyers dedicate the majority of their time to prosecuting those who illegally download music?
- B. What percentage of people are responsible for the majority of song downloads?
- C. Do many individuals who illegally download songs share their music files with other Internet users?
- D. Will new Internet security technology permit the recording industry to more quickly and easily identify individuals who illegally download music?
- E. Will the threat of prosecution alter the behavior of those who illegally download music?



## Explanation:

The argument concludes that the prosecution of a small number of people who download music illegally will have a **minimal impact** on the overall number of people who engage in illegal downloading. The correct answer must relate specifically to this issue and provide additional insight as to whether it seems reasonable.

(A) One premise of the argument states that the recording industry does not have the resources to prosecute all individuals who download music illegally, while a second premise states the number of people who will be charged with a crime is limited. These statements indicate that the legal resources of the recording industry are too limited to have a major impact on the overall number of people who engage in illegal downloading, no matter how these lawyers dedicate their time. **Irrelevant**

(B) This answer doesn't address the issue of punishment / illegal downloads. The conclusion of the argument is about the **number of people** who download songs *illegally*! So, this choice is **irrelevant**.

(C) Whether songs are downloaded illegally and then shared with other Internet users is not relevant to the conclusion. **Irrelevant**

(D) Similar to answer choice A, this choice is limited by the premises of the argument. If new Internet security technology permits the recording industry to more quickly and easily identify individuals who illegally download music, then the recording industry will know who is breaking the law. However, the lack of industry resources still restricts the industry's ability to prosecute a large number of people, even if they are identified as individuals who illegally download music. **Irrelevant**

(E) **CORRECT.** The argument concludes that the prosecution of a small number of people who download music illegally will have a **minimal impact** on the overall number of people who engage in illegal downloading. However, if the threat of prosecution were enough to "alter the behavior" of others (i.e., deter them from illegally downloading music), the actions of the recording industry could have a significant impact on the number of people who illegally download music.

**Take it to two extremes:** *Will the threat of prosecution alter the behavior of those who illegally download music?*

**YES ... then the impact is not minimal ... the conclusion *weakened*.**

**NO ... then the impact is minimal ... the conclusion is *strengthened*.**

### **Top 1% expert replies to student queries (can skip)**

Let's break the argument:

Fact: The recording industry is fighting a losing battle: it simply does not have the resources to prosecute all of the individuals who illegally download music from the Internet.

Premise used to support the conclusion: Because the number of individuals who will be charged with a crime is so limited,

Conclusion: the actions of the recording industry will have a minimal impact on the number of people who illegally download music.

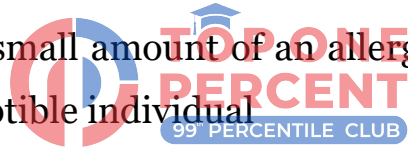
(E) Let's say "Yes. The threat of prosecution would alter the behavior of downloaders". Then the number of illegal downloads will come down. Then it is likely to cause an increase in revenue for the industry. Hence more impact. Let's say "No. The threat of prosecution would not alter the behavior of downloaders". Then the number of illegal downloads will not come down. Then it is not likely to cause an increase in revenue for the industry. Hence minimal impact as expected. choice talks about only direct downloaders. Say, now there are 100 direct downloaders but the recording industry is able to prosecute only 20 of them. If the industry charges crime against those 20 downloaders and that action impacts remaining 80 (80 will not illegally download henceforth), then definitely this action would have more than "minimal impact". Hence this answer choice is correct.

***Example:***

Food allergies account for more than 30,000 emergency room visits each year. Often, victims of these episodes are completely unaware of their allergies until they experience a major reaction. Studies show that 90% of food allergy reactions are caused by only eight distinct foods. For this reason, individuals should sample a minuscule portion of each of these foods to determine whether a particular food allergy is present.

**Which of the following must be studied in order to evaluate the recommendation made in the argument?**

- A. The percentage of allergy victims who were not aware of the allergy before a major episode
- B. The percentage of the population that is at risk for allergic reactions
- C. Whether some of the eight foods are common ingredients used in cooking
- D. Whether an allergy to one type of food makes someone more likely to be allergic to other types of food
- E. Whether ingesting a very small amount of an allergen is sufficient to provoke an allergic reaction in a susceptible individual



## Explanation:

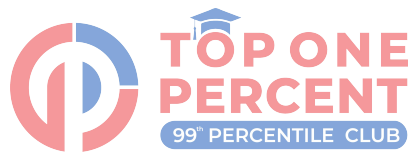
The author's saying that we should all try a tiny bit of these eight foods to see what happens. That assumes that we'll actually have a reaction from a tiny amount. It also assumes we won't die from just a tiny amount (if we are allergic).

This is an Evaluate question, so we need to find an answer that will help to determine whether or not the conclusion is likely to be valid. The correct answer will have “two paths”: one path will make the conclusion a little more likely to be valid and the other will make the conclusion a little less likely to be valid. In this case, the author recommends that we all try tiny bits of these eight foods to see whether we're allergic. The author's assuming that we can tell whether we're allergic from trying just a tiny bit. The author is also assuming that these micro-tests won't endanger us either!

- A. The argument said that victims “often” aren't aware of the allergy beforehand. If we knew that 90% weren't aware, that would go along with what the argument already says. If we knew that 50% weren't aware...hmm, that wouldn't change the argument. In general, knowing the exact percentage doesn't change anything. This answer makes an Irrelevant Distinction. Knowing the exact percentage doesn't actually tell you anything.
- B. If a really high percentage is at risk for allergies, then it's probably important to figure out whether people are allergic...but that doesn't mean that the specific recommendation in the conclusion here is a good one or bad one. Also, this answer choice doesn't specifically limit itself to food allergies; it mentions all allergies in general. This answer has No Tie to the Argument because it talks about all allergies in general, not just food allergies.
- C. If yes, then many people may have already tried small amounts of these foods. That doesn't actually tell me, though, whether the recommendation is a good one. If no, then it doesn't affect the conclusion at all—we still don't know whether it's a good recommendation. The argument does nothing on how commonly used the foods must be in order to warrant testing. Further, the argument does not limit itself to foods that must be cooked.
- D. If yes or if no, we'd still want to test people to see whether they're allergic to anything. This choice doesn't have “two paths” that lead to alternate outcomes. This answer makes an Irrelevant Distinction; the argument doesn't address

whether someone is allergic to multiple types of food.

- E. **Correct!** If yes, then the author's plan will work: people will be able to try small amounts and determine whether they're allergic. If no, then the author's plan is not a good one: trying small amounts won't actually help you tell whether you're allergic. Rephrase the answer choices as STATEMENTS. **Ingesting a very small amount of an allergen is sufficient to provoke an allergic reaction in a susceptible individual.** This STRENGTHENS the conclusion that the plan in blue will enable an individual to determine whether a food allergy is present.





Example:

Recently, the tuition at most elite private colleges has been rising faster than inflation. Even before these increases, many low- and middle-income families were unable to afford the full tuition costs for their children at these institutions of higher learning. With the new tuition increases, these colleges will soon cater solely to students with affluent family backgrounds.

**Which of the following would it be most useful to determine in order to evaluate the argument?**

- A. Whether students from affluent families are more likely to prefer public or private colleges
- B. Whether students from low- and middle-income families are qualified to attend elite private colleges
- C. Whether low-income families are less likely to be able to afford tuition costs than middle-income families
- D. Whether tuition costs at elite public colleges have also been rising faster than inflation
- E. Whether grants or scholarships are earmarked for students from economically disadvantaged families



## Explanation:

The correct answer will have “two paths”: one path will make the conclusion a little more likely to be valid, and the other will make the conclusion a little less likely to be valid. The conclusion is that only wealthy students are going to be able to go to these elite private colleges. What is the author assuming? Absolutely none of the lower middle-income students can afford these schools. Non-wealthy students aren't going to be taking out loans, or working their way through school, or finding some other way to cover the tuition costs.

- A. If affluent students prefer public colleges, that doesn't change the fact that the private colleges charge a lot of money and poorer students can't afford them. If affluent students prefer private colleges, that also doesn't change the same fact.
- B. If these students are not qualified to attend the elite private colleges, that doesn't change anything about the tuition issue. If these students are qualified, that also doesn't change the tuition issue (though it makes it seem unfair that the colleges charge so much money!).
- C. This answer makes a distinction between low- and middle-income families, but the argument doesn't distinguish between these two groups—it combines them. Logically, it would make sense that the less money a family has, the less likely it could afford the tuition...but this doesn't change anything about the basic argument that low- and middle-income families can't afford the tuition.
- D. If they have, then maybe that means lower-income students can't afford those schools either...but it might not mean anything, because perhaps the public schools have lower tuition fees in the first place. If rates have not been rising as fast at public colleges...that doesn't affect the argument's conclusion at all.
- E. **Correct!** If there are grants and scholarships for lower-income students, then perhaps they can afford to attend these colleges—this hurts the argument's conclusion. If there are not grants and scholarships for these students, then the argument's conclusion is more likely to be true: these students won't be able to afford these colleges. The “two paths” on this answer do lead to strengthening the conclusion on one hand and weakening it on the other.

***Example:***

Editorial: In order to preserve the health of its local economy, Metropolis should not permit a CostMartwarehouse department store to open within city limits. It has been demonstrated that when CostMart opens a warehouse department store within a city, the bankruptcy rate of local retailers increases in that city by 20% over the next several years.

**Which of the following questions would be most useful for evaluating the conclusion of the editorial?**

- A. Does the bankruptcy rate of local retailers in a city generally stabilize several years after a CostMartwarehouse department store opens?
- B. Do most residents of Metropolis currently do almost all of their shopping at stores within the citylimits of Metropolis?
- C. Have other cities that have permitted CostMart warehouse department stores within city limitsexperienced any economic benefits as a result?
- D. Is the bankruptcy rate for local retailers in Metropolis higher than in the average city that haspermitted a CostMart warehouse department store within city limits?
- E. Does CostMart plan to hire employees exclusively from within Metropolis for the proposedwarehouse department store?

## ***Explanation:***

Are there any good economic results when CostMart opens a store? Maybe there are some bad and good results...and maybe the good results could outweigh the bad. We need to find an answer that will have two possible paths—one way will strengthen the author's claim, and the other way will weaken it. Could there be some good economic results for the local economy from a new CostMart?

Here the argument goes: we don't want CostMart. Why? Bankruptcy goes up. Therefore, the local economy will suffer. Well, "higher bankruptcy rate" is not precisely the same thing as "local economy suffers". Maybe the local economy will be helped in other ways, ways that make up for the higher bankruptcy rate. That's why C is the best answer here.

For example, if CostMart is causing local retailers to go bankrupt, but providing more jobs and lower prices than those local retailers, that positive may outweigh the negative of the bankruptcy.

C perfectly answers the question. If there are economic benefits that result from CostMart opening, that may outweigh any negatives associated with CostMart's opening.

The first premise is about increased bankruptcies. The second premise is about preserving the health of the local economy. Notice that bankruptcies are only one component of economic health. The argument makes a jump from this one piece of evidence on bankruptcies to suggesting that CostMart is bad for the local economy. To evaluate this conclusion, we need to know if this jump is justified. We need to know the full effect of CostMart on the local economy.

- A. If yes, then the bad result wouldn't continue to happen over time...but it would still happen in the first place. If no, then the bad result would keep happening over time. Either way, there is a bad result for at least a few years, so both "paths" strengthen the author's conclusion. Knowing whether the bankruptcy rate stabilizes after several years does not help us evaluate the conclusion. This answer does not give us any additional information to indicate whether CostMart is good or bad for the economy.
- B. If some stores go out of business, then people will have to switch stores? Okay, but

that doesn't impact the city's overall economic situation—either there are local retailers or there's the CostMart store in the city (or both). The conclusion is based on evidence from the effect of CostMart on other communities. We don't know what percentage of residents in those communities do almost all of their shopping locally. Therefore, by using this answer choice, we cannot determine whether Metropolis will experience similar effects to their local business. This answer choice does not provide us with any useful information to evaluate the conclusion.

- c. **Correct!** If yes, then that would be a reason to let CostMart open a store (because economic benefits would help to “preserve the health of the local economy”); that weakens the author's argument. If no, then there would seem to be no benefits to a CostMart store, and this strengthens the author's claim. This answer is correct because it addresses the gap in the argument between bankruptcies and economic health. The answer to this question will help us determine the effect of CostMart on a net basis. We know that bankruptcies typically result from a CostMart opening. We need to know if there are any positive effects of CostMart on the local economy. This answer gives us the information we need to determine the overall effect of CostMart on the local economy. This helps us evaluate the conclusion that CostMart should not be permitted to open in Metropolis.
- d. If yes, then...would that make local stores even more likely to go out of business if CostMart shows up? We don't know why they're going out of business now. This doesn't seem to affect the conclusion one way or the other. Knowing the current bankruptcy rate in Metropolis relative to other cities does not provide any useful information in evaluating the conclusion. Regardless of the current bankruptcy rate, the overall effect of CostMart on the local economy may be positive or negative. This answer does not help us determine the overall effect of CostMart on the local economy.
- e. This one could be good, too. If yes, then that would be an economic benefit—jobs are good! If no, then...hmm...it's not bad necessarily but it's not good either, so we'll have to be sure. If some stores are going out of business, then people will lose jobs. In order for this to be a benefit, the new jobs added would have to be more than the jobs that are lost. Who knows whether that will happen? So, there's no definite benefit given in this option, but there is in (C). Even if CostMart hires all their employees locally that does not necessarily mean a positive effect on employment.

For example, let's say that through bankruptcies CostMart causes 1,000 people to lose their jobs. CostMart may only need 100 people to run the store. Even if CostMart hires all 100 locally, there is still an overall negative effect on employment. This answer choice does not provide any information on the overall effect on the local economy.

### **Top 1% expert replies to student queries (can skip)**

In evaluate type of questions, it usually boils down to one thing - you are looking at the extreme ends of each option (yes / no or any other extremes) and see if it has an impact on the conclusion.

What has the editorial concluded here? Because CM causes the BR of city retailers to increase by 20%, CM should not be allowed to open within the city.

Look at Option (D) - An extreme is yes, the BR of retailers of this city is higher than that of other cities; another extreme is that the BR of retailers of this city is not higher than that of other cities. But understand that for the intents and purposes with which the editorial has reached their conclusion (that CM should not be allowed to open within city limits), 20% BR of city retailers is enough. It does not matter what the BR of retailers in other cities is, vis-a-vis the BR of retailers in this city, 20% is too much anyway for the editorial to tolerate.

Now look at Option (C) - one extreme is yes there are benefits; the other extreme is no there aren't. If there aren't any benefits, then we are more likely to agree with the conclusion of the editorial. If, on the other hand, there *are* benefits, then we may not agree with the conclusion. What if the benefits are so high, that they utterly and completely counter the problems associated with a 20% BR of city retailers? Then yes, this is something we need to evaluate to see what effect it has on the conclusion that has been drawn.

### **Alternate sol from gmatclub**

(C) - As per the argument, It has been demonstrated that when Costmart opens a warehouse department store within a city, the bankruptcy rate of local retailers

increases in that city by twenty percent over the next several years

This has been established as the norm. When Costmart opens in a city, bankruptcy among local retailers increases. The argument doesn't make us believe that

In (E), Metropolis is special in any way such that the norm may not be applicable to it. Hence, it can be expected that it will be applicable to Metropolis too.

Also, it is a relevant question whether there are any economic benefits. If it is answered positively, then the benefit vs loss comparison can be done.

(E) is relevant but not correct. It is one aspect of economic benefit that Costmart could bring to the region in the form of increased employment. But a better, more wholesome question would certainly be whether there are economic benefits to allowing Costmart. Also the use of the word "exclusively" makes option (E) incorrect. Does it matter whether Costmart employs "exclusively" from the city? No. Say they get their manager from outside but employ others from the city. That could still be great for the city.



(B) - Question: Do most residents of Metropolis currently do almost all of their shopping at stores within the city limits of Metropolis? Yes, most people do all their shopping within the city limits.

Ok, when Costmart opens, local stores will see higher bankruptcy. No, most people do not do all their shopping within city limits.

It's ok. Even if many people or some people shop within city limits, it is supporting the local economy. Even if most people do a bit of shopping here, it is supporting local economy. When Costmart opens, local stores will be hit. Even if people from other cities come to shop here, someone is supporting the local stores. They will be hit when Costmart opens here.

The point is, it doesn't matter who is shopping, the local stores will get affected

**Example:**

Manager: The new manufacturing process should save us time overall, even though the first step of the five-step process will take twice as long as it does under the old process. Under the new process, far fewer of the components will be found defective, and the sole purpose of steps two and three under the old process is to weed out defective components. As a result, we should be able to eliminate two of the five steps in the existing manufacturing process.

**Which of the following would be most useful in evaluating the claim made in the argument?**

- A. Whether factory workers will require training in order to use the new manufacturing process
- B. Whether the new process is likely to introduce deficiencies or imperfections that must be corrected
- C. Whether defective components can be fixed or must be thrown out
- D. Whether a third manufacturing process would save even more time than both the old and new manufacturing processes
- E. Whether saving time with the new manufacturing process will ultimately lead to cost savings for the company





### ***Explanation:***

The correct answer will have “two paths”: one path will make the conclusion a little more likely to be valid, and the other will make the conclusion a little less likely to be valid. The manager is claiming that the new process will be faster than the old process. Although the first step will take twice as long under the new process, the manager claims they “should” be able to drop the second and third steps. If dropping the second and third steps saves even more time than is lost during the first step, then the manager might be right...but the manager is assuming that these other steps will save a lot more time.

- A. If they do...that may or may not affect how much time the process takes. If they don't, we still don't know anything more about how much time the new process is going to take versus the old process.
- B. **Correct!** If the new process also introduces problems that then need to be fixed, then perhaps they can't drop steps two and three, or perhaps they have to introduce other new steps to fix the deficiencies...either of which would add time to the new process, making it less likely that the new process will save time. If the new process does not introduce new imperfections that need to be fixed, then that increases the likelihood that the new process will save time. Under the new process, far fewer of the components will be found defective, the sole purpose of steps two and three under the old process is to weed out defective components. ‘Fewer defects’ doesn't mean no defects. and these effects should be handled somewhere in the process. If the new process introduces deficiencies that need to be corrected, then there is no point adopting the same. It might will take more time doing the corrections. If the Answer of this question is Yes, then the conclusion is weakened (we may be not be able to eliminate both the steps) and if it is no, the conclusion is strengthened that we can eliminate two of the five steps absolutely.
- C. If defective components can be fixed, that would add time to the process. If defective components must be thrown out, that would also add manufacturing time, because they would have to make even more. This doesn't give me two different paths, one of which helps the conclusion and one of which hurts the conclusion.
- D. The conclusion focuses on whether the new process is faster than the old process. Introducing a third, different process tells us nothing about the first two processes

or how long they are.

- E. The argument does not address anything about cost savings—the focus of the argument's conclusion is solely about saving time. Whether the company ultimately saves money does not tell us whether they'll save time.

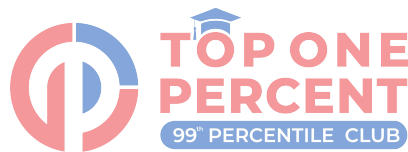
### **Top 1% expert replies to student queries (can skip)**

In evaluate questions, when taking the options to 2 different extreme ends, one should be able to weaken the conclusion and other should be able to strengthen the conclusion.

The Conclusion of the Argument is As a result, we should be able to eliminate two of the five steps in the existing manufacturing process.

Option B states that Whether the new process is likely to introduce deficiencies or imperfections that must be corrected? Basically, whether the new process will have errors?

If the Answer of this question is **YES, then the conclusion is weakened** (we may be not be able to eliminate the two steps, as the new process will still create detective components) and if it is **No, the conclusion is strengthened** that is we can eliminate two of the five steps absolutely.



***Example:***

Ethanol, a fuel derived from corn, can be used alone to power cars or along with gasoline to reduce the amount of gas consumed. Unlike gasoline, ethanol is easily renewable since it is primarily converted from the sun's energy. Moreover, compared with conventional gasoline, pure ethanol is a cleaner- burning fuel. To save energy and reduce pollution, many individuals advocate the increased usage of ethanol as a primary fuel source in conjunction with or in place of gasoline.

**In evaluating the recommendation to increase the use of ethanol, it would be important to research all of the following EXCEPT:**

- A. Whether the energy required to grow and process corn used as fuel is greater than the amount of energy ultimately produced
- B. Whether more energy is saved when using ethanol in conjunction with or in place of gasoline
- C. Whether ethanol is as efficient a fuel as gasoline
- D. Whether it is possible to produce more ethanol than is currently produced
- E. Whether the process of growing corn for fuel would result in as much pollution as does the production of conventional gasoline

## Explanation:

Ethanol as a fuel has various good qualities, so many people say we should use it and we'll save energy and reduce pollution. On regular Evaluate questions, we try to find an answer that will tell me whether the conclusion is more or less valid. The answer can take me down two "paths," one of which will make the conclusion better and the other of which will make it worse. On this EXCEPT question, all four wrong answers will work this way. We're looking for the "odd one out" that does NOT take us down two paths.

- A. The conclusion specifically claims that we'll save energy. If the amount of energy to produce ethanol is MORE than the amount of energy produced, then we aren't saving energy. If the amount of energy to produce ethanol is LESS than the amount of energy produced, then we are saving energy. This answer gives me "two paths" so it's wrong (since we want the EXCEPT answer). The idea is to save energy. So, we need to evaluate the energy IN and energy out. Directly IMAPCTS THE GOAL: SAVING ENERGY. First of all, if an energy source costs more energy than it produces, then it cannot be a viable way to "save energy" by the very definition of the phrase. Answer A is relevant as a big part of the story even if we knew nothing about gasoline, but we know quite a lot about gasoline if we dig a bit.
- B. **Correct!** This answer choice uses many of the same words as the conclusion. But that's a trap! The conclusion makes no distinction between these two methods of using ethanol; it just recommends in general that we do use ethanol. If more energy is saved using ethanol in conjunction with gasoline, then the conclusion holds. If more energy is saved using ethanol in place of gasoline, then the conclusion holds. Either way, it's the same thing! There aren't "two paths" here. We'll keep this one. One extreme: more energy is saved when using ethanol in conjunction with gasoline. Conclusion holds and strengthens. Opposite extreme: more energy is saved when using ethanol in place of gasoline. Still, strengthens. So, B clearly fails the test. The question asks if Ethanol will save MORE energy when used IN CONJUNCTION WITH Gasoline or will MORE energy be used when used IN PLACE of Gasoline. This comparison is irrelevant. As author already states that whichever (with or without Gasoline) is already an option. So, knowing which will save more is irrelevant. AS LONG AS ENERGY IS SAVED EITHER WAY. **We**

**should do either X or Y.** where X is ethanol + gasoline (in conjunction with) and Y is ethanol alone (in place of). We can't tell whether that recommendation is good by checking whether X is better than Y or Y is better than X. "Ethanol, a fuel derived from corn, can be used alone to power cars or along with gasoline to reduce the amount of gas consumed." ... The initial statement tells us that ethanol by itself or an ethanol / gasoline mixture will each reduce the amount of gas consumed. The conclusion makes no distinction between these two things. As long as each one saves energy, it's a win for ethanol. Maybe ethanol isn't a great fuel on its own. Maybe it needs some gasoline to maximize its energy potential. A better analogy might be a diet.

If vegetables are also healthy for you, then eating a mixture of meat and vegetables can't be healthy for you? A mixture might optimize the benefits of each part. Whether I eat only vegetables or vegetables along with other foods, it's still better than me not eating vegetables. Ethanol can save energy whether it's better in a mixture or by itself. The language of (B) doesn't ask "whether using ethanol will save energy" it asks "which saves more energy than the other: ethanol with gasoline, or ethanol alone?" In other words, (B) accepts as true that using ethanol in some form will save energy. It merely asks which form of use will be better than the other: ethanol in conjunction with or in place of gasoline. In either case, the recommendation in the conclusion would stand--it would save energy to use ethanol in some form. Trickily, the argument cites two strategies: to use ethanol 'in conjunction with' gasoline or 'in place of gasoline'. Someone has proposed two strategies to save energy. Deciding which one of those strategies is the better of the two is not relevant at this stage.

- c. If ethanol is as efficient as or more efficient than gasoline, then we could use less ethanol to get the same amount of power. That would save energy, making the conclusion a bit stronger. If ethanol is less efficient than gas, then we would have to use more ethanol to get the same amount of power. That might mean it takes more energy for the car to go the same distance, making the conclusion weaker. We have "two paths" here. It is mentioned that Ethanol is a cleaner fuel. Let's assume, Ethanol produces 50 % less pollution than gasoline. But if it is only 10 % as efficient as gasoline, so the amount of ethanol burnt will be 10 times more than gasoline and it will produce more pollution in total. In order to evaluate the argument, we need

to know the efficiency. Remember, our goal is to save energy and reduce pollution. Consider the fuel efficiency of cars. If one gallon of gas can make your car go 50 miles, and one gallon of ethanol only propels your car one mile, I'd have to use 50 gallons of ethanol to get the same performance. That certainly won't save energy! Also, even if ethanol is cleaner burning than gas, we probably will have more pollution from burning 50 gallons of ethanol compared to one gallon of gas.

- D. The conclusion says we should "increase" the usage of ethanol. But is more ethanol available to use? If we can produce more ethanol, then that makes the argument a bit stronger. If we cannot produce any more ethanol, then how can we increase the usage? That would make the argument weaker. Since, the argument advocates the increased usage of ethanol, we need to see if the production can be increased to meet the demands. Conclusion states that Ethanol be used AS A PRIMARY SOURCE. To be a primary source, Ethanol has to bear a huge demand. But what if there is not enough supply? What happens when we use up our supply of ethanol? What will those other industries use in place of ethanol? If we want to replace a major resource with renewable ethanol as a "primary fuel source", it's very relevant that we have enough ethanol to be able to make this switch. Thinking that we produce enough of this ethanol and that it's just sitting around somewhere is just too big of a leap in logic.
- E. The conclusion claims that using ethanol will reduce pollution, but the argument tells us only that ethanol burns more cleanly than gas. If the process of making ethanol results in less pollution, this would be another point in favor of the conclusion. If the process of making ethanol results in more pollution than does the production of gasoline, however, then this would weaken the conclusion. The idea is to reduce pollution. So, we need to evaluate the pollution produced by both the fuels. Goal: REDUCE POLLUTION. Directly IMAPCTS ... If our goal is to "save energy and reduce pollution" (note the "and"), then something that does not reduce pollution certainly cannot achieve this goal, whether or not it produces more energy. Now, you noted the "cleaner-burning" fuel bit, and that's true and inarguable, but if ethanol, while cleaner to burn, is dirtier to produce, then at the very least we have new, real doubts about whether ethanol can, in net, "reduce pollution." To weaken, it's enough to create genuine doubt where doubt did not exist before.

### Alternate sol from gmatclub

The main idea is to **save energy and reduce pollution**. And we need to evaluate if the increased usage of ethanol as a primary fuel source in conjunction with or in place of gasoline.

(A) *Whether the energy required to grow and process the corn used as fuel is greater than the amount of energy ultimately produced.*

**Incorrect. The idea is to save energy. So, We need to evaluate the energy IN and energy out.**

(B) Whether more energy is saved when using ethanol in conjunction with or in place of gasoline.

**Correct. This statement is the repetition of the argument itself.**

(C) Whether ethanol is as efficient a fuel as gasoline

**Incorrect. It is mentioned that Ethanol is a cleaner fuel.**

**Lets Assume , Ethanol produce 50 % less pollution than gasoline.**

**But if it is only 10 % as efficient as gasoline, so the amount of ethanol burnt will be 10 times more than gasoline and it will produce more pollution in total.**

**In order to evaluate the argument , we need to know the efficiency**

(D) Whether it is possible to produce more ethanol than is currently produced

**Incorrect. Since, Argument advocates the increased usage of ethanol. We need to see if the production can be increased to meet the demands.**

(E) Whether the process of growing corn for fuel would result in as much pollution as does the production of conventional gasoline

**Incorrect. The idea is to reduce pollution. So, We need to evaluate the pollution produced by both the fuels.**

### Top 1% expert replies to student queries (can skip)

The gist of the argument is that ethanol helps save more energy when it's used as a fuel alone or along with gasoline.

We have to find an option which DOES NOT help us evaluate the claim above.

Option B is a restatement of the argument. It provides no new perspective to evaluate the argument, unlike the other options.

The language of (B) doesn't ask "whether using ethanol will save energy" it asks "which saves more energy than the other: ethanol with gasoline, or ethanol alone?" In other words, (B) accepts as true that using ethanol in some form will save energy. It merely asks which form of use will be better than the other: ethanol in conjunction with or in place of gasoline. In either case, the recommendation in the conclusion would stand--it would save energy to use ethanol in some form

Hence, B is correct.

### Alternate sol from manhattanprep



(C) - Let's look at the relevant parts of the argument again, and let's remember that we're trying to cross off everything that IS relevant to consider.

Conclusion: "To save energy and reduce pollution, use ethanol as a primary fuel source in conjunction with or in place of gasoline." In other words, only use ethanol for fuel or use it with a little gas.

WHY?

Premise: Unlike gas, ethanol is easily renewable and pure ethanol is a cleaner-burning fuel than is gas.

So all of these answer choices except one is getting at an assumption we need to make to get from the premise to the conclusion.

Let's look at C): (C) Whether ethanol is as efficient a fuel as gasoline

That seems relevant! Remember, our goal is to save energy and reduce pollution. Consider the fuel efficiency of cars. If one gallon of gas can make your car go 50 miles, and one gallon of ethanol only propels your car one mile, I'd have to use 50 gallons of ethanol to get the same performance. That certainly won't save energy! Also, even if ethanol is cleaner burning than gas, we probably will have more pollution from burning 50 gallons of ethanol compared to one gallon of gas.

Note - "little gas" comes from the bolded part here:  
"use ethanol as a primary fuel source in conjunction with or in place of gasoline"

"primary fuel source in conjunction with . . . gasoline" means that ethanol will be the majority of the fuel and that you will have a minority of gasoline, hence "little gas".



**Example:**

Plantings of cotton bioengineered to produce its own insecticide against bollworms, a major cause of crop failure, sustained little bollworm damage until this year. This year the plantings are being seriously damaged by bollworms. Bollworms, however, are not necessarily developing resistance to the cotton's insecticide. Bollworms breed on corn, and last year more corn than usual was planted throughout cotton-growing regions. So, it is likely that the cotton is simply being overwhelmed by corn-bred bollworms.

**In evaluating the argument, which of the following would it be most useful to establish?**

- A. Whether corn could be bioengineered to produce the insecticide
- B. Whether plantings of cotton that does not produce the insecticide are suffering unusually extensive damage from bollworms this year
- C. Whether other crops that have been bioengineered to produce their own insecticide successfully resist the pests against which the insecticide was to protect them
- D. Whether plantings of bioengineered cotton are frequently damaged by insect pests other than bollworms
- E. Whether there are insecticides that can be used against bollworms that have developed resistance to the insecticide produced by the bioengineered cotton



## Situation

Although plantings of cotton bioengineered to produce an insecticide to combat bollworms were little damaged by the pests in previous years, they are being severely damaged this year. Since the bollworms breed on corn, and there has been more corn planted this year in cotton-growing areas, the cotton is probably being overwhelmed by the corn-bred bollworms.

## Reasoning

*In evaluating the argument, which question would it be most useful to have answered?* The argument states that the bioengineered cotton crop failures this year (1) have likely been due to the increased corn plantings and (2) not due to the pests having developed a resistance to the insecticide. This also implies (3) that the failures are not due to some third factor.

It would be useful to know how the bioengineered cotton is faring in comparison to the rest of this year's cotton crop. If the bioengineered cotton is faring better against the bollworms, that fact would support the argument because it would suggest that the insecticide is still combating bollworms. If, on the other hand, the bioengineered cotton is being more severely ravaged by bollworms than is other cotton, that suggests that there is some third cause that is primarily at fault.

The passage says that this year's cotton plantings are being seriously damaged by bollworms. The conclusion of the passage is that "it is likely that the cotton is simply being overwhelmed by corn-bred bollworms." Let's review the author's argument:

- Bollworms are a major cause of cotton crop failure.
- To combat this problem, cotton bioengineered to produce its own insecticide against bollworms has been used. Until this year, plantings of the bioengineered cotton sustained little bollworm damage.
- This year, all of the sudden, the bioengineered plantings are being seriously damaged by bollworms. Why is that? What has changed?
- A possible explanation is that the bollworms have developed a resistance to the cotton's insecticide.

The author believes that there is another possible explanation:

Last year more corn than usual was planted throughout cotton-growing regions.

- Bollworms breed on corn.
- It is possible that the bollworms have NOT developed resistance to the cotton's insecticide. Rather, the bollworms may simply be breeding on the corn and then infesting the nearby cotton plants.

The author thus concludes that "it is *likely* that the cotton is simply being overwhelmed by corn-bred bollworms." We have two possible explanations... is the second one *likely*?

- (A) This offers a possible *solution* to the problem described in the second explanation, but we need something that helps us determine whether the second explanation is even accurate. In other words, choice (A) provides a possible *treatment* without helping us determine whether the *diagnosis* is accurate. Thus, choice (A) does not help us evaluate the author's argument and can be eliminated.
- (B) **Correct.** The passage states that "last year more corn than usual was planted throughout cotton-growing regions." Notice that this does NOT specifically say that more corn was planted only among the bioengineered cotton. Thus, if the author's conclusion is accurate, we would expect an increase in bollworm damage *throughout* those cotton-growing regions, not just to the bioengineered plantings. In other words, if the bollworms are coming from corn, and there is now more corn throughout cotton-growing regions, there should be increased damage to ALL cotton in those regions. If that were not the case, we would have reason to question the author's conclusion. Choice (B) would be useful in evaluating the argument, so hang on to this one.
- (C) We don't care about other crops. We KNOW that the bioengineered cotton plants successfully resisted the bollworms for years, and we need to figure out why they are suddenly being damaged by the bollworms. Choice (C) does not help us evaluate the explanations described in the passage, so eliminate this one.
- (D) We are specifically told that this year's plantings are being seriously damaged *by bollworms*, and we need to evaluate the explanations posed by the author. Information about other pests is irrelevant, so eliminate (D).
- (E) We are not looking for ways to SOLVE the new problem. Rather, we need to evaluate WHY the problem has developed. Choice (E) does not help us evaluate the explanations described in the passage and can be eliminated.

### Top 1% expert replies to student queries (can skip)

When solving an evaluate question, a simple test is to take yes and no answers to the question, take them as facts and check whether they strengthen or weaken the argument respectively.

Also, to do this we need to correctly identify the claim that we want to evaluate; the claim here is that Because there are a huge number of bollworms this year, it is not necessarily the case that insects have developed resistance.

Option B says -

Whether planting of cotton that does not produce insecticide is affected unusually extensively.

If the answer is yes, this strengthens our claim that the insects have not developed resistance but are simply being overwhelmed by the amount of insects.

This fact basically substantiates that there are an overwhelmingly high number of bollworms this season.

If the answer is no, this weakens our claim because if there had been an overwhelmingly large number of bollworms, they would have affected all the cotton crops, not just the ones with bioengineered seeds.

### **Top 1% expert replies to student queries (can skip)**

Let's breakdown the question:

**Conclusion : . So it is likely that the cotton is simply being overwhelmed by corn-bred bollworms.**

**Premise : This year the plantings are being seriously damaged by bollworms**

In evaluating the argument, which of the following would be most useful to establish?

A. Whether corn could be bioengineered to produce the insecticide

**This option doesn't add any value as we are discussing cotton plantings**

B. Whether plantings of cotton that does not produce the insecticide are suffering unusually extensive damage from bollworms this year

**The conclusion states that cotton plantings are overwhelmed by the bollworms.**

**cotton plantings is summation of:**

- 1) Cotton Plantings bio-engineered to produce insecticides**
- 2) Cotton plantings without the feature to produce insecticides.**

**As cotton plantings which can produce insecticides are not affected as "Bollworms are not necessarily developing resistance to the cotton's insecticide",**

**So the other plantings should be affected so that total plantings of cotton are affected.**

**Hence option B makes proper sense.**

Note - We're given that biologists/scientists engineered/produced plantings of cotton that can produce insecticides against "bollworms". We're also given that until this year, these plantings suffered little or minimal damage from bollworms.

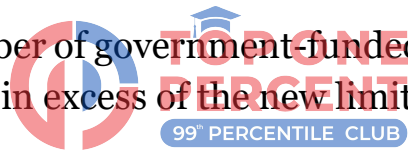
So "sustained little damage" here means "sustained minimal damage" or "suffered very little damage".

**Example:**

Vargonia has just introduced a legal requirement that student-teacher ratios in government-funded schools not exceed a certain limit. All Vargonian children are entitled to education, free of charge, in these schools. When a recession occurs and average incomes fall, the number of children enrolled in government-funded schools tends to increase. Therefore, though most employment opportunities contract in economic recessions, getting a teaching job in Vargonia's government-funded schools will not be made more difficult by a recession.

**Which of the following would be most important to determine in order to evaluate the argument?**

- A. Whether in Vargonia there are any schools not funded by the government that offer children an education free of charge
- B. Whether the number of qualified applicants for teaching positions in government-funded schools increases significantly during economic recessions
- C. What the current student-teacher ratio in Vargonia's government-funded schools is
- D. What proportion of Vargonia's workers currently hold jobs as teachers in government-funded schools
- E. Whether in the past a number of government-funded schools in Vargonia have had student-teacher ratios well in excess of the new limit



## Solution:

During a recession, the number of children in government-funded schools in Vargonia tends to increase. Vargonian children are entitled to a free education in these schools. A new law requires student-teacher ratios in these schools to remain below a certain limit.

**Conclusion:** in a recession getting a teaching job at Vargonia's government-funded schools will not become difficult.

## Reasoning

*Which of the five questions would provide us with the best information for evaluating the argument?* The argument's conclusion is that recessions do not make teaching jobs in Vargonia's government-funded schools harder to get. During recessions, the reasoning goes, more students will enroll in Vargonia's government-funded schools than in non-recession times. Implicit in the argument is the thought that, because the new law sets an upper limit on the average number of students per teacher, schools that get an influx of new students would have to hire more teachers. During a recession, however, there might be much more competition in the labor market for teachers because many more qualified people are applying for teaching jobs.

- A. This information is not significant in the context of the argument, which does not need to assume that only government-funded schools provide free education. Schools that are not government-funded are irrelevant to the argument.
- B. **Correct.** Getting an answer to this question would provide us with specific information useful in evaluating the argument. A "yes" answer to this question would suggest that competition for teaching jobs in Vargonian government-funded schools would be keener during recessions. A "no" answer would suggest that the level of competition would decrease during recessions. Here we have a reason that undermines the conclusion. If everybody is applying for a job at Vargonia's schools during a recession, getting a job there will not be easy. The assumption in the argument is that the increased demand for teachers will not be met with an increased supply of teachers. (B) exposes this assumption. Thus, in evaluating the argument, we need to know whether government-funded schools are inundated with a supply of teachers.
- C. Discovering the current student-teacher ratio in Vargonia's schools would be of no value, by itself, in evaluating the argument. We do not know what the new upper limit on the student-teacher ratio is, and we do not know whether Vargonia is currently in a recession. This knowledge does not address the conclusion.
- D. Finding out whether the proportion this refers to is 1 percent, for example, or 4 percent, would tell us nothing about whether getting teaching jobs at government-funded schools in Vargonia becomes more difficult during a recession. Among other things, we do not know whether Vargonia is currently



in a recession, and we do not know what proportion of Vargonia's workers would be qualified candidates for teaching jobs. Knowledge of the number of workers in Vargonia who currently work at government schools will not help us determine the validity of the conclusion. We need an answer choice that addresses the questions: Will it be easy to get a job at government-related schools in a recession.

- E. This is of no relevance in evaluating the argument because, presumably, the new limit on student-teacher ratios will be complied with. Thus, even if student-teacher ratios in the past would have exceeded the new limit, the argument concerns whether, in the future, getting a teaching job in Vargonia's government-funded schools will be made more difficult by a recession. This answer choice does not help us address the conclusion.

### **Top 1% expert replies to student queries (can skip)**

As recession happens, incomes go down. Government schools are free, so the number of children enrolled increases in recession. So, in a recession, getting a job as a teacher in these schools will not be more difficult.

What is a student teacher ratio?  $\text{Number of students} / \text{Number of teachers}$  (how many students on average is one teacher teaching). What will knowing the current student-teacher ratio help us do? Whatever it is, its value must not *exceed* a threshold (we don't know what that threshold is). In a recession, the numerator (number of students) will increase  $\rightarrow$  the denominator (number of teachers) will have to increase irrespective of what the original ratio was, so as to ensure that threshold is not breached. Then irrespective of the original ratio, getting a job as a teacher will not be more difficult than without the recession. This doesn't help us evaluate the difficulty.

Keeping the fact that a recession has occurred constant, in Option (B), if more qualified people apply, getting a job becomes more difficult; if fewer qualified people apply, getting a job becomes less difficult. This is what we need - we need something to evaluate the difficulty.

Knowing the student-teacher ratio doesn't help us in any way towards that - to reiterate, whatever is the ratio, in a recession the numerator increases and so ideally the denominator needs to increase; getting a teacher job becomes easier

## Questions for Class Discussion

1. Profits for one of Company X's flagship products have been declining slowly for several years. The CFO investigated and determined that inflation has raised the cost of producing the product but consumers who were surveyed reported that they weren't willing to pay more than the current price. As a result, the CFO recommended that the company stop producing this product because the CEO only wants products whose profit margins are increasing.

**The answer to which of the following questions would be most useful in evaluating whether the CFO's decision to divest the company of its flagship product is warranted?**

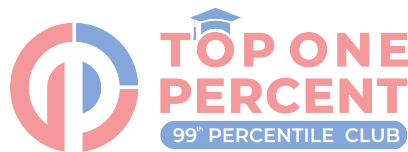
- A. Does the company have new and profitable products available with which to replace the flagship product?
- B. What percentage of Company X's revenues is represented by sales of the flagship product in question?
- C. Are there additional features which could be added to the product and for which consumers might be willing to pay a higher price?
- D. Will the rest of Company X's management team agree with the CFO's recommendation?
- E. Is there a way to reduce the cost to produce the flagship product?



2. Columnist: George Orwell's book *1984* seems to have exercised a lot of influence on many intellectuals. Ten thousand readers of the most intellectually stimulating national daily were surveyed and asked to name that specific one book that had had the most influence on their lives. The maximum number of respondents chose the Bible; *1984* was chosen by the second highest number of respondents.

**The answer to which one of the following questions would most help in evaluating the argument above?**

- A. How many of those surveyed had actually read the books they chose?
- B. How many books had each person surveyed read?
- C. Did people speak the truth while answering the survey question?
- D. Overall, how many book titles were nominated by these 10000 people?
- E. How many people chose *1984*?



3. Though sucking zinc lozenges has been promoted as a treatment for the common cold, research has revealed no consistent effect. Recently, however, a zinc gel applied nasally has been shown to greatly reduce the duration of colds. Since the gel contains zinc in the same form and concentration as the lozenges, the greater effectiveness of the gel must be due to the fact that cold viruses tend to concentrate in the nose, not the mouth.

**In order to evaluate the argument, it would be most helpful to determine which of the following?**

- A. Whether zinc is effective only against colds, or also has an effect on other virally caused diseases
- B. Whether there are other herbal remedies that do not contain zinc but that, when taken orally, can reduce the duration of colds
- C. Whether people who frequently catch colds have a zinc deficiency
- D. Whether either the zinc gel or the lozenges contain ingredients that have an impact on the activity of the zinc
- E. Whether the zinc gel has an effect on the severity of cold symptoms, as well as on their duration



4. Scientists have determined that an effective way to lower cholesterol is to eat three servings of whole grains every day. Studies have shown that the cholesterol levels of people who did so were significantly lower after six months than were those of people who did not, even though the cholesterol levels of the two groups were the same before the studies began. Clearly, eating whole grains can have an appreciable effect on cholesterol levels.

**The answer to which of the following questions, if true, would be most useful in evaluating the claim about whole grains above?**

- A. Is it realistic to expect people to eat three servings of whole grains per day?
- B. Were the two groups of people in the study involved in the same exercise program?
- C. Can the same drop in cholesterol be achieved through medication?
- D. Did the study continue to track the subjects beyond six months?
- E. Are most consumers aware of the difference between whole grains and processed grains?

5. In a certain wildlife park, park rangers are able to track the movements of many rhinoceroses because those animals wear radio collars. When, as often happens, a collar slips off, it is put back on. Putting a collar on a rhinoceros involves immobilizing the animal by shooting it with a tranquilizer dart. Female rhinoceroses that have been frequently re-collared have significantly lower fertility rate than un-collared females. Probably, therefore, some substances in the tranquilizer inhibit fertility.

**In evaluating the argument, it would be most useful to determine which of the following?**

- A. Whether there are more collared female rhinoceroses than un-collared female rhinoceroses in the park.
- B. How the tranquilizer that is used for immobilizing rhinoceroses differs, if at all, from tranquilizers used in working with other large mammals.
- C. How often park rangers need to use tranquilizer dart to immobilize rhinoceroses for reasons other than attaching radio collars.
- D. Whether male rhinoceroses in the wild park lose their collar any more often than the park's female rhinoceroses do
- E. Whether radio collar is the only practical means that park rangers have for tracking the movements of rhinoceroses in the park.

6. Following several years of declining advertising sales, the Greenville Times reorganized its advertising sales force two years ago. Before the reorganization, the sales force was organized geographically, with some sales representatives concentrating on city-center businesses and others concentrating on different outlying regions. The reorganization attempted to increase the sales representatives' knowledge of clients' businesses by having each sales representative deal with only one type of industry or of retailing. After the reorganization, advertising sales increased.

**In assessing whether the improvement in advertising sales can properly be attributed to the reorganization, it would be helpful to find out each of the following EXCEPT:**

- A. Two years ago, what was the figure for Greenville Times' advertising sales?
- B. Has the circulation of the Greenville Times increased substantially in the last two years?
- C. Has there been a substantial turnover in personnel in the advertising sales force over the last two years?
- D. Before the reorganization, had sales representatives found it difficult to keep up with relevant developments in all types of businesses to which they are assigned?
- E. Has the economy in Greenville and the surrounding regions been growing rapidly over the last two years?



7. Community activist: If Morganville wants to keep its central shopping district healthy, it should prevent the opening of a huge SaveAll discount department store on the outskirts of Morganville. Records from other small towns show that whenever SaveAll has opened a store outside the central shopping district of a small town, within five years the town has experienced the bankruptcies of more than a quarter of the stores in the shopping district.

**The answer to which of the following would be most useful for evaluating the community activist's reasoning?**

- A. Have community activists in other towns successfully campaigned against the opening of a SaveAll store on the outskirts of their towns?
- B. Do a large percentage of the residents of Morganville currently do almost all of their shopping at stores in Morganville?
- C. In towns with healthy central shopping districts, what proportion of the stores in those districts suffer bankruptcy during a typical five-year period?
- D. What proportion of the employees at the SaveAll store on the outskirts of Morganville will be drawn from Morganville?
- E. Do newly opened SaveAll stores ever lose money during their first five years of operation?



8. Between 1976 and 1985, chemical wastes were dumped into Cod Bay. Today, 3 percent of the bay's bluefin cod population have deformed fins, and wary consumers have stopped buying the fish. In seeking financial reparations from companies that dumped the chemicals, representatives of Cod Bay's fishing industry have claimed that since the chemicals are known to cause genetic mutations, the deformity in the bluefin cod must have been caused by the presence of those chemicals in Cod Bay.

**The answer to each of the following questions would be helpful in evaluating the representatives' claim EXCEPT:**

- A. What is the incidence of deformed fins in bluefin cod that are not exposed to chemicals such as those dumped into Cod Bay?
- B. What was the incidence of deformed fins in bluefin cod in Cod Bay before the chemical dumping began?
- C. Has the consumption of the bluefin cod from Cod Bay that have deformed fins caused any health problems in the people who ate them?
- D. Are bluefin cod prone to any naturally occurring diseases that can cause fin deformities of the same kind as those displayed by the bluefin cod of Cod Bay?
- E. Are there gene-altering pollutants present in Cod Bay other than the chemical wastes that were dumped by the companies?

9. A translation invariably reflects the writing style of the translator. Sometimes when a long document needs to be translated quickly, several translators are put to work on the job, each assigned to translate part of the document. In these cases, the result is usually a translation marked by different and often incompatible writing styles. Certain computer programs for language translation that work without the intervention of human translators can finish the job faster than human translators and produce a stylistically uniform translation with an 80 percent accuracy rate. Therefore, when a long document needs to be translated quickly, it is better to use a computer translation program than human translators.

**Which one of the following issues would be LEAST important to resolve in evaluating the argument?**

- A. whether the problem of stylistic variety in human translation could be solved by giving stylistic guidelines to human translators
- B. whether numerical comparisons of the accuracy of translations can reasonably be made
- C. whether computer translation programs, like human translators, each have their own distinct writing style
- D. whether the computer translation contains errors of grammar and usage that drastically alter the meaning of the text
- E. how the accuracy rate of computer translation programs compares with that of human translators in relation to the users' needs

**10.** Very powerful volcanic eruptions send large amounts of ash high into the atmosphere, blocking sunlight and causing abnormally cold temperatures for a year or more after the eruption. In 44 B.C. there was a powerful eruption of Mount Etna in Sicily. In the following year, Chinese historians recorded summer frosts and dimmed sunlight in China, thousands of miles east of Sicily. If these phenomena were caused by volcanic ash in the atmosphere, then the ash sent into the atmosphere by Mount Etna's eruption must have spread over great distances.

**In evaluating the support given for the conclusion advanced in the last sentence of the passage, it would be most important to determine whether**

- A. modern monitoring equipment can detect the precise path of volcanic ash in the atmosphere
- B. the abnormal weather in China lasted for a full year or longer
- C. temperatures in Sicily were abnormally cold after Mount Etna erupted
- D. there were any volcanic eruptions near China around the time of Mount Etna's eruption
- E. subsequent eruptions of Mount Etna were as powerful as the one in 44 B.C.





# Assumption Questions

## The **Final Frontier** of CR questions

An assumption is an unstated premise that supports a conclusion. In an argument, an assumption functions as a link between an argument's premise and its conclusion. Virtually all conclusions rely on a wide variety of assumptions. Consider the following argument:

Every male above 18 years of age can vote. So, Jack can vote.

Premise: Every male above 18 years of age can vote.

Conclusion: Jack can vote.

The argument is not watertight; it is unsound. This certainly makes 2 assumptions:

1. Jack is above 18 years of age. 2. Jack is a male.



These are assumptions because if these 2 are inserted between the Premise and the Conclusion, the conclusion becomes more sound. We will denote these assumptions within brackets.

Every male above 18 years of age can vote. **(Jack is a male above 18 years of age.)** So, Jack can vote.

**The negation test / technique:** The MOST POWERFUL TOOL in CR questions.

An assumption is the foundation on which the conclusion stands. If an assumption is negated, the conclusion must be weakened.

**So, the negation technique is:**

- A. Identify the conclusion.
- B. Negate the choices one by one.
- C. The correct answer, when negated, must weaken the conclusion.

*Let's apply it in this question:*

Every male above 18 years of age can vote. **(Jack is NOT a male. Jack is NOT above 18 years of age.)**

So, Jack can vote. *The conclusion is definitely weakened.*

*Consider the following example:*

**Premise:** Ever since we decreased the price of our product, sales have steadily increased.

**Conclusion:** Our customers must be price-sensitive.

**Assumption:** No other simultaneous change is responsible for the steady increase in sales.

In the above example, the premise describes a **correlation** between two events; the conclusion, however, defines the relationship between the two events as **causal**. The assumption identified above is a necessary but unspoken part of the argument—that is, if the opposite of this assumption were true, the conclusion would not follow logically from the premise.



*Consider the following example:*

In an attempt to draw manufacturing companies from Calonia, a neighboring country, the government of Alusia is instituting a tax credit of \$1000 per worker per year for any company that employs more than twenty workers in the manufacturing sector. Because companies are highly responsive to tax credit incentives, the Alusian government expects that most Calonian manufacturing companies will move into Alusia within ten years. **The success of the plan instituted by the government of Alusia relies on the assumption that**

- A. tax credits are the most popular and effective incentive by which to lure manufacturing companies to a new country.
- B. the Calonian government will respond by offering a similar tax credit for manufacturing companies that remain in Calonia.
- C. manufacturing companies that have succeeded in Calonia are less likely to succeed if they move operations to a neighboring country.
- D. most Calonian manufacturing companies expect to employ at least twenty workers in the manufacturing sector within ten years.
- E. Calonian manufacturing companies tend to continue paying each worker, on average, more than \$1000 per year.

**Choice D is correct.**

**Negation of (D):** Most Calonian manufacturing companies **do not** expect to employ at least twenty workers in the manufacturing sector within ten years. Negating this assumption weakens the argument significantly, by indicating that the tax credit would not apply to the majority of companies that Alusia hopes to lure.

*Consider the following example:*

Records show that the number of dinner guests at a popular local restaurant is much smaller on nights when the restaurant features lobster specials. Therefore, in order to increase revenues, the restaurant should learn from its history and eliminate those specials.

**Assumption:** The restaurant does **not** feature lobster specials specifically in order to entice customers to come in on unpopular nights during which the restaurant would normally be entirely deserted.

**Assumption:** The average price of a meal on lobster nights is **not** significantly higher than is the average price of a meal on all other nights.

*Consider the following example:*

**Premise:** Electric traffic lights let drivers know when it is safe to enter an intersection.

**Conclusion:** Installing a new electric traffic light at an intersection will decrease the likelihood that a car accident will occur at that intersection.

**Assumption:** Not all car accidents at that intersection occur during blackouts during which the region receives no electricity.

**Negation of the assumption:** All car accidents at that intersection occur during blackouts during which the region receives no electricity.

If all car accidents in this example **did** occur in the absence of electricity, the new electric traffic light **would not** decrease the likelihood of an accident occurring in that location.

*Consider the following example:*

Last year, we included a small amount of a potent chemical, andraxanine, in the fertilizer with which we spray our sorghum fields. This was done in an effort to increase this year's crop yield from these fields. Andraxanine has been proven in laboratory experiments to increase the rate at which some grains grow. Because our sorghum crop yield is larger this year than it has been in any previous year, we can assume that andraxanine makes sorghum grow at a faster rate as well.

**Assumption:** Andraxanine is not a viable insect repellent.

A viable insect repellent would release a scent that would prevent harmful crop-eating insects from wreaking major havoc on sorghum fields. **Although this assumption seems to be unrelated to the argument** (insects, for example, are not mentioned anywhere), it is an assumption upon which the argument depends. If andraxanine did keep insects at bay, then the increased sorghum yield could possibly be traced to a factor **other** than the possible chemical's influence on growth; the more copious yield may have been due to the lack of damage from insects, for instance.

### **Top 1% expert replies to student queries (can skip)**

The conclusion given is that since the sorghum crop yield is greater this year compared to last year, and since Andraxanine was used, it caused sorghum to grow faster.

We need to make an assumption for this argument.

Now, the conclusion is that Andraxanine causes sorghum to grow faster. We know that Andraxanine has some functions. Meaning it did make some difference. Now, if we say that Andraxanine is a viable insect repellent, doesn't it weaken the argument in that doesn't it decrease the probability that Andraxanine was also responsible for sorghum to grow faster? It does, right?

If we assume that Andraxanine is not a viable insect repellent, we strengthen the possibility that Andraxanine caused sorghum to grow faster by attributing the insect repellent properly to some other chemical.

*Consider the following example:*

**Argument:** Big-box retailer E-Z Mart has recently increased the size of its shopping carts, predicting that consumers (before heading to the cash register) will tend to fit bigger boxes of any given product into each cart than they would have fit into smaller shopping carts. Even though the average customer may end up with fewer overall boxes to purchase, this plan will result in an overall increase in the revenue earned by E-Z Mart.

**Assumption:** At E-Z Mart, the total cost of the items in a shopping cart filled with fewer, bigger boxes is greater than the total cost of the items in a shopping cart with a larger number of smaller boxes.

**Negation of assumption:** The total cost of items in a shopping cart filled with fewer, bigger boxes **is not** greater at E-Z Mart than the total cost of items in a shopping cart with a larger number of smaller boxes.

The negation of the answer choice would break the argument—if the total cost of fewer, larger boxes (new plan) was **not** greater than the total cost of a higher number of smaller boxes (old plan), then E-Z Mart would not be justified in their prediction that the new plan will result in an increase in revenue. Thus, the original assumption is necessary to the argument.

**Top 1% expert replies to student queries (can skip)**

The argument says bigger carts will mean bigger, but fewer boxes. This will result in more revenue. Now look at the assumption. If you take away that assumption, that is to say revenue for bigger but fewer boxes is NOT greater than the revenue generated by smaller, but more number of boxes, does the argument stand any more? Not at all. The entire argument is that this change will bring in more revenue; if we take away the assumption, the argument doesn't stand any more.

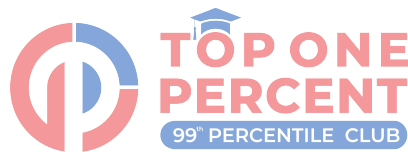
**Remember:** Be careful with the negation test. As shown above, the opposite of *tends to cost more* is **does not tend to cost more**—not *tends to cost less*. The difference between the two may be important.

### **Cause effect reasoning:**

If the conclusion is: A causes B

The possible assumptions are:

1. B does not cause A
2. C doesn't cause B
3. C doesn't cause both A and B
4. A and B are not merely happening together coincidentally



*Consider the argument:*

A survey of clerical workers' attitudes toward their work identified a group of secretaries with very positive attitudes. They responded "Strongly agree" to such statements as "I enjoy word processing" and "I like learning new secretarial skills." These secretaries had been rated by their supervisors as excellent workers—far better than secretaries whose attitudes were identified as less positive. Clearly these secretaries' positive attitudes toward their work produced excellent job performance.

**Conclusion:** The positive attitudes of excellent secretaries caused their excellent performance.

***because***

**Evidence:** Secretaries with excellent performance were more likely to have positive attitudes.

**Assumption:** 1) The excellent performance did not cause the positive attitudes; 2) there was no third factor that caused both excellent performance and positive attitudes; and 3) the excellent performance and positive attitudes are not merely coincidental.



*Consider the argument:*

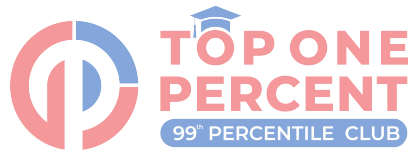
Scientist: While studying centuries-old Antarctic ice deposits, I found that several years of relatively severe atmospheric pollution in the 1500s coincided with a period of relatively high global temperatures. So, it is clear in this case that atmospheric pollution did cause global temperatures to rise.

**Conclusion:** In the 1500s, air pollution caused global warming.

**because**

**Evidence:** In the 1500s, air pollution coincided with (was correlated with) global warming.

**Assumption:** In the 1500s: 1) Global warming did not cause air pollution; 2) there was no third factor that caused both air pollution and global warming; and 3) air pollution and global warming were not merely coincidental.



*Consider the argument:*

“I notice that whenever the store has a poor sales month, employee laziness / tardiness is higher. It must be that employee laziness / tardiness causes the store to lose sales.”

*The author assumes no factor other than laziness / tardiness causes the store's lost sales.*

- Maybe B causes A. In the example above, maybe employees are showing up late because sales are so poor.
- Maybe C causes both A and B. Maybe the manager goes on vacation or is out of the store during months when sales decrease and employees are lazy / tardy.
- It could be that the correlation is simply a coincidence. Maybe A and B are unrelated. Maybe it is just by chance that poor sales and laziness / tardiness have happened to occur at the same time.

*Consider the argument:*

“You really ought to buy the new Brand Q minivan. After all, it is the safest family vehicle currently produced.”

The author assumes that there are no factors that could trump safety in her listener’s buying decision.

She overlooks any number of considerations: price, appearance, gas mileage, and so on. Pointing out any one of those as a possible concern of the listener would weaken this argument.

*Consider the argument:*

“A popular proposal before the city council has the potential to balance the city’s budget next fiscal year.

Thus, for the first time in nearly a decade, the city will not run a budget deficit next year.”



Not only does the author assume that the popular proposal will be enacted, but also assumes that nothing else will happen that could cause the city to run a deficit even with the proposal in place.

*Consider the argument:*

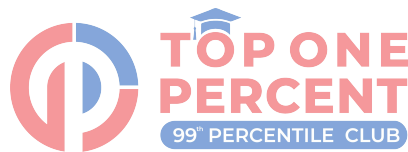
The more modern archaeologists learn about Mayan civilization, the better they understand its intellectual achievements. Not only were numerous scientific observations and predictions made by Mayan astronomers, but the people in general seem to have had a strong grasp of sophisticated mathematical concepts. We know this from the fact that the writings of the Mayan religious scribes exhibit a high degree of mathematical competence.

**Conclusion:** Mayan people in general had a strong understanding of mathematical concepts.

***because***

**Evidence:** Mayan religious scribes exhibited strong mathematical competence.

**Assumption:** What's true of Mayan religious scribes is likely to be true of the Mayan people in general.



*Consider the argument:*

Eating garlic reduces the levels of cholesterol and triglycerides in the blood and so helps reduce the risk of cardiovascular disease. Evidence that eating garlic reduces these levels is that a group of patients taking a garlic tablet each day for four months showed a 12 percent reduction in cholesterol and a 17 percent reduction in triglycerides; over the same period, a group of similar patients taking a medically inert tablet showed only a 2 percent reduction in triglycerides and a 3 percent reduction in cholesterol.

**Conclusion:** Eating garlic reduces cholesterol and triglycerides in the blood.

**because**

**Evidence:** A study: Test group given a garlic tablet; control group given placebo. Results: The test group had a larger drop in cholesterol (12%) and triglycerides (17%) than did the control group, 2% and 3%, respectively.

**Assumption:** The groups were alike in every relevant respect other than the amount of garlic they consumed. OR Garlic has the same effect whether taken as a tablet or as food.

The author overlooks 1) that the test group may have been different in terms of exercise, diet, smoking, etc., and 2) that the control group may have consumed garlic in another way.

### **Top 1% expert replies to student queries (can skip)**

Conclusion: Eating garlic (in general-implies any form) reduces cholesterol...

Negated assumption does weaken: "Garlic does NOT have the same effect whether taken as a tablet or as food" can mean that garlic when eaten in form of food works very effectively and when eaten in the form of medicine doesn't work well.

*Consider the argument:*

No athletes under the age of 14 can qualify for Country Y's Olympic team. Therefore, Adrienne can't qualify for Country Y's Olympic team.

**Assumption:** Adrienne is an athlete from Country Y, and that she is under the age of 14.

*Consider the argument:*

The employees of Quick Corp's accounting department consistently show a significant jump in productivity in the two weeks before taking vacation. Clearly, the knowledge that they are about to go on vacation motivates the employees to be more productive.

**Assumption:** They didn't plan vacation to occur right after a big deadline or other busy time.

The author concludes that employees decide to be more productive because they'll be taking vacation soon. Perhaps it's the case, instead, that the employees choose to take vacation right after they know they'll be forced to work harder for some other reason. For example, maybe everyone in the accounting department takes vacation right after the annual financial report is due. The author is assuming that other causes of the jump in productivity don't apply in this case.

### **Top 1% expert replies to student queries (can skip)**

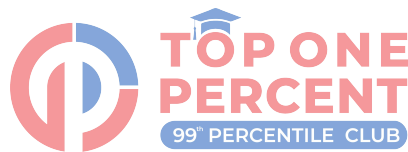
The argument is people schedule vacations, and work very productively before the vacation. So this must mean the knowledge of the upcoming vacation is increasing productivity. But what if people are simply scheduling vacations immediately after big projects? So they are working productively for the big projects, and simply taking vacation afterward. Then the causality that the argument establishes (that because of vacations productivity increased), doesn't stand any more.

*Consider the argument:*

Mayor: The Acme Factory has developed a new manufacturing process that uses chemical Q, the residue of which is toxic to babies. In order to protect our children, we need to pass a law banning the use of this chemical.

**Assumption:** If Acme uses Q, then kids will somehow come into contact with Q.

The author assumes that use of chemical Q in the production process will somehow eventually expose babies to the chemical residue. Maybe the chemical is used only for something that never comes into contact with the final product and will never come into contact with kids.



### ***Real-GMAT example:***

When news periodicals begin forecasting a recession, people tend to spend less money on nonessential purchases. Therefore, the perceived threat of a future recession decreases the willingness of people to purchase products that they regard as optional or luxury goods.

**Which of the following is an assumption on which the argument depends?**

- A. People do not always agree as to which goods should be considered luxury goods.
- B. Many more people read news periodicals today than five years ago.
- C. Most people do not regularly read news periodicals.
- D. Decreased spending on nonessential goods does not prompt news periodicals to forecast a recession.
- E. At least some of the biggest spending consumers prior to the recession were among those who curtailed their spending after the recession began.

The author argues that when the periodicals forecast a recession, people perceive a future threat, and so people choose to spend less money on luxury goods. The author assumes that people are actually reading or hearing about the forecasts. That the recession hasn't already started and that's why people are spending less money—maybe the periodicals are just slow in “forecasting” something that has already started. Also, the author assumes that “nonessential” and “luxury” mean the same thing.

- A. We can believe that this is true in the real world, but this is irrelevant to the conclusion. The argument is not based upon whether people agree as to how to classify certain goods.
- B. The argument assumes that people are actually reading those periodicals. We are not so sure about the “more today than five years ago” part, though. You don't absolutely have to believe that in order to draw that conclusion. The first sentence (“When news periodicals begin forecasting a recession, people tend to spend less money on non-essential purchases”) already establishes the FACT that people react to the predictions in news periodicals. Therefore, the frequency/likelihood with which people read news periodicals (the substance of choice B) is irrelevant here, because we already KNOW that enough people are reading these things to produce

the reaction described above. B says that today news periodicals are read by MORE people than read them five years ago. Is an increase in readership necessary for the argument to work? What if many people read news periodicals five years ago and the same number read them today? What if many read periodicals five years ago and the number reading them has decreased but is still rather large? In either of those scenarios I just mentioned, there would still be people many people reading periodicals. So, the increase described in B is not necessary in order for the argument to work.

- C. This is also about reading the periodicals...but it's the opposite of what we want! The argument needs to assume that people DO read the periodicals; if they don't, then how can they be influenced by what the periodicals forecast?
- D. **Correct!** This choice is saying that the drop in spending is not itself causing the forecasts. That's good, because the argument is that the causality runs the other way: the forecasts cause the drop in spending. **B doesn't cause A.** What the explanation is saying is that the argument is based on the assumption that it is not the case that decreased in spending CAUSE the forecasts. In other words, if you see that forecasts and decreases in spending are happening at the same time and therefore base an argument on the idea that the first causes the second, you are assuming that the second does not cause the first.
- E. Maybe if the biggest spenders keep spending during the recession, then the overall amount of money being spent won't go down that much...although the argument doesn't really seem to depend on how much it goes down. This says “after the recession began”—but the conclusion is about a “perceived threat of a future recession.” **Nice trap!** There were a couple of good brainstormed assumptions, but none that matched the exact assumption contained in the correct answer, (D). That's okay; be prepared to be flexible! Note that answer choice (C) contained an “opposite” answer: it weakened the conclusion rather than making it stronger.

**Try negating answer (B):** It would say something like: (B) The same number or fewer people read news periodicals today than five years ago. Does this weaken the author's conclusion? Not really. While the argument does assume that at least some people are reading news periodicals, it doesn't discuss what used to happen five years ago, nor does it hinge on any sort of change over time.

**Try negating answer (D):** Decreased spending on nonessential goods DOES



prompt news periodicals to forecast a recession. Hmm. If spending goes down and then the news periodicals react by forecasting a recession...then the author has it backwards! The news periodicals aren't causing a behavior change in consumers. Rather, they're reacting to something the consumers are already doing. Thus, the argument no longer works. Negating this answer breaks down the author's argument, so this choice is the **right answer**.

**Trap answers:** A trap answer won't actually address the conclusion. Because the question specifically asks you to find an assumption necessary to draw that conclusion, an answer that has No Tie to the Conclusion must be wrong.

Answer (A) in the problem above is a good example. The conclusion does not depend upon whether different people would agree to classify the same item as a luxury good. Rather, the conclusion is about what causes someone to spend less money on anything that that individual believes to be a luxury good.

Trap answers can also use Reverse Logic, as in answer choice (C). Reverse logic does the opposite of what you want; in this case, answer (C) actually makes the argument worse, but an assumption should make the argument stronger.

Answers (B) and (E) are examples of another trap: making an Irrelevant Distinction or Comparison. The argument does not hinge upon whether people read more now than they did five years ago. Nor does it depend upon the highest spending consumers doing something different from the rest of consumers. Rather, all consumers are lumped together in the argument.

### **Top 1% expert replies to student queries (can skip)**

Here is what is happening - periodicals say recession is coming, people spend less on luxury goods. Argument says this means people's perception of an upcoming recession makes them spend lesser on luxury. Read all of this again and see what is the missing link? Periodicals have said recession is coming, peoples' perception of upcoming recession has made them start to spend lesser on luxury goods. The missing part is where did such a perception come from? Must have come from the periodicals? If you

remove Option (D), this missing link goes away, and so the argument itself goes away. So this must have been an assumption made by the argument.

### **Top 1% expert replies to student queries (can skip)**

In assumption questions, we have with us an argument based off of which a conclusion is drawn. Now, the conclusion won't be directly inferable from the arguments' stimulus. To understand the conclusion in relation to the argument better, we make an assumption as to in which particular condition can the conclusion really have a solid connection to the argument in its very essence.

There will always be a gap between the argument and the conclusion filled by the assumption, that is the whole point of this type of argumentation.

The assumption options will vary widely based from question to question as to how they relate to the argument and the conclusion but the correct option will always make the case more vivid and help with the flow. Every single time.

Now to correctly find the right assumption that's been made, we employ the negation test. The negation is the negative of a prescribed option. Now, out of the 5, the correct negated option will help us in attaching and weakening the conclusion.

Since the conclusion is based off of an assumption i.e. if the foundation of a conclusion is an assumption, then the negative of that must weaken the base, obviously.

As for the question we have here.

Option D talks about a decreased spending not prompting the forecasts about an upcoming recession.

The argument talks about people cutting their spending on non essential goods after the news periodicals signal a prospective upcoming recession.

But what if the people first cut their spending that signalled and led to a recession and the news periodicals just report it after it actually happened?

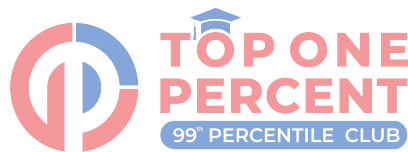
That's what D states. It talks about the opposite end of the causal relationship between the news forecasting recessions and the decreased spending. It's a classic B causes A scenario.

Negating D would give us that indeed decreased spending by the people led to the forecasts reporting on a recession which undermines the conclusion.

There thus arises no perceived threat of a future recession making people decrease their spending but just the polar opposite of decreased spending further leading to recessions being reported in the periodicals.

The conclusion is absolutely TOTALLED by the negated option here. Thus, D.

This is a cause effect question. So, B doesn't cause A is correct.



### ***Real-GMAT example:***

Methyltetrachloride (MTC) is a chemical found in some pesticides, glues, and sealants. Exposure to MTC can cause people to develop asthma. In order to halve the nation's asthma rate, the government plans to ban all products containing MTC.

**The government's plan to halve the nation's asthma rate relies on which of the following assumptions?**

- A. Exposure to MTC is responsible for no less than half of the nation's asthma cases.
- B. Products containing MTC are not necessary to the prosperity of the American economy.
- C. Asthma has reached epidemic proportions.
- D. Exercise and proper nutrition are helpful in maintaining respiratory health.
- E. Dust mites and pet dander can also cause asthma.

The government has a plan to ban MTC, and the result will be (they claim) that the asthma rate will be cut in half. There are no numbers or anything to support that. Are a lot of people exposed now? What percentage of those who develop asthma were exposed?



The government claims that it can halve the asthma rate by banning MTC, but it gives absolutely no evidence or numbers to support halving the rate. I need to find an answer that supports the idea that they can halve the asthma rate—maybe that a very large percentage of people who develop asthma were exposed to MTC or something like that.

- A. **Correct!** If MTC actually is responsible for at least half of asthma cases, then getting rid of it would get rid of all those cases as well. This one looks pretty good.
- B. Prosperity of the economy? The examiner is just trying to distract you by making you think of a reason why we might be able to ban MTC without adverse consequences. The conclusion is about halving the asthma rate, and this doesn't affect that conclusion.
- C. If asthma rates are really high, then that supports the idea of wanting to lower them. But that's not what we are trying to find—the author doesn't have to believe that there's an epidemic of asthma. Also, it says nothing about whether MTC is the cause.

- D. Distraction! Nothing about how or whether MTC causes asthma, or whether getting rid of MTC will lower asthma rates.
- E. Distraction! Nothing about how or whether MTC causes asthma, or whether getting rid of MTC will lower asthma rates.

### Alternate sol from gmatclub

Premise: Methyltetrachloride (MTC) is chemical found in some pesticides, glues, and sealants.

Premise: Exposure to MTC can cause people to develop asthma.

Conclusion: In order to halve the nation's asthma rate, the government has announced that it will ban all products containing MTC.

MTC.....cause asthma.....ban MTC.....to halve asthma rate

This conclusion indicates that MTC is ONE OF THE MAJOR CAUSES OF ASTHMA and not any other cause is present. Therefore, it assumes that by banning MTC, asthma rate would go down by half.

Let's look at the choices:

(A) Exposure to MTC is responsible for no less than half of the nation's asthma cases. This is the correct choice.

Negated statement: Exposure to MTC is responsible for LESS THAN HALF of the nation's asthma rate. Then MTC does not contribute much to the asthma rate. There are some other reasons for this. It matches our pre-thinking.

(B) Products containing MTC are not necessary to the prosperity of the American economy.

Prosperity of the American economy is OUT OF SCOPE here because it is not the concern for the government at the moment.

(C) Asthma has reached epidemic proportions.

OK but how does banning MTC helps. INCORRECT.

(D) Exercise and proper nutrition are helpful in maintaining respiratory health. OUT OF SCOPE. No information on MTC.....

(E) Dust mites and pet dander cause asthma.

Irrelevant because it does not tell that is this contribution more than MTC's or not.....

**Real-GMAT example:**

For several years, Nighttime News attracted fewer viewers than World News, which broadcasts its show at the same time as Nighttime News. Recently, the producers of Nighttime News added personal interest stories and increased coverage of sports and weather. The two programs now have a roughly equal number of viewers. Clearly, the recent programming changes persuaded viewers to switch from World News to Nighttime News.

**The conclusion above is properly drawn if which of the following is assumed?**

- A. Viewers are more interested in sports and weather than in personal interest stories.
- B. The programming content of Nighttime News is more closely aligned with the interests of the overall audience than is the content of World News.
- C. Some World News viewers liked the new Nighttime News programming better than they liked the World News programming.
- D. There are other possible causes for an increase in the number of viewers of Nighttime News, including a recent ad campaign that aired on many local affiliates.
- E. The quality of World News will remain constant even if Nighttime News improves.

The author is claiming that the new programming actually caused people to switch from one show to the other. That would mean World News's numbers went down—did they? Or is it just that Nighttime News went up? Or maybe there's some other reason for the change entirely. The author is claiming specifically that people switched from World News to Nighttime News—but there's no evidence for that. The author is assuming that, if Nighttime News's numbers went up, then World News's numbers went down and that those people switched to Nighttime News (and didn't start watching something else or turn off their TVs entirely!). The author's also assuming that the reason for the switch was Nighttime News's new programming and not something else.

- A. Nighttime News added all three of these things. Does the author need to assume that two are more popular than the third? No—it doesn't matter as long as the programming in general did make people switch. Maybe they're trying to get me to think that the choice is comparing World News and Nighttime News—but that's not

what this choice actually says.

- B. This choice says that the audience likes Nighttime News's content better than World News's content. That could be a reason to switch. Does it absolutely have to be true? It also addresses the programming issue, so it does seem pretty good—leave it in for now.
- C. This also talks about liking Nighttime News better than World News. In particular, it says that some World News viewers decided they liked the new Nighttime News stuff better. That also looks really good. **Leave it in for now.**
- D. This is saying there are other reasons why more people are watching Nighttime News, so that would actually hurt the author's claim that it's because World News viewers switched due to the programming.
- E. If this were true, it might help explain why some people would switch, but does it have to be true in order to claim that people already switched due to Nighttime News's new programming? No.

**Negation of (B):** Nighttime News content is not more closely aligned with audience than World News content. Maybe they're about the same? That doesn't really hurt the author's argument.

**Negation of (C):** None of the World News viewers liked Nighttime News better than World News.

If none of them liked Nighttime News better, why would they switch? Negating this definitely hurts the argument.

**Choice (C) it is!**

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**Option E-**

The conclusion is about the past

E talks about the future

Easy elimination

**Top 1% expert replies to student queries (can skip)**

In option C: ***Some** World News viewers liked the new Nighttime News programming better than they liked the World News programming*", isn't it already implied that some World News viewers didn't like the new Nighttime News programming better than they liked the World News programming? It is, right? If some viewers like one news channel over the other, that automatically means that some don't. So, the negation "*Some World News viewers **did not like** the new*

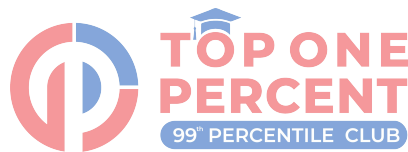
*Nighttime News programming better than they liked the World News programming."* is not really a negation, but a restatement of the original option. Some can mean 20% or 80%, but for the purpose of negating, it means 'Not equal to 0'. So, its correct negation is 'Equal to 0' or 'none'.

### **Top 1% expert replies to student queries (can skip)**

Conclusion: Clearly, the recent programming changes persuaded viewers to switch from World News to Nighttime News.

(C) Some World News viewers liked the new Nighttime News programming better than they liked the World News programming. Correct, This is exactly the assumption we are looking for. If this is true some of the users would switch from world news to nighttime news. Also on negating this becomes Some-> None of the users liked the nighttime news programming better than world news. If they did not like it, why would they switch? Since Negation destroys the argument, it is a correct choice.

(E) The quality of world news **WILL NOT** remain constant even if Nighttime News improves. **In the future**, whether the quality remains constant or goes up or goes down does not matter.





### **Real-GMAT example:**

Two genes, BRCA1 and BRCA2, are linked to hereditary breast cancer. Therefore, in order to decrease the annual number of mammogram tests administered across a population and to more accurately assess a woman's individual risk of breast cancer, all women should be tested for these genes.

**Which of the following is an assumption on which the argument depends?**

- A. Some of the women who are tested for the two genes will subsequently undergo mammograms on a less frequent basis than they used to.
- B. The majority of breast cancer patients have no family history of the disease.
- C. Researchers may have identified a third breast cancer gene that is linked with hereditary breast cancer.
- D. Women who have these genes have an 80% chance of getting breast cancer, while women who do not have these genes have only a 10% chance of getting breast cancer.
- E. The presence of BRCA1 and BRCA2 can explain up to 50% of hereditary cases..



Two genes BRCA1 and BRCA2 are linked to hereditary breast cancer. Therefore, in order to decrease the annual number of mammogram tests administered across a population and to more accurately assess a woman's individual risk of breast cancer, all women should be tested for these genes.

**Premise 1:** 2 genes B1 and B2 are linked to hereditary Breast Cancer.

**Conclusion:** To decrease mammogram tests and to accurately assess a woman's risk, women should be tested for these genes.

**We have to find Premise 2 or the assumption. This has to be something that links with Premise 1 in order to arrive at the conclusion.**

Which of the following is the assumption?

The author's recommending that all women be tested and claims this will do two things: decrease the number of mammograms and better assess risk. So, one assumption could be that those who test negatively won't get a mammogram as frequently. The author claims that, if women are all tested for these genes, two things will happen: the number of mammograms will go down and they'll be able to assess

risk more accurately.

- A. **Correct!** If at least some women get tested and then get fewer mammograms, then that would help to reduce the number of mammograms. But does this have to be true? Yes! It has to be the case that women who otherwise would have gotten mammograms don't; otherwise, the number can't go down. This definitely proves that these tests are surely beneficial to some people in that they can reduce the number of mammographies that they have to undergo. Let's try and negate this assumption. What if, the frequencies of undergoing mammographies do not reduce even after women are tested for these 2 genes. Then our conclusion falls flat ... i.e., if somebody performs these tests, they will not undergo a reduction in the number of mammographies, let alone the accurate assessment of cancer, that is never stated. Hence our conclusion collapses. Use this negation test to prove that this must be an assumption.
- B. So, what if they had, what if they did not have; we need something that will connect the tests with more accurately assessing cancer and some information that helps us reduce mammogram tests. If so, then presumably the author of the argument might want to add this third one to the list. But that has nothing to do with the argument as it stands.
- C. So how does this help in linking the new genes [B1 and B2] with the disease. If this assumption were to be true, then patients should also undergo a test for B3. This answer choice is mainly out of scope as it renders the Premise 1 ineffective. This choice hurts the "better assess risk" claim. It seems as if the argument assumes that if you don't have the gene, you won't get mammograms, but then this choice says a lot of women who do get breast cancer don't have a family history. Also, someone can have a gene and not develop breast cancer, so maybe that's why there's no family history. Too many "ifs" on this one.
- D. Let's look at our conclusion. Does this answer choice ever speak of how this would help in the reducing number of mammograms or does it ACCURATELY assess a woman's risk to breast cancer? The statistics merely provide a chance. What if these chances were to go against the odds? There is no way of definitely saying that it won't because it is a matter of probability and (P=1, we can be sure of some even to occur) there is no surety. Try the negation test here, and the conclusion will not fall apart, because the reduction in mammographies is never stated here and due to

chance the patient might or might not have an accurate assessment in terms of treatment. If that's true, then it does sound like knowing whether you have the gene would help more accurately assess your risk. Does this have to be true? Not with those specific numbers, actually. Tricky. Maybe it's 70% or 90% instead of 80%; the message is still the same. This is a kind of 'policy proposal' question, where we have a recommended course of action intended to achieve a certain goal. The conclusion here is that "all women should be tested for these genes", and one of the goals is to 'decrease the annual number of mammogram tests'. The assumption must be that testing for these genes will lead to fewer mammogram tests, which is what A says. D cannot be the assumption here. For one thing, the data given is too precise. You would never need to assume that precisely \*90%\* of women with these genes get breast cancer for the conclusion to be valid; even if that percentage were relevant to the question (which it isn't) there's no reason we need to assume the percentage is equal to 90.

- E. Let it explain 50, 60 or even 100% of hereditary cases. So what? Does it in anyway explain how this would reduce the number of mammograms? Or does it say, how this knowledge would accurately assess a woman's individual risk to breast cancer. No. So, of the women who inherit breast cancer, the genes account for about half of cases. This is kind of like the last one—that specific number doesn't have to be true.

### **Top 1% expert replies to student queries (can skip)**

In general for negation, look at the meaning of the option and negate accordingly. Sometimes that means the first verb, sometimes not. Use the meaning, that will always give you the correct negation.

If you negate Option (B), it becomes that the majority of breast cancer patients have family history of this. So what? So what if the majority of patients have a family history? Can we still say the two genes are responsible and if we test for them we can reasonably accurately predict who is at risk? Yes! Then how is Option (B) an assumption being made?

On the other hand (and I was thinking this even before seeing the answer choices), if something other than these two genes may be causing breast cancer, then the argument does not hold (we cannot simply test for these two and hope to be able to pre-emptively identify at-risk cases more). However, notice that none of the answer choices say this. Option (C) tries to trick you - it gives the logical mirror image. It says researchers may have identified a third responsible gene, then the negation is that

they have not. And the negation, rather than destroying the argument, simply fortifies it. So Option (C) is not the answer.

However, there is one other part to the argument - if we test for these two genes, we will reduce the number of mammograms. Now look at the negation of Option (A). The women tested for these two genes will not undergo fewer mammograms in the future. If that is the case, then we cannot say that testing for these two genes will reduce the number of mammograms.

Note - In general for assumption questions, focus on two things:

- 1) Negating each option properly. For this, depend less on logical operators etc. and more on logic. As an example, if an option has multiple uses of 'not', you may not understand which one(s) to change based purely on the 'not' operator itself, but if you use logic to understand the meaning of the option, you should be able to negate it correctly
- 2) After each option is in turn negated, focus on whether that weakens the argument. For the argument, don't have to usually nit-pick on what exactly is the premise and what exactly is the conclusion etc. You should be able to concisely summarize what the argument is saying without losing any information, and if the negation of an option weakens that, then it is the answer



*Consider the argument:*

To cut costs, a high school modified its air-conditioning system to increase its efficiency. The modified system, however, caused the humidity in the school air to decrease by 18 percent. Twenty-four hours after the decrease in air humidity, a 25 percent increase in the number of visits to the school nurse was reported. This shows that a decrease in humidity can make people ill.

**The argument depends on assuming which one of the following?**

- A. At least some of the visits to the school nurse after the system was modified were due to illness.
- B. Most of the students at the high school suffered from the decrease in air humidity.
- C. It takes 24 hours after a person is infected with a virus for that person to exhibit symptoms.
- D. A decrease of 18 percent in air humidity causes an increase of 25 percent in one's probability of becoming ill.
- E. Modifying the air-conditioning system proved to be an ineffective way to cut costs.

**Conclusion**—Reducing humidity can make people ill.

**because**



**Evidence**—Twenty-four hours after the school's modified air-conditioning lowered humidity, there was a 25 percent uptick in visits to the school nurse.

The author must assume that nothing else was responsible for all these visits to the school nurse (e.g., sports injuries, a chemical spill in the chem lab, etc.).

- A. **Correct.** If all of the visits to the nurse were due to injury or accident, the author's argument would fall apart.
- B. Extreme. The author's evidence is a 25 percent increase in visits to the nurse. He need not assume most students were impacted. Eliminate.
- C. Too specific to be necessary to the argument. First, the author doesn't claim that the illness was a virus. Second, 24 hours is the time after which people went to the nurse; they may have felt symptoms earlier. Eliminate.
- D. Too specific to be necessary to the argument. The author claims only that reducing humidity can cause illness. Eliminate.
- E. Outside of the Scope. Cost cutting happened to be the initial impetus for the air-conditioning modifications. That has no impact on the argument about humidity and illness. Eliminate.

## Top 1% expert replies to student queries (can skip)

The argument states that the humidity dropped and the nurse visits increased. But we have no proof that one thing caused the other. Correlation does not prove causation

Option B – **Most** of the students at the high school **suffered** from the decrease in air humidity -> Most means > **50%**. It is not necessary to assume that more than 50% of the students suffered in order for the conclusion to be true. Even if we negate this statement i.e. **Less than half** of the students suffered from decrease in humidity, the **conclusion can still be true**. Also, this option talks about students suffering. **Suffering is not the same as an increase in nurse visits**. This also tells us that option B is incorrect

Option A -> If we negate this option i.e. **None** of the visits to the school nurse after the AC system was modified were due to illness. This means that there was some **other reason for the visits to the nurse**. This will **weaken** the conclusion as we say that correlation does not prove causation

## Top 1% expert replies to student queries (can skip)

Conclusion: A decrease in humidity can make people ill

Premise: Decrease in humidity of 18% saw a 25% reported increase in #visits to school nurse 24 hrs after decrease

Gap: The gap in logic is the fact that the conclusion drawn states that people were ill - we otherwise have no other information about why people went to the nurse, so the obvious answer is A as it needs to be true for the conclusion to be true.

You can negate this answer choice to show that it is in fact a required assumption. **None** of the student visits to the school nurse after the system was modified were due to illness.

Weakens the argument completely, hence it must be required for the conclusion to hold true.

B is incorrect because it does not need to be true in order for the argument to be true. This is a scope shift. The argument at hand is concerned only with those students who visited the nurse.

*Consider the argument:*

At one sitting, a typical doughnut eater consumes 4 doughnuts containing a total of 680 calories and 40 grams of fat. The typical bagel eater consumes exactly one bagel, at 500 calories and one or two grams of fat per sitting, though the addition of spreads can raise calorie and fat content to the four-doughnut range. Thus, as far as total calorie content is concerned, there is very little difference between what a typical doughnut eater and a typical bagel eater each consumes at one sitting.

**The argument depends on assuming which one of the following?**

- A. The calories and fat in bagels have the same health impact on bagel eaters as the calories and fat in doughnuts have on doughnut eaters.
- B. Most bagel eaters are not fully aware of the calorie and fat content of a bagel.
- C. Eating bagels instead of eating doughnuts provides no real health benefit.
- D. The typical doughnut eater does not add to doughnuts any substances that increase the total caloric intake.
- E. Most typical doughnut eaters are not also bagel eaters.

Typical donut eater eats 680 calories at one sitting (via 4 donuts) AND Typical bagel eater eats about around 680 calories at one sitting (via one bagel plus spreads) ... So, in terms of total calorie content, typical donut eater and typical bagel eater eat roughly the same at one sitting.

(A) no part of the argument deals with "health impact", and the information about fat has nothing to do with the conclusion. The conclusion is PURELY about whether the total number of calories is roughly the same. The ONLY way to weaken this argument is to show that the total number of calories is NOT the same.

(B) we don't care whether eaters are aware of the contents of what they're eating. The conclusion is PURELY about the total number of calories eaten, not about anyone's perceptions of what's being eaten.

(C) Again, "health benefit" is out of left field. This answer has nothing to do with comparing the total number of calories.

(D) **Correct.** The argument presumes that: bagel + toppings = 4 donuts

But if a doughnut eater also adds spreads and toppings that increase the caloric intake,



then we could conclude that: bagel + toppings < 4 donuts in terms of calories, which invalidates the argument's conclusion. Therefore, we must assume that the typical doughnut eater does not use any substances that would increase the caloric intake.

If we said that "the typical donut eater DOES add substances that increase the total caloric intake", would that ruin the argument? YES! Right now, the author has typical donut eater tied with typical bagel eater at around 680 total calories. While the author told us that typical bagel eaters put spreads on bagels that increase their calories to this 680-calorie mark, he never considered whether typical donut eaters put spreads on donuts that increase the caloric content. If they do, then typical donut eaters get more than 680 calories at one sitting.

**NEGATED (D):** If the typical donut eater adds substances to donuts that increase the total caloric intake, then the typical donut eater is eating more than 680 calories at one sitting. The answer choice itself is telling us that the bacon on top is INCREASING the total calories, not part of the original calculation of donut-calories. If we said that "the typical donut eater DOES add substances that increase the total caloric intake", would that ruin the argument?

YES! Right now, the author has typical donut eater tied with typical bagel eater at around 680 total calories. While the author told us that typical bagel eaters put spreads on bagels that increase their calories to this 680 mark, he never considered/mentioned whether typical donut eaters put spreads on donuts that increase the caloric content. If they do, then typical donut eaters get more than 680 calories at one sitting.

if the typical donut eater puts a slice of bacon on top of her donut, the calories/fat contained in the added slice of bacon are NOT accounted for in the original 680.

The original 680 is defined as "4 donuts, containing a total of 680 calories".

The donuts themselves contain a total of 680 calories. There isn't bacon on them yet. "ADDING a substance to donut" means that the substance was not counted as being part of "the donut" to begin with. So, if 4 donuts are 680 calories, and someone adds a substance to those donuts, then the added substance is on top of the 680.

(E) Incorrect. The argument compares the calorie intake per one sitting not overall, so even if the group overlap, there is no impact on the validity of the conclusion. We don't



care whether 51% or 49% of typical donut eaters are also bagel eaters. That 'most' threshold has no bearing on the argument. It in no way helps us compare the total number of calories being eaten by a typical bagel eater vs. typical donut eater at one sitting. If a typical donut eater is also a bagel eater it does not mean that he has to eat the bagel and the donuts at the same sitting. It could, I suppose, but nowhere can we infer that. It just means that he/she also likes eating bagels and likes to eat donuts. We don't know whether they eat it AT THE SAME TIME. It's like saying people who play soccer run more miles in a single game than someone playing basketball. Then E would say: Most people playing Basketball don't also play soccer. This is not a required assumption. Because they are NOT playing soccer while they are playing basketball. The scope of stimulus is about A single sitting or in this case a single game (90 minutes) what the people do at other times has no bearing.

Say if John plays basketball and soccer, then John still only runs only as much is required in the game he is playing at the moment. (He can't play soccer and basketball at the same time). We don't care whether 51% or 49% of typical donut eaters are also bagel eaters. That 'most' threshold has no bearing on the argument. It in no way helps us compare the total number of calories being eaten by a typical bagel eater vs. typical donut eater at one sitting.

### **Top 1% expert replies to student queries (can skip)**

In 1 sitting, a doughnut eater consumes 680 calories and 40 gm fat

In 1 sitting, a bagel eater consumes 500 calories and 1-2 gm fat. The addition of spreads to this meal can increase the calorie and bagel content to the doughnut meal range.

The conclusion is saying that as far as the calorie content is concerned, there is very little difference between what a typical doughnut eater and a typical bagel eater consume in 1 sitting.

D is saying that a typical doughnut eater does not add to doughnuts any substance that increases the total caloric intake. If this is the case, then we know that both doughnut eaters and bagel eaters eat close to 680 calories in 1 sitting, and that this

difference in caloric intake is very little. Our conclusion holds.

If we negate option D, we get 'a typical doughnut eater adds to doughnuts any substance that increases the total caloric intake'. If this is the case, we know that in 1 sitting, a doughnut eater consumes much more calories than 680 calories. Therefore, the difference in the total caloric intake will actually increase and the conclusion will be weakened.

Therefore, D is the answer.

Note - The difference between 500 and 680 is not called a little difference. The addition of spreads to the meal eaten by bagel eaters in 1 sitting increases the calorie and fat content of the meal. This caloric content is close to the caloric content consumed by a typical doughnut eater in 1 sitting. That is the little difference being talked about.

In 1 sitting, a doughnut eater consumes 680 calories and 40 gm fat

In 1 sitting, a bagel eater consumes 500 calories and 1-2 gm fat. let the spread that the bagel eater consumes contain 170 calories and 35 gm fat. So the total consumption becomes 670 calories and 36-37 gm fat. Therefore, there is little difference in the caloric content.

*Consider the argument:*

Editorial: To qualify as an effective law, as opposed to merely an impressive declaration, a command must be backed up by an effective enforcement mechanism. That is why societies have police. The power of the police to enforce a society's laws makes those laws effective. But there is currently no international police force. Hence, what is called "international law" is not effective law.

**Which one of the following is an assumption required by the editorial's argument?**

- A. No one obeys a command unless mechanisms exist to compel obedience.
- B. If an international police force were established, then so-called international law would become effective law.
- C. The only difference between international law and the law of an individual society is the former's lack of an effective enforcement mechanism.
- D. The primary purpose of a police force is to enforce the laws of the society.
- E. Only an international police force could effectively enforce international law.

The author concludes that international law is not effective, because it is not supported by a police force. But just because police enforce laws, does it follow that that's the only way they can be enforced? Well, there perhaps are other alternative ways that international law can be effectively enforced; why is the editorialist so sure that the international police could effectively enforce international law? He doesn't say, so that's what the needed assumption must spell out.

This question gives us a conditional relationship:

**A to B** ... Effective Law (EL) -> Effective Enforcement Mechanism (EEM),

- B to A will be wrong
- A not to B not will be wrong
- B not to A not will be correct

So, we have ... **B not to A not**    EEM -> EL

The stimulus then tells us that police are one form of EEM. It then concludes that because there is no international police force, international law isn't effective, or:

~~Police~~International  $\longrightarrow$  ~~EL~~International

From here, we can see that in order to justify the conclusion, we need to show that lack of a police force leads to a lack of an effective enforcement mechanism, or:

~~Police~~<sub>International</sub>  $\longrightarrow$  ~~EEM~~<sub>International</sub>

Answer choice (E) provides this missing link in the conditional chain, and is the correct answer.

Answer choice (B) gives us a Mistaken Negation (**B to A**) of the conclusion or:

~~Police~~<sub>International</sub>  $\longrightarrow$  ~~EL~~<sub>International</sub>

The reason why answer choice (B) is not a necessary assumption has to do with peculiarities of conditional statements as assumptions.

Answer choice (B) gives a Mistaken Reversal™ of the author's assumption. The author assumes that for international law to be effective, there must be an international police force. This may be diagrammed thus:

Effective International Law  $\longrightarrow$  International Police Force

Answer choice (B) gives us the converse of this statement:

International Police Force  $\longrightarrow$  Effective International Law

The author does not have to believe that an international police force would be sufficient to ensure we have effective international law. The author only must believe that an international police force is necessary for effective international law.

In other words, it could be possible, even with an international police force, that international law be ineffective. The author views an international police force as a precondition for effective international law; however, there could be other factors that would make international law ineffective, even if there were an international police force.

(A) How laws are obeyed or enforced is immaterial to the argument. Rather, the editorial is clearly stating that the power of the police to enforce—obedience aside—is enough to make effective law.

**Conditionally**, it appears as: Obey command  $\rightarrow$  obedience mechanism.

One issue here that people often note is the idea of a "command" versus the concept

of "laws" in the stimulus. The other issue in this answer is one of quantity. Is it really that the author believes that no one will obey, or just that at least some won't? (And remember, assumptions are about minimalist ideas, in the sense that it is the very least that the author must assume, so this quantity difference is important).

Again, this difference can more easily be seen by negating the answer. How would the author respond if you said: "Some people will obey a command even without an obedience enforcement mechanism." He or she would probably say, "That's great that some people will do that, but for a law to be effective in a society, we still need that enforcement mechanism." Basically, it's not about that some people will obey but more about that some people won't. In that sense, this answer would be more attractive if it read: "Some people won't obey a command unless mechanisms exist to compel obedience." If you negate that, it means that everyone will obey a command even without enforcement mechanisms. That would cause the author a lot more problems.

(B) mischaracterizes the author's assumption. The author isn't assuming that international police is a means to effective law. The author is assuming that international police is the only means to effective law. Nothing else.

(C) The differences between international law and that of an individual society extend far beyond the Scope of this argument. For all we know, this could be just one of many differences.

(D) The author does not need to assume that this is the primary purpose of a police force. The police force can have other purposes and still fulfill its necessary duty of enforcing laws to make them effective.

(E) **Correct!** explicitly adds the chain link, by stating flatly that only an international police force could effectively enforce international law. Couldn't it be possible for local police to enforce international law? The author is assuming that the answer to these questions is no. Answer (E) expresses that necessary assumption.

The author is basing that conclusion idea on the lack of an international police force, and assuming that such a force is needed for enforcement. Why does the author assume this? Because if other methods were out there for enforcing the law, the argument wouldn't make sense (for example, what if domestic police forces in each country could

effectively enforce the international laws?).

To help clarify this idea, let me use the analogy of, "We don't have any power in the house for lighting, so we can't read anything in the house." Here, my argument rests on assuming that the presence of power and electric lights is needed for us to read. But, what if it is daytime? Or if we have candles, or flashlights?

Going back to the original argument and answer choice (E), hopefully the relationship is somewhat clearer. Because this is an Assumption question, you can also negate the answer, and that will reflect a bit of the discussion above.

### **Top 1% expert replies to student queries (can skip)**

If a law is effective, we surely need an international police force

This is A and B (if A then B)

### **Top 1% expert replies to student queries (can skip)**

Negation of Option (E) would be that even without an international police force, there could be enforcement of international law. However, the argument says that an international police force is required to make international law 'effective'. So the argument falls flat. Option (E) is the answer.

Negation of Option (A) is some people may obey commands even if there is no enforcement mechanism in place. This has no bearing on the argument that a command needs to be enforceable to be an effective law and hence international law is not effective because there is no international police force to enforce it (I don't know where this last part came in from though; Interpol, quite literally, is international police. But we are only to go by what the argument tells us)

Option (B) can be derived from what the argument is saying, so it is not an assumption the argument is making.

### **Top 1% expert replies to student queries (can skip)**

The passage does not talk about international law.

The conclusion implied that international police was necessary, but did not say that laws couldn't fail to be effective, even if there was a police force.

For E -

For effective law we need

- 1) Command
- 2) effective Enforcement mechanism

Then it says power of police to enforce these laws makes them effective.

Now if we translate it to international laws.

It says it is not effective.

There are no international police.

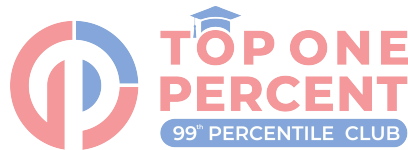
So, we are presuming that only international police can enforce international laws.  
If others could have then they would have been effective in the above scenario also.

For option B -

FACT - No international police, no effective law implementation

It does not mean that international police is the only condition to make effective law implementation.

Even with international police, international laws can be not effectively implemented.



*Consider the argument:*

Consumer: If you buy a watch at a department store and use it only in the way it was intended to be used, but the watch stops working the next day, then the department store will refund your money. So, by this very reasonable standard, Bingham's Jewelry Store should give me a refund even though they themselves are not a department store, since the watch I bought from them stopped working the very next day.

**The consumer's argument relies on the assumption that**

- A. one should not sell something unless one expects that it will function in the way it was originally designed to function
- B. a watch bought at a department store and a watch bought at Bingham's Jewelry Store can both be expected to keep working for about the same length of time if each is used only as it was intended to be used
- C. a seller should refund the money that was paid for a product if the product does not perform as the purchaser expected it to perform
- D. the consumer did not use the watch in a way contrary to the way it was intended to be used
- E. the watch that was purchased from Bingham's Jewelry Store was not a new watch

*Conclusion:* Store should give a refund for the watch.

*Evidence:* even though BJ is not a dept store, if you buy a watch at dept store and only use it as intended and the watch stops the next day, you get a refund. The watch I bought at BJ's stopped working the next day.

Couple things missing here:

1. Why does BJ's need to follow a rule that dept stores follow, if BJ is not a dept store? The author is assuming that BJ's should follow at least some rules that apply to department stores.
2. According to the dept store policy, in order to give a refund, we need to know that you used the watch only as intended and it stopped working the next day. We know the watch stopped working the next day, but we don't know whether the customer used the watch only as it was intended.

**Takeaway/Pattern:** There were two big gaps we could have anticipated: "Why should BJ's follow some dept store's rule?" and "Did the author use the watch only as



intended?" They rewarded us with the latter. The trap answer of (C) probably tempts many people, if they aren't clear on the fact that we can't go overboard when selecting a Necessary Assumption answer.

According to the department store policy, in order to give a refund, we need to know that you used the watch only as intended and it stopped working the next day. We know the watch stopped working the next day, but we don't know whether the customer used the watch only as it was intended.

The author establishes two reasons that the department store must refund the money paid for the watch: if the consumer used the watch in the way it was intended AND the watch stops working the next day. In this scenario, the consumer is arguing that Bingham's must refund the money in the same way as the department store. Even if Bingham's follows the department store's policy, the consumer must still meet each requirement. The consumer indicates that the watch stopped working the very next day, but that's only one part of the condition precedent. In addition, the consumer must also be assuming that the consumer used the watch in the way it was intended. Or, to put it another way, that the consumer did not use the watch in the way it was intended. **That's choice (D).**

(A) The author's argument is only concerned with whether or not he should get a refund, so this rule about "whether or not a store should sell something" is completely out of scope. What constitutes a "saleable" item is never mentioned in the argument. Eliminate.

(B) may very well be true but is irrelevant to the situation described by the consumer: when the watch

stops working the way it's expected. The issue with B is that it leaves out the crucial aspect of what D includes: using the watch "only in the way it was intended to be used". We don't know that the consumer only used the watch in the way it was intended to be used - perhaps he used it to test his new sledgehammer. B isn't a necessary assumption. Use the Assumption Negation technique and negate B (both watches cannot be expected to keep working for the same length of time), you'll see that it doesn't harm the conclusion the way doing that to D does (the consumer did use the watch in a contrary way).

For this question, we need to find the "bare minimum" that needs to be sufficient for a department store giving you a refund. Those three sufficient conditions, found in the first sentence are (1) You buy the watch at a department store, (2) you use it only in the way it was intended to be used, and (3) the watch stops working the next day. Only if all three of those sufficient conditions are met do we get the necessary condition: The department store refunds your money.

In the customer's scenario, he or she wants a refund, but let's see what's left out of the consumer's explicit argument that he or she is due a refund on this malfunctioning watch. Consumer basically says, "let's pretend Bingham's Jewelry Store is a department store" and the watch I bought from them stopped working the next day, therefore I deserve a refund.

What has the consumer left out from our three sufficient conditions that are necessary for the refund? Well, that's Answer Choice (D): That he/she did not use the watch in a way contrary to the way it was intended to be used. That's that "bare minimum" thing that has to be true for the consumer's argument to be valid.



Regarding Answer Choice (B), it goes too far for us. We don't have to assume that watches purchased at both places can be expected to keep working for about the same length of time. That statement just doesn't necessarily have to be true for the consumer's argument to work. One watch or the other could typically last much longer and it doesn't change the validity of the consumer's argument. The key is the missing part about not using the watch in a way contrary to the way it is to be used.

(C) The purchaser's expectations are Outside the Scope. Rather, the watch only need be used in the way it was intended to be used, regardless of expected performance.

Answer choice (C) is much too broad for the consumer's argument. This answer choice would apply to all products, not just watches. Since we are looking for a necessary assumption, we should strike this one out right away. If you were using Sufficient Assumption brain and you assumed that "a watch that stops working the next day" = "a product that didn't perform as the purchaser expected", then you would like this answer, since it would guarantee you that the author should get a refund. But this is Necessary Assumption, and we can't accuse the author of assuming something stronger/broader than what he needs to assume. This conditional rule says that

EVERY SINGLE TIME a product doesn't perform as expected, the seller should refund the money. The author is only concerned about whether he deserves a watch refund from BJ's. So, he doesn't need to assume such a sweeping rule as this.

(D) Yes! If we negate this, we get "the customer DID use the watch in a way contrary to how it's intended to be used" ... that cripples the argument because part of the refund policy the customer is citing involves that the buyer used the product "ONLY in the way it was intended".

(E) The comparison between new watches and old watches is never mentioned and is Outside the Scope of the consumer's contentions. Nothing in the argument specifies new vs. used, so the author doesn't need to assume anything about that.

### **Top 1% expert replies to student queries (can skip)**

What are the various assumptions the consumer is making here?

i) Bingham should work like a department store in this particular aspect at least - if a watch is bought from it, not used contrary to how it should be used, and stops working within a day, then the money should be refunded

ii) The consumer themselves are saying the watch needs to be used only in the way a normal watch should be for a refund to be applicable, then this is also an implicit assumption they are making - they did not use the watch in a way that it is not supposed to be used in (Option (D)).

(i) above is not provided as such in any of the answer choices, hence Option (D) is your answer. If (i) also was, along with what is given in Option (D), then we would have a bigger problem on our hands

### **Top 1% expert replies to student queries (can skip)**

The text begins with the word 'consumer' post which the argument is stated which means that the argument is from the perspective of the consumer.

The argument is authored from the perspective of a consumer or you can say that the author is the consumer who's talking about his purchase, doesn't make any difference.

It's critical to know from whose perspective the argument is stated, it'll be fundamental in understanding the argument and henceforth in evaluating the options.

The first is the argument authored from the perspective of a consumer in which the author is writing in first person.

The second is the set of possible assumptions that the consumer/author's conclusion relies upon.

Now for D being the answer, we have to understand the premise of the argument well first.

The conclusion is that Bingham's Jewelry Store should refund the consumer as the watch stopped working just one day after it was bought even though the policy is only used by department stores.

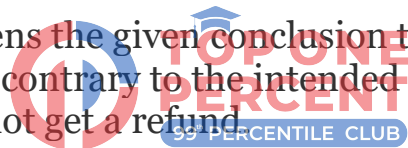
Now, this is an assumption question. You need to assess the efficacy of each option in relation to the conclusion and then negate each option. Once negated, the correct option will weaken the conclusion.

Now, there's a HUGE precondition in the basic premise that the department stores make the refund only if the watch is used in the **intended manner** and then it stopped working the next day.

Now look at Option D. The department store's condition will apply in this case only if the watch was used in the intended manner only. We do not know for sure how it was used that it broke down the very next day.

Negate option D and it weakens the given conclusion that if did indeed the consumer use the watch in any manner contrary to the intended one, the condition doesn't apply and he should indeed not get a refund.

Thus, option D yields the best results.



*Consider the argument:*

Whoever murdered Jansen was undoubtedly in Jansen's office on the day of the murder, and both Samantha and Herbert were in Jansen's office on that day. If Herbert had committed the murder, the police would have found either his fingerprints or his footprints at the scene of the crime. But if Samantha was the murderer, she would have avoided leaving behind footprints or fingerprints. The police found fingerprints but no footprints at the scene of the crime. Since the fingerprints were not Herbert's, he is not the murderer. Thus, Samantha must be the killer.

**Which one of the following, if assumed, allows the conclusion that Samantha was the killer to be properly inferred?**

- A. If there had been footprints at the scene of the crime, the police would have found them.
- B. Jansen's office was the scene of the crime.
- C. No one but Herbert and Samantha were in Jansen's office on the day of the murder.
- D. The fingerprints found at the scene of the crime were not Jansen's.
- E. The fingerprints found at the scene of the crime were not Samantha's.

This conclusion is not fully justified based on the information provided. It is possible that Samantha is the killer, because we only know that she would have avoided leaving prints, so the prints found at the scene could have belonged to her. However, this argument is not air-tight, because only two possible suspects have been identified. Could there have been another culprit entirely? There simply is not enough information to justifiably conclude that Samantha was the only conceivable murderer.

In concluding that one possible cause was definitely the cause of an event, an author assumes that no other possibility is a viable alternative. A murder mystery always shakes things up a bit, and here we're asked to play detective. We know that Jansen's murderer was in his office the day of the murder. We know Samantha and Herbert both went to Jansen's office that day.

*If Herbert did it → police would have found either*

*Herbert's fingerprints or Herbert's footprints.*

*If Samantha did it → she wouldn't leave her fingerprints or footprints.*

The police found fingerprints but no footprints at the scene of the crime. The fingerprints weren't Herbert's, so Herbert can't be the murderer. Thus, the author concludes, Samantha must have done it. The assumption? No one else could have done it! Someone besides Herbert or Samantha might have been in Jansen's office, and might have left the fingerprints. **(C) nails it.**

(A) Whether or not the police would have found any footprints is irrelevant; the fingerprints that they did find are enough to draw a conclusion. Since Herbert has already been ruled out, this answer choice merely lends support to the assertion that Herbert could not have been the culprit.

(B) is also irrelevant. Regardless of where Jansen was murdered, we know the killer was at his office—the evidence says so. Jansen's office need not be the scene of the crime. We were told in the stimulus that the murderer was in Jansen's office on the day the crime took place, so this answer choice provides no additional relevant information to help justify the conclusion that it must have been Samantha.

**(C) This is the correct answer choice.** If all other possible culprits have been eliminated (since the murderer was in the office that day, and Herbert and Samantha were the only ones in the office on the day of the crime), then we can justifiably conclude that the only remaining possible offender would have been Samantha. This choice guarantees that either Herbert or Samantha had to be the murderer and thus ensures the conclusion is true, if all the evidence is true.

(D) is also wrong. The fact that the fingerprints weren't Jansen's tells us that they belong to someone who might be the killer, but they don't allow us to infer that the killer was Samantha. The stimulus describes the death as a murder, so we already know that the culprit must have been someone other than Jansen. This answer choice, therefore, offers no relevant information to justify the conclusion about Samantha.

(E) is a 180—if the fingerprints were not Samantha's, they'd point to someone else. If the fingerprints found at the scene did not belong to Samantha, this obviously weakens the conclusion that she was the culprit, so this answer choice does not provide an assumption on which the argument depends. Rather it undermines the conclusion because if the fingerprints found at the scene of the crime were not Samantha's, then



applying the same justification the argument uses to dismiss Herbert as the Killer we could dismiss Samantha as the killer. That would directly challenge the conclusion that Samantha must be the killer. This choice says: "If Samantha was the murderer, she would have avoided leaving behind footprints OR fingerprints." (It doesn't necessarily mean she would have avoided both.) The police did end up NOT finding footprints and finding fingerprints. So, if Samantha is the killer, the fingerprints could be hers. If they weren't hers, the conclusion wouldn't necessarily follow, thereby undermining the conclusion.

### Alternate sol from gmatclub

The conclusion is, "Samantha must be the killer." The question asks us to make that conclusion "properly inferred." In other words, we're the prosecution. We're going to try to give Samantha the electric chair. What piece of evidence will *prove* that Samantha is the killer? The evidence we already have is as follows:

Samantha was in Jansen's office. So was Herbert, but he is purely a distraction. If Herbert had committed the murder, the police would have found his fingerprints or his footprints. But the police found no footprints at all, and the fingerprints they found weren't Herbert's. So we know, already, that Herbert isn't the killer. But does that prove it's Samantha?

If Samantha was the killer, she would have avoided leaving any fingerprints. The police did find fingerprints. But they might not be Samantha's, so she could still be the killer. Our evidence is *very* weak here. Other than Samantha being in the office, we have no evidence that ties her to the murder. If the fingerprints are hers, then she is *not* the killer. And if the fingerprints are not hers, that hardly proves she did it.

What would prove she did it? Well, it's going to have to be something like, "Nobody else could have done it besides Samantha and Herbert." If that's true, and we know Herbert didn't do it, then it *must* be Samantha.

A) Samantha wouldn't have left footprints if she was the killer. But the fact that she did *not* leave footprints hardly implicates her. So the fact that the police would have found them if they were there does absolutely nothing to point to Samantha as the killer.

B) It really doesn't help us that the office was the scene of the crime, because we already know that whoever did it was in the office at some time that day, and Herbert and Samantha are among those people. Millions of other people could have been there as well. This ain't the answer.

C) Ahh. If this is true, then Samantha is the only remaining candidate because Herbert is not the killer, only Herbert and Samantha were in the office that day, and whoever murdered Jansen was in his office that day. If this is true, I don't see how it's possible that Samantha is not the killer. That's the kind of certainty we want, if we

want to fry her.

D) Who cares? The fingerprints could belong to anyone. If they're Samantha's, then she is *not* the murderer. If they are someone else's, then maybe they are the murderer.

E) Samantha wouldn't have left fingerprints if she was the killer. But the fact that she did *not* leave fingerprints doesn't point to her guilt.

Our answer is C.

### Top 1% expert replies to student queries (can skip)

Herbert is clumsy, he would have left either of the two - finger or footprints; Samantha is an expert at this (might have murdered before, who knows - just seems like a character to stay away from!), she wouldn't leave any of the two prints. *But importantly, prints were found* - so the first thought is, *among the two mentioned*, it is most likely that Herbert is the killer (there was a possibility he would have left prints). But then the prints turned out *not to be his*. Ok, so Herbert isn't the killer, but can we yet say Samantha is the killer? Not yet - *the prints can belong to anybody who was in poor Jansen's office that day*. However, and this is the critical piece, *if we know for sure nobody other than Herbert and Samantha were in the office that day AND the prints didn't belong to Herbert, they had to belong to Samantha* and Samantha would conclusively be the murderer.

Option (D) says the fingerprints were not Jansen's. But so what? That doesn't let us prove they were definitely Samantha's. Like we saw above, they could be of anyone else's *until we know for sure nobody else was in the office that day*.

As an aside, and nothing to do with the solving of this question (but for your knowledge), a basic tenet of the criminal justice system worldwide is innocent until proven guilty, and the proof needs to come from physical evidence, not circumstantial ones. Since a footprint cannot uniquely identify a person, but a fingerprint can, a footprint is almost always considered to be circumstantial (just shows a person was present), but a fingerprint is physical evidence that conclusively proves presence in criminal trials - they uniquely identify that a person was at the place where their print was found.



*Consider the argument:*

When Cortez arrived in Mexico in A.D. 1519, he observed the inhabitants playing a ceremonial game with a rubber ball. The pre-Columbian inhabitants of Mexico began to use rubber around A.D. 1000. Thus, we can be sure that the game must have originated sometime between approximately A.D. 1000 and Cortez' arrival.

**The conclusion reached above depends on which one of the following assumptions?**

- A. The pre-Columbian inhabitants of Mexico played games on all ceremonial occasions.
- B. The making of rubber balls was one of the earliest uses of rubber by the inhabitants of Mexico.
- C. The ceremonial game referred to was popular throughout Mexico.
- D. The game had been played since its inception with a rubber ball.
- E. The dating of the first use of rubber in Mexico was due to Cortez.

**Correct (D)**



When did the inhabitants of Mexico start playing this ceremonial game? They were observed playing the game with a rubber ball in 1519, and rubber itself was not used in Mexico before approximately the year 1000. So, the author concludes that the game must have been invented between approximately 1000 and 1519. Is that right? We know that the game couldn't have been played *with a rubber ball* before that time, but what if the game had not always been played with a rubber ball (the **Negation** of (D))? If the game could have been played with something else (and we'll leave it to your imagination to determine what that other object might be), then the game might have been played well before the year 1000, and the author's argument would fall apart, **confirming (D) as a necessary assumption**. To look at it another way, suppose that someone visited America in 1980 and saw the inhabitants playing baseball with aluminum bats. If it were established that aluminum bats were not used before, say, 1960, then would it be fair to say that baseball could not have been played before 1960? Of course not, since the same game could have been played earlier with the materials that were then available.

In 1519, game was played with rubber ball + Mexicans started using rubber in 1000 -

> Game was invented between 1000 and 1519. The first premise is important because it introduces the 1519 part of the conclusion and it also tells us why we're focused on rubber in connection with the game.

Why does it matter whether rubber was the original substance for ball construction?

The argument is dating the invention of the game based on when rubber was invented (or first used). Synthetic materials in modern basketballs were probably invented in the last decade. When was basketball invented? What if the Mexicans played with the heads of their enemies for thousands of years and then switched to rubber when they discovered it in the year 1000 because it bounced better?

So, the only way this argument can work is if the game was played from the beginning with rubber. (D) removes this "heads of enemies" possibility.

(A) and (C) are out of the scope. The question concerns when the game was originated, and not the popularity of the game (C) or game-playing in general (A).

If (B) were false, then the window in time in which the game could have been originated would be narrower, but still within the limits suggested by the author; thus, the argument would remain intact. Since the denial of (B) does not defeat the argument, (B) cannot be necessary to the argument.

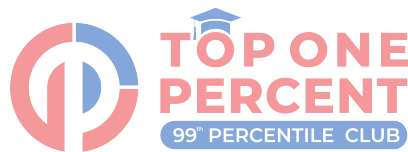
(E) is irrelevant. Cortez's observation is important because it shows that the game could not have originated *after* 1519. Otherwise, there is nothing special about Cortez; there's no reason to require the rubber dating to have been due to him. (E) is inviting us to question the premise that rubber was first used in 1000 A.D. (E) tells us that Cortez was the one who determined when the Mexicans started using rubber. For the purposes of the GMAT, Daffy Duck could have been the archeologist who determined when the Mexicans invented rubber. If we're given that as a premise, we can take it to the bank. Remember, we are addressing the gap between the premise and the conclusion---not questioning the premise or the conclusion themselves.

(C) is also out of scope. We don't care where in Mexico it was popular. We only care when it was invented.

**Top 1% expert replies to student queries (can skip)**

The argument says because rubber was first used around 1000 , and in 1519, the game

was observed to be played with a rubber ball, *the game itself* must have originated between 1000 and 1519. What if this is not true? **The game could have been played in 796 using another material**, and then after 1000 (when rubber started to be used), a ball of rubber started to be used in the game. If we negate Option (D), we can say the bolded part above as an example, and then the argument does not stand, as you can see.



*Example:*

A fourteen-year study of finches on the Galapagos islands concluded that there is a definite relationship between climate and the population size of finch species that thrive at various times. During droughts, more members of large finch species survive because their bills are large enough to crack large, hard seeds, giving them a food supply unavailable to smaller birds. In rainy years, fewer members of the large finch species survive because the additional moisture fosters the growth of plants that produce small seeds. The larger finch varieties have to consume enormous numbers of small seeds to meet their energy demands, and some just cannot eat them fast enough.

**Which one of the following must be assumed in order to justify the conclusion that climatic variations cause a major difference in survival rates of small and large finches?**

- A. During drought conditions, the weather promotes the growth of plants that produce small, hard seeds.
- B. A lengthy period of rainy weather results in fewer large, hard seeds being produced.
- C. In rainy periods, the small finches gather enough food to grow much larger and heavier, but their ultimate size is limited by their inability to eat small seeds fast.
- D. The Galapagos climate during this fourteen-year period had about as much dry weather as it had wet weather.
- E. Small seeds do not have to be cracked open in order to be digested by any of the finch varieties.

The stimulus tells us that large finches are able to better survive during drought periods because of their ability to crack open large, hard seeds. According to the stimulus, the large finches do worse in wet periods because additional growth produces more small seeds, which have to be consumed in enormous numbers to meet the large finches' energy needs. While the stimulus addresses the increase in small seeds during wet periods, it fails to address whether there is a concurrent decrease in the production of large seeds. Such a decrease would be sufficient to justify conclusion.

We need to know more than just the fact that more small seeds are produced during dry periods. We need to also know that less large, hard seeds are being produced if we are going to get to the stated conclusion.

This argument is saying that, just because there is more of one plant's seeds during rain, the finches are less likely to survive. This argument is kind of like the following:

Subway chicken sandwiches are necessary for human survival. During the summer, we all eat lots of Subway chicken sandwiches and everything is awesome and plenty of people make it through the summer. However, during the winter, Subway sells turkey sandwiches. Therefore, more people die. The assumption in these arguments is something like "when the rain produces these small seeds, there are less large, hard seeds." The argument is assuming that more of one thing means less of the other.

### **Correct (B)!**

Is there a connection between the amount of rain in the Galapagos and the size of finch species that tend to thrive there? Finches eat seeds, and the amount of rain helps to determine the kind of seeds that are present. In times of little rain, large finch species have the upper hand, since only they have bills large enough to crack the large, hard seeds. However, rainy times favor plants with small seeds, which means the small finch species have plenty to eat, as their inability to crack the large, hard seeds is no longer so significant. However, the large finches cannot eat fast enough to meet their extraordinary energy requirements. Why would that be? The author must be assuming (B), that during rainy weather, fewer large, hard seeds are being produced. After all, if the supply of large, hard seeds were as high as ever in rainy times, then the large species should be able to thrive, since that same level of large, hard seeds was enough to allow the large species to thrive in times of less rain. So, if rain really does play a role in which finch species thrive, then the author must be assuming (B).

Specifically, answer choice (B), where rainy weather results in fewer large, hard seeds being produced, is a requirement of this argument (if rainy weather doesn't diminish the large seeds available then the larger finches wouldn't have to eat the smaller seeds and could be fine), but not proof that the argument is true (even if there are fewer, like maybe 1 less, large seeds in rainy weather, that wouldn't prove the large finches would have to eat small seeds to the point that they'll begin to die off).

The speaker told us that during droughts, the large finches survive by eating large, hard seeds, but we have no idea of knowing what happens to these seeds during the rainy years. Why can't these finches continue to eat the large, hard seeds?

If you see that gap or oversight in the speaker's reasoning, you can make a good guess that the speaker must be assuming that the large, hard seeds are not as widely available during the rainy months. This is exactly what answer choice (B) tells us. We can

confirm it by using the assumption negation technique. I would phrase the negation of answer choice (B) as follows:

A lengthy rainy period results in the same number of or more large, hard seeds.

This negated version of the answer choice definitively weakens the conclusion, so we have our correct answer.

If more rain = less large hard seeds, then we can clearly see how this would be detrimental to the finch's survival. If we negate this and say that "rainy weather does NOT result in fewer large, hard, seeds" then this would mean that there doesn't seem to be as much of a relationship between climate and survival as people think.

(A) mixes up terms. The author describes large, hard seeds, and small seeds, but there's no telling what difference small, hard seeds could make. This answer choice, if anything, weakens the stimulus argument by disputing the information provided indicating that drought years are more favorable to large finches because they can crack open and store the larger seeds. All we need to know here is that during droughts there are enough hard seeds to go around for all the finches. It doesn't really matter what else there is because the finches are doing fine during droughts.

(C) Individual finches could stay about the same size during rainy periods without injuring the argument. If they did grow to big-bird size during those periods, they would encounter the same problems as the larger species, but there's no reason to believe that they would encounter such a growth spurt. This does nothing to support the stimulus argument. The hole in the argument is that fact that we do not know whether the wet periods result in a decrease in large seeds along with the increase in small seeds. This answer does not fill that hole. Out of scope. In the argument, we are talking about survival and not about size. This seems like a trap answer for someone that was running out of time and saw "population SIZE of finch species) and went with it.

(D) is irrelevant. The argument concerns what happens when the climate changes, and not the relative frequency of different climates. This answer choice may provide support for the overall accuracy of the data produced in the study. However, it does nothing to fill the hole in the argument regarding the study, and is therefore insufficient to justify the conclusion. We don't need to assume that there was as much of one kind

of weather as the other. We are talking about what happens during those kinds of weather. It doesn't matter if that type of weather is any more or less frequent than the other type.

(E) For all we know, all species have the ability to crack the small seeds, so there's no need to assume that the small seeds can be digested without cracking. While this information supports the conclusion that small birds do better when there are small seeds, it does nothing to fill the hole in the argument and is insufficient to justify the conclusion. Out of scope. We don't care if the seeds have to or don't have to be cracked open. The seeds are important not because of their "crackability" but because of their type and how available they are to these finches. There does not seem to be any correlation between "crackability" and survival.

### Top 1% expert replies to student queries (can skip)

If we negate B, the conclusion falls apart. So, it is B.

A lengthy period of rainy weather results in **fewer** large, hard seeds being produced.

Negated Statement: A lengthy period of rainy weather results in **More (not fewer)** large, hard seeds being produced.

If during the rainy season more **large and hard** seeds are available, then larger finch varieties do not need to consume enormous numbers of **small** seeds to meet their energy demands. So, their survival rate will not decline.

## Questions for Class Discussion ... Contd!

11. Country B's oil production is not sufficient to meet its domestic demand. In order to sharply reduce its dependence on foreign sources of oil, Country B recently embarked on a program requiring all of its automobiles to run on ethanol in addition to gasoline. Combined with its oil production, Country B produces enough ethanol from agricultural by-products to meet its current demand for energy.

**Which of the following must be assumed in order to conclude that Country B will succeed in its plan to reduce its dependence on foreign oil?**

- A. Electric power is not a superior alternative to ethanol in supplementing automobile gasoline consumption.
- B. In Country B, domestic production of ethanol is increasing more quickly than domestic oil production.
- C. Ethanol is suitable for the heating of homes and other applications aside from automobiles.
- D. In Country B, gasoline consumption is not increasing at a substantially higher rate than domestic oil and ethanol production.
- E. Ethanol is as efficient as gasoline in terms of mileage per gallon when used as fuel for automobiles.



12. Although there has been great scientific debate for decades over global warming, most scientists now agree that human activity is causing the Earth's temperature to rise. Though predictions vary, many global warming experts believe that average global temperatures will rise between three- and eight-degrees Fahrenheit during the next century. Such an increase would cause an alarming rise in sea levels, displacing millions of people by destroying major population centers along the world's coastlines.

**Which of the following is an assumption in support of the argument's conclusion?**

- A. New technological developments in the next century will not divert rising seas from the world's coastal cities.
- B. Individuals will not become more aware of the steps they can take to reduce the emission of greenhouse gases.
- C. Rising sea levels similarly affect all coastal population centers.
- D. Some global warming experts predict a greater than eight-degree Fahrenheit increase in global temperatures during the next century.
- E. Human activity is the sole cause of increasing global temperatures.

13. In response to the increasing cost of producing energy through traditional means, such as combustion, many utility companies have begun investing in renewable energy sources, chiefly wind and solar power, hoping someday to rely on them completely and thus lower energy costs. These sources require significant initial capital investment, but the operating costs are not so high; so, the utility companies claim that they will be able to provide stable energy supplies to all their clients. As one can easily see, these sources will be less risky for the utilities than non-renewable sources, such as gas, oil, and coal, whose prices can fluctuate dramatically according to availability.

**The claim of the utility companies assumes which of the following?**

- A. The public will embrace the development of wind and solar power.
- B. No new deposits of gas, oil, and coal will be discovered in the near future.
- C. Weather patterns are consistent and predictable.
- D. The necessary technology for conversion to wind and solar power is not more expensive than the technology needed to create energy through combustion.
- E. Obtaining energy from non-renewable sources, such as gas, oil and coal, cannot be made less risky.

14. In 1992 outlaw fishing boats began illegally harvesting lobsters from the territorial waters of the country of Belukia. Soon after, the annual tonnage of lobster legally harvested in Belukian waters began declining; in 1996, despite there being no reduction in the level of legal lobster fishing activity, the local catch was 9,000 tons below pre-1992 levels. It is therefore highly likely that the outlaw fishing boats harvested about 9,000 tons of lobster illegally that year.

**Which of the following is an assumption on which the argument depends?**

- A. Compared to 1992 levels, the population of catchable lobsters in Belukia's territorial waters had not sharply declined by 1996.
- B. The average annual lobster catch, in tons, of an outlaw fishing boat has increased steadily since 1992.
- C. Outlaw fishing boats do not, as a group, harvest more lobsters than do licensed lobster-fishing boats.
- D. The annual legal lobster harvest in Belukia in 1996 was not significantly less than 9,000 tons.
- E. A significant proportion of Belukia's operators of licensed lobster-fishing boats went out of business between 1992 and 1996.

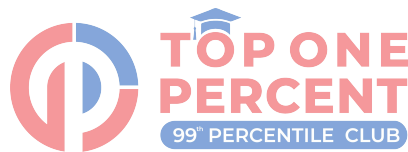


15. Agricultural societies cannot exist without staple crops. Several food plants, such as kola and okra, are known to have been domesticated in western Africa, but they are all supplemental, not staple, foods. All the recorded staple crops grown in western Africa were introduced from elsewhere, beginning, at some unknown date, with rice and yams. Therefore, discovering when rice and yams were introduced into western Africa would establish the earliest date at which agricultural societies could have arisen there.

**Which of the following is an assumption on which the argument depends?**

- A. People in western Africa did not develop staple crops that they stopped cultivating once rice and yams were introduced.
- B. There are no plants native to western Africa that, if domesticated, could serve as staple food crops.
- C. Rice and yams were grown as staple crops by the earliest agricultural societies outside of western Africa.
- D. Kola and okra are better suited to growing conditions in western Africa than domesticated rice and yams are.
- E. Kola and okra were domesticated in western Africa before rice and yams were introduced there.

- 16.** Doctor: Research shows that adolescents who play video games on a regular basis are three times as likely to develop carpal tunnel syndrome as are adolescents who do not play video games. Federal legislation that prohibits the sale of video games to minors would help curb this painful wrist condition among adolescents. **The doctor's conclusion depends on which of the following assumptions?**
- A. The majority of federal legislators would vote for a bill that prohibits the sale of video games to minors.
  - B. Not all adolescents who play video games on a regular basis suffer from carpal tunnel syndrome.
  - C. Playing video games is the only way an adolescent can develop carpal tunnel syndrome.
  - D. Most parents would refuse to purchase video games for their adolescent children.
  - E. The regular playing of video games by adolescents does not produce such beneficial effects as better hand-eye coordination and improved reaction time.



17. Researchers studying the spread of the Black Plague in sixteenth-century England claim that certain people survived the epidemic because they carried a genetic mutation, known as Delta-32, that is known to prevent the bacteria that causes the Plague from overtaking the immune system. To support this hypothesis, the researchers tested the direct descendants of the residents of an English town where an unusually large proportion of people survived the Plague. More than half of these descendants tested positive for the mutation Delta-32, a figure nearly three times higher than that found in other locations. **The researchers' hypothesis is based on which of the following assumptions?**

- A. Delta-32 does not prevent a carrier from contracting any disease other than the Plague.
- B. The Plague is not similar to other diseases caused by bacteria.
- C. Delta-32 did not exist in its current form until the sixteenth century.
- D. No one who tested positive for Delta-32 has ever contracted a disease caused by bacteria.
- E. The Plague does not cause genetic mutations such as Delta-32.



18. If the appropriate timely surgery is not performed on someone who has suffered from appendicitis, the outcome can be potentially fatal; consequently, patients with symptoms strongly suggesting appendicitis are almost always made to undergo a surgery, whether they have actually had appendicitis or not. The appropriate surgery is extremely low-risk but is performed unnecessarily in about 20 percent of all cases. A newly developed internal scan to determine whether someone with symptoms of appendicitis has actually had appendicitis produces absolutely correct diagnosis in 98% of the cases. Clearly, using this scan, doctors can largely avoid unnecessary surgeries related to appendicitis, without, however, performing any fewer necessary surgeries.

**Which of the following assumption is required for the conclusion to be always true?**

- A. the misdiagnoses produced by this scan are always instances of attributing appendicitis to someone who has not had it
- B. the misdiagnoses produced by this scan are never instances of attributing appendicitis to someone who has not had it
- C. all of the patients who are diagnosed with this scan as having had appendicitis have actually had appendicitis
- D. every patient who is diagnosed with this scan as having had appendicitis always has more than one of the symptoms associated with appendicitis
- E. the only patients who are misdiagnosed using this scan are patients who lack one or more of the symptoms that are generally associated with appendicitis



19. Until now, only injectable vaccines against influenza have been available. Parents are reluctant to subject children to the pain of injections, but adults, who are at risk of serious complications from influenza, are commonly vaccinated. A new influenza vaccine, administered painlessly in a nasal spray, is effective for children. However, since children seldom develop serious complications from influenza, no significant public health benefit would result from widespread vaccination of children using the nasal spray.

**Which of the following is an assumption on which the argument depends?**

- A. Any person who has received the injectable vaccine can safely receive the nasal-spray vaccine as well.
- B. The new vaccine uses the same mechanism to ward off influenza as injectable vaccines do.
- C. The injectable vaccine is affordable for all adults.
- D. Adults do not contract influenza primarily from children who have influenza.
- E. The nasal spray vaccine is not effective when administered to adults.

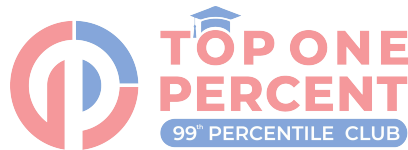




20. To decrease the number of crimes in city Y, the city's Police Commissioner proposed taking some police officers from low-crime districts of the city and moving them to high-crime districts of the city. His proposal is based on city Y crime data that show that the number of crimes in any district of the city decreases when additional police officers are moved into that district.

**The Police Commissioner's proposal depends on which of the following assumptions?**

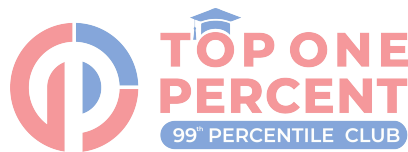
- A. City X experienced a drastic reduction in crime after implementing a proposal similar to that proposed by the Police Commissioner of city Y.
- B. The severity of crimes committed in any district of the city decreases when additional police officers are moved into that district.
- C. The number of crimes committed in all high-crime districts of city Y is more than triple the number of crimes committed in all low-crime districts of city Y.
- D. There are more low-crime districts than high-crime districts in city Y.
- E. Districts of the city from which police officers are removed do not experience significant crime increases shortly after the removal of those officers.



21. The Earth's rivers constantly carry dissolved salts into its oceans. Clearly, therefore, by taking the resulting increase in salt levels in the oceans over the past hundred years and then determining how many centuries of such increases it would have taken the oceans to reach current salt levels from a hypothetical initial salt-free state, the maximum age of the Earth's oceans can be accurately estimated.

**Which of the following is an assumption on which the argument depends?**

- A. The quantities of dissolved salts deposited by rivers in the Earth's oceans have not been unusually large during the past hundred years.
- B. At any given time, all the Earth's rivers have about the same salt levels.
- C. There are salts that leach into the Earth's oceans directly from the ocean floor.
- D. There is no method superior to that based on salt levels for estimating the maximum age of the Earth's oceans.
- E. None of the salts carried into the Earth's oceans by rivers are used up by biological activity in the oceans.



22. Two centuries ago, Tufe Peninsula became separated from the mainland, isolating on the newly formed Tufe Island a population of Turfil sunflowers. This population's descendants grow to be, on average, 40 centimeters shorter than Turfil sunflowers found on the mainland. Tufe Island is significantly drier than Tufe Peninsula was. So, the current average height of Tufe's Turfil sunflowers is undoubtedly at least partially attributable to changes in Tufe's environmental conditions.

**Which of the following is an assumption on which the argument depends?**

- A. There are no types of vegetation on Tufe Island that are known to benefit from dry conditions.
- B. There were about as many Turfil sunflowers on Tufe Peninsula two centuries ago as there are on Tufe Island today.
- C. The mainland's environment has not changed in ways that have resulted in Turfil sunflowers on the mainland growing to be 40 centimeters taller than they did two centuries ago.
- D. The soil on Tufe Island, unlike that on the mainland, lacks important nutrients that help Turfil sunflowers survive and grow tall in a dry environment.
- E. The 40-centimeter height difference between the Turfil sunflowers on Tufe Island and those on the mainland is the only difference between the two populations.

23. The spacing of the four holes on a fragment of a bone flute excavated at a Neanderthal campsite is just what is required to play the third through sixth notes of the diatonic scale—the seven-note musical scale used in much of Western music since the Renaissance. Musicologists therefore hypothesize that the diatonic musical scale was developed and used thousands of years before it was adopted by Western musicians.

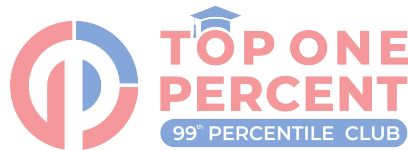
**Which of the following is an assumption required by the argument above?**

- A. Bone flutes were probably the only musical instrument made by Neanderthals.
- B. No musical instrument that is known to have used a diatonic scale is of an earlier date than the flute found at the Neanderthal campsite.
- C. The flute was made from a cave-bear bone and the campsite at which the flute fragment was excavated was in a cave that also contained skeletal remains of cave bears.
- D. Flutes are the simplest wind instrument that can be constructed to allow playing a diatonic scale.
- E. The bone used to make the Neanderthal flute would have been long enough to make a flute capable of playing a complete diatonic scale.

24. Student Advisor: One of our exchange students faced multiple arguments with her parents over the course of the past year. Not surprisingly, her grade point average (GPA) over the same period showed a steep decline. This is just one example of a general truth: problematic family relationships can cause significant academic difficulties for our students.

**Which of the following is required for the Student Advisor to claim that problematic family relationships can cause academic difficulties?**

- A. Last year, the exchange student reduced the amount of time spent on academic work, resulting in a lower GPA.
- B. The decline in the GPA of the exchange student was not the reason for the student's arguments with her parents.
- C. School GPA is an accurate measure of a student's intellectual ability.
- D. If proper measures are not taken, the decline in the student's academic performance may become irreversible.
- E. Fluctuations in academic performance are typical for many students.



25. Science writer: All scientists have beliefs and values that might slant their interpretations of the data from which they draw their conclusions. However, serious scientific papers are carefully reviewed by many other scientists before publication. These reviewers are likely to notice and object to biases that they do not share. Thus, any slanted interpretations of scientific data will generally have been removed before publication.

**Which one of the following is an assumption required by the science writer's argument?**

- A. The scientists reviewing serious scientific papers for publication do not always have biases likely to slant their interpretations of the data in those papers.
- B. In general, biases that slant interpretations of data in serious scientific papers being reviewed for publication are not shared among all scientists.
- C. Biases that are present in published scientific papers and shared by most scientists, including those who review the papers, are unlikely to impair the scientific value of those papers.
- D. The interpretation of data is the only part of a serious scientific paper that is sometimes slanted by the beliefs and values of scientists.
- E. Slanted interpretations of data in a scientific paper can be removed only through careful review by scientists who do not share the biases of the author or authors of the paper.

## Answers to Questions for class discussion:

1. E
2. E
3. D
4. B
5. C
6. A
7. C
8. C
9. C
10. D
11. D
12. A
13. C
14. A
15. A
16. D
17. E
18. A
19. D
20. E
21. A
22. C
23. E
24. B
25. B



1.

Profits for a particular product have been going down and the CFO has determined that this is because, on the one hand, the cost to make the product has increased and, on the other, consumers won't pay more than the current price (recall that  $\text{Profit} = \text{Revenues} - \text{Costs}$ ). The CEO only wants Company X to sell products with increasing profit margins; as a result, the CFO decides the solution is to stop making this product. This decision would make sense only if we can be assured that there is no way to have an increasing profit margin for the product in question.

(E) CORRECT. If the costs for the existing product can be reduced, then the profit margin will increase (again, recall that  $\text{Profits} = \text{Revenues} - \text{Costs}$ ). If the costs cannot be reduced, then the profit margins will not increase.

(A) Whether there are new, profitable products does not address the issue of whether there is a way to achieve increasing profit margins for the flagship product.

(B) The flagship product's revenues as a percentage of total revenues does not address the issue of whether there is a way to achieve increasing profit margins for the flagship product (although it does highlight why the company might find itself with a big problem if it follows the CEO's advice!).

(C) This may increase the revenues earned by the product, but this choice does not address the additional cost associated with new features, so we still do not know whether we can achieve increasing profit margins for the product. We may be able to, but we may not: the features may cost more than the increased price that consumers would be willing to pay.

(D) Whether the management team agrees with the CFO's recommendation does not address the issue of whether there is a way to achieve increasing profit margins for the flagship product.



### Top 1% expert replies to student queries (can skip)

- 1) One of the choices **most strongly** does something to the main issue of the passage (other choices may, too, but one does the most)
- 2) This main issue that the correct choice strengthens / weakens / whatever, is very specific and comes *only* from the passage and the information provided in it

Look at this passage and identify what that main issue is before reading on. And from then point on (as for any other CR passage), *only* focus on that issue and nothing else. That issue here is the profitability of one of the flagship products. Not revenue, not if replaceable products are available, not if other managers will agree, nothing. What needs to be done to ascertain profitability? (This is the reason both Option (A), Option (B), and Option (D) are incorrect)

Option (C) and Option (E) look good to that extent. Revenues may increase through what Option (C) says, but we don't know what will be the impact on incremental cost, and hence profit. What is given in Option (E), if it can be implemented, will increase profitability (even at current revenue levels) without the company having to divest the product.

So Option (E) needs to be evaluated **the most** to ascertain impact on **profitability**.



### Top 1% expert replies to student queries (can skip)

C goes on to negate the assumption that consumers won't pay more than the current price. But the cost of production can also increase.

E - If the costs for the existing product can be reduced, then the profit margin will increase. If costs cannot be reduced, the profit margin will not be increased  
(Profit=Revenue-Costs.)

2.

**The correct answer choice is (E).** The conclusion of the argument is the first sentence: George Orwell's book *1984* seems to have exercised a lot of influence on **many** intellectuals. The basis for this conclusion is that *1984* was the second most named book in a survey about influential books. The argument contains a serious error: just because *1984* came in second in the survey does not mean that "**MANY**" of readers selected it as influential. To illustrate this proposition, consider the following example:

Number of people surveyed = 10000, Number of people naming the Bible as the most influential book = 9999, Number of people naming *1984* as the most influential book = 1.

In this example, *1984* has come in second, but no one would say this second-place finish supports a conclusion that "*1984* has exercised much influence on **MANY** of this newspaper's readers."

You can expect the correct answer to address this issue.

**Answer choice (E): This is the correct answer.** Consider how the extremes test works for this answer choice.

**Bible: 9999**

In this case, only one person selected *1984* as the most influential book, and the argument is greatly weakened.

**Bible: 5001**

In this instance, 4999 people selected *1984* as the most influential book and the conclusion is strengthened (the other 5001 people would have selected the Bible). Note that you cannot try a number larger than 5001 because that would mean that the Bible was not named most often. Because the varied responses produce different evaluations of the argument, this answer is correct.

Answer choice (A): The survey in the argument addresses influence, not the actual reading of the book. A person might be influenced by a book like the Bible through church teachings, etc. without actually having read the book. To apply the Extremes Test, try opposite answers of "0" and "10000." **In fact, it is not even necessary to read a book to be influenced by it (imagine a movie based on a book / an audio book / a friend telling you about it / someone else reading the book to you ... etc.**

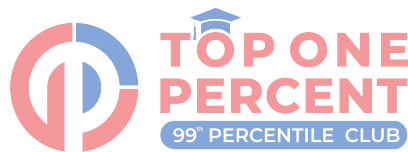
Answer choice (B): **You are supposed to give only one answer ... whether you have read just one book or 10,000 ... so this answer is extremely irrelevant.**

The survey in the argument asks readers to name the one book with the most influence in their lives; the number of books read does not affect this answer. To apply the Extremes Test, try opposite answers of “1” and a large number, say “10,000.” These numbers will not alter the evaluation of the argument, and thus this answer is incorrect.

Answer choice (C): **We are never supposed to question the facts in any argument. So, this is simply wrong ... always.**

This answer is not relevant to the columnist’s argument. Apply the Extremes Test to disprove this answer by using opposite answers of “10000” and a very large number, such as “1 million.”

Answer choice (D): Doesn’t matter ... this won’t give us whether “1984” was liked by many or few individuals.



3. We're trying to figure out why the gel is more effective than the lozenge. The author's explanation focuses on where cold viruses congregate. In any argument in which an author is explaining a phenomenon, we should always wonder if there are any other viable explanations. Answer (D) addresses that last point, raising the possibility that there are other factors responsible for the difference in effectiveness of the two remedies.

If the gel / lozenge DO contain ingredients that impact the effectiveness of the zinc, the author's argument is weakened, since those ingredients could be responsible for the difference in effectiveness.

If the gel / lozenge DO NOT contain such ingredients, the author's argument is strengthened, since we've eliminated another possible explanation.

If this is true then we know that the reason gel worked better than lozenges was because of the zinc activity (which was different even though the zinc concentration was same in both) and not due to the concentration of the virus in the mouth.

A. This is irrelevant. We are trying to evaluate whether cold virus concentrate in the mouth or the nose. This doesn't help the evaluation in anyway.

B. This is outside the scope - we don't really care if there are any non-zinc effective oral remedies, since we have no clue how they work (for all we know, those oral remedies shoot antibiotics up into your nasal passage).

C. Irrelevant. How does this tell us whether the virus is in the nose or the mouth?

E. Irrelevant. We are not concerned with the effect in symptoms.

4. A caused B  
C didn't cause B strengthens  
C caused B weakens

(A) The passage already shows that it is realistic to have whole grains 3 times a day.

(C) We are not trying to find alternatives.

(D) Out of context since the study is primarily concerned about lowering cholesterol by eating whole grains.

(E) We do not care about awareness.

**The correct answer is B.** The conclusion of the argument is that "eating whole grains can have an appreciable effect on cholesterol levels." This assertion is based on the fact that some people who ate three servings of whole grains every day for six months had lower cholesterol than did people who did not, even though their cholesterol levels were the same before the study began. The argument does not take into account, however, other factors, such as exercise, that may have contributed to the difference in cholesterol levels. Choice B asks whether there is indeed another factor – exercise – that should be taken into account. To make the conclusion valid, all other conditions must be the same (other activities). If the group who ate the whole grains ran 10 miles a day and the others did not, then this conclusion that eating grains lowers cholesterol is not valid. If "B" is true, then under same conditions eating whole grains seems to help lower cholesterol.

### **Alternate sol from gmatclub**

Study split people with same cholesterol level into two groups: First who ate 3 servings of whole grains, the second did not.

After 6 months, the cholesterol levels of the first group were much lower than those of the second group.

Conclusion: Eating whole grains can have an appreciable effect on cholesterol levels.

To figure out whether it was the whole grains that led to lowering of cholesterol, we need to figure out whether the two groups differed in any other significant aspect e.g. were they following the same exercise regime? were they following the same diet (other than 3 servings of whole grain)? were they taking/not taking the same medicines? etc

Which of the following will be useful to evaluate?

a) Is it realistic to expect people to eat three servings of whole grains per day?

Irrelevant question. First group did eat 3 servings per day.

b) Were the two groups of people in the study involved in the same exercise program?

One of our relevant questions. Did they follow the same exercise program? Say first group exercised for 1 hour 4 days a week while second group exercised for 15 mins everyday. Perhaps the exercise regime of first group was responsible for lowering cholesterol. Answer to this question will be useful to evaluate the conclusion.

c) Can the same drop in cholesterol be achieved through medication?

This question is different from the question above. Had the question been: Were the 2 group following the same medicine regimen? then it would be relevant. It would tell us a major relevant difference between the two groups.

But as given, if we say "Yes, the same drop can be achieved through medication"

or "No, the same drop cannot be achieved through medication"

Does either impact our conclusion - that the drop was due to 3 servings of whole grains? No.

Even if medicine can give the same drop, it doesn't mean that 3 servings of whole grains cannot. What else can lead to lower cholesterol is irrelevant to us. Whether whole grains led to lower cholesterol or not is out question.

d) Did the study continue to track the subjects beyond six months?

Our study period was 6 months. Whether the study tracked them beyond that is irrelevant.

e) Are most consumers aware of the different between whole grains and processed grains?

"Most consumers" are irrelevant. We know that our subjects of first group ate 3 servings of whole grains and of second group did not.

Answer (B)

### Top 1% expert replies to student queries (can skip)

"Scientists have determined that **an effective way to lower cholesterol is to eat three servings of whole grains** every day"

"Clearly, **eating whole grains can have an appreciable effect on cholesterol levels**"

These statements portray **cause-effect** -> Eating whole grains causes lower cholesterol levels

5. **Imagine there are 100 female rhinos:**

**Scenario 1:**

In this case, the females are NEVER tranquilized for any reason other than re-collaring.

5 females re-collared and tranquilized ... and if **only these 5 have low fertility rates** (as per the passage, only the re-collared ones have low fertility rates)

PLUS

95 females never re-collared and never 5 tranquilized for any other reasons ... these 95 don't have low fertility rates ... **then argument is strengthened (that something in the tranquilizer inhibits fertility).**

**Scenario 2:**

In this case, the females are ALWAYS tranquilized for reasons other than re-collaring.

5 females re-collared and tranquilized ... and if **only these 5 have low fertility rates** (as per the passage, only the re-collared ones have low fertility rates)

95 females never re-collared BUT have been tranquilized for other reasons ... BUT as per the passage, these 95 don't have low fertility rates ... **then argument is weakened (that something in the tranquilizer inhibits fertility).**

**C is the best answer:**

\*\*\*

A. Irrelevant. This does not tell us anything about whether the darts affect the fertility rate of a female.

B. Irrelevant. We do not know if the same behavior is observed in other mammals.

D. We are only concerned with females.

E. Irrelevant. It does help evaluate if the tranquilizer is, in fact, causing a decrease in fertility.

## Alternate sol from gmatclub

'Useful to evaluate' questions are generally hard. You focus on the conclusion and ask yourself, "What is the gap in the logic? What more do I need to figure whether the conclusion is valid?"

Here is the argument:

Many rhinoceroses wear radio collars.

Often, collars slip.

When a collar slips, the animal is shot with a tranquilizer to re-collar.

Fertility of frequently recollared females <<< fertility of uncollared females.

(Mind you, it doesn't compare collared females with uncollared)

Conclusion: tranquilizer inhibits fertility

The assumption here is that only frequently re-collared females get tranquilizer shots. Hence, only their fertility is low. Therefore, tranquilizer is the culprit.

I would like to know the following: Do uncollared females also get many tranquilizer shots? If yes, then the tranquilizer does not explain the low fertility. If they do not get many tranquilizer shots, then the tranquilizer could explain the low fertility.



Option C asks this question: How many times are tranquilizers used for other reasons? Those reasons would be common to collared and uncollared females. If, for other reasons, the tranquilizers are used very often, the effect on only the frequently collared females cannot be explained by tranquilizers.



6.

**A. CORRECT.**

We don't care about the actual value of advertising-sales revenue ... all we care about is that it increased ...

B. If the circulation has increased this could lead attract more advertisers and thereby lead to increased advertisement sales. In this case, the increased sales will not be because of reorganization. Therefore, B is definitely relevant.

C. If the number of advertising employees increased, this means that there were more people involved in advertising and this could have increased the ad sales. This is relevant.

D. This is clearly relevant. If this were true, then reorganization would have helped them cope better.

E. Relevant. If the economy has been booming than the increased sales can be attributed to the economic growth rather than reorganization

**Top 1% expert replies to student queries (can skip)**

If Greenville Times replaced many of their sales representatives, then the increase in revenue from advertising sales could have been a result of the change in personnel and not a result of the reorganization. Maybe, the new sales reps were better at their jobs than the old representatives were. So, we can eliminate C.

**Top 1% expert replies to student queries (can skip)**

In the given question, we only need to evaluate why the advertising sales increased. We need to look for the cause of increase in advertising sales. The cause can either be reorganization or some other thing.

Option A asks for the figure for Greenville Times' advertising sales- which is irrelevant to answer the cause of increase in advertising sales. Hence, A is the correct answer.

Option C asks if there has been a substantial turnover in personnel in the advertising sales force over the last 2 years.

If there has been a substantial personnel turnover, it can suggest that better people could have been hired which would have consequently led to higher advertising sales. Hence, with Option C, one can check if it was the reorganisation or substantial personnel turnover which led to an increase in advertising sales- which can provide an answer to the cause of increase in advertising sales.

7.

**B is the most chosen wrong answer.** Remember one thing: the shop that has the maximum numbers of customers may be the first to go bankrupt (imagine giving away things at 90% discount) ... and the shop that has very few customers can be extremely profitable. So, this answer is PLAIN wrong.

The problem with B is that even if you know whether most people in Morganville shop in the central district, Save-all might still cause bankruptcies because everyone will move to Save-all. Irrelevant! Even if they did not do all their shopping at Morganville, this does not help us answer whether opening Save-all will bankrupt the other smaller shops.

**C is correct:** 25% of shops go bankrupt after Save-all opens. If 5% go bankrupt during a five-year period, Save-all is "correlated" with a 20% increase in bankruptcies. If 25% of shops go bankrupt, then there's no real correlation between Save-all and an increase in bankruptcies. Thus, knowing the "a priori" percentage of bankruptcies would help in evaluating whether or not Save-all contributes to such an effect.

**Let's use the extremes test for C.**

1. More than 25%: Well, that means Save-all does not cause bankruptcies. Since it is happening in towns with Healthy shopping districts, it must be normal for a quarter to go bankrupt in 5-year period.

2. 0%: That means Save-all does cause some stores to go bankrupt.

A. Irrelevant. What is applicable to other towns need not necessarily be applicable to Morganville.

D. The answer to this would tell us of the job opportunities Save-all may create. It would however tell us nothing about Save-all's effect on the smaller shops.

E. Irrelevant. Save-all's profits are not relevant here.

8.

The argument opens by presenting two premises: in the past chemical wastes were dumped into Cod Bay, and today 3 percent of the bluefin cod have deformed fins, which has caused consumers to stop buying the cod. The Cod Bay fishing representatives claim that since the chemicals that were dumped are known to cause genetic mutations, those chemicals must have then caused the deformities in the bluefin cod. Accordingly, they believe the companies that dumped the chemicals should be financially liable for, presumptively, the fishing industry's loss in sales of bluefin cod.

The argument on the surface does not seem entirely unreasonable, although there are so many unknown factors that could affect this situation that considerably more information is required before the argument can be assessed.

Answer choice (A): This answer helps in evaluating the argument because it would help determine if the 3 percent deformity rate is normal or unusual. If the incidence of fin-deformity in non-exposed cod is always about 3%, or is close, there is no reason to believe that the chemicals cause the deformity. Therefore, even if consumers are wary of the fish because of its deformities, the chemical companies are not necessarily responsible. On the other hand, if the incidence of fin-deformity is normally zero, the assertion that chemical dumping caused the problem is more plausible.

Remember that with answers requiring percentages, the Extremes Test suggests that you use 0 and 100. If the answer to the question in this answer is 0, the representatives' claim is strengthened; if the answer to the question in this answer is 100, the representatives' claim is severely weakened. Thus, this answer passes the Extremes Test, and in an Except question we know the answer is incorrect.

Answer choice (B): This response is in the same vein as answer choice (A). Using the Extremes Test, if the answer to the question in this answer is 0, the representatives' claim is strengthened; if the answer to the question in this answer is 100, the representatives' claim is severely weakened. Thus, this answer passes the Extremes Test, and in an Except question the answer is incorrect.

**Answer choice (C): This is the correct answer choice.** Remember, this is an Except question, so this answer does not help in evaluating the representatives' claim. In short, the argument is about what caused the deformed fins and who is liable for the losses incurred from lost sales. This answer deals with an after-the-issue fact, and so it does not bear on the representatives' claim. Using the Extremes Test, try "yes" and "no" responses to the question posed in this answer choice. If the answer to the question in this answer is Yes, the representatives' claim is unaffected; if

the answer to the question in this answer is No, the representatives' claim is unaffected. Thus, this answer fails the Extremes Test, and in an Except question we know the answer is correct. **(C)** is correct because the answer to this question would have no bearing on the representative's claim. Why? Because his claim is about the cause of the deformations, not about the deformed fish's effect on the people who ate them! So, whether the answer to this question is yes or no, that doesn't help us judge his claim that the chemical wastes caused the deformations.

Answer choice (D): If bluefin cod in general are susceptible to deformity-causing illnesses, it is possible that disease, rather than the chemicals, is the cause of the deformities in the Cod Bay bluefin. This response raises the possibility of an alternate cause, which is critical, so this response is incorrect. Using the Extremes Test, if the answer to the question in this answer is No, the representatives' claim is strengthened; if the answer to the question in this answer is Yes, the representatives' claim is weakened. Thus, this answer passes the Extremes Test, and in an Except question the answer is incorrect.

Answer choice (E): Read this answer closely: "Are there gene-altering pollutants present...other than the chemical wastes that were dumped?" This answer is asking whether there could be some other type of pollutant besides the dumped chemicals. If so, that would call into question whether the dumped chemicals really did cause the deformities. Thus, this choice, like answer choice (D) raises the possibility that there is an alternate cause for the deformities. Using the Extremes Test, if the answer to the question in this answer is No, the representatives' claim is strengthened; if the answer to the question in this answer is Yes, the representatives' claim is weakened. Thus, this answer passes the Extremes Test, and in an Except question the answer is incorrect. This choice helps us evaluate the argument, so it's incorrect. If it turned out that there were other gene-altering pollutants present, for example, it may be that those, and not the chemical wastes, were the cause of the deformed fins.

### **Top 1% expert replies to student queries (can skip)**

The correct answer need not be totally irrelevant. It can be relevant to the argument, but it's just that it would not help us in evaluating the claim. So, we're looking for the one question whose answer wouldn't help us evaluate the representative's claim.

The question stem is an unusual Evaluate the Argument Except question, where the four incorrect answers help evaluate the validity of the argument and the one correct answer does not help evaluate the validity of the argument. Remember to use the Extreme Test when trying to confirm the correct answer or eliminate wrong answers.

9.

The core issue is:

Should we use a computer program or human translators to translate a long document?

What we know so far is:

HUMAN TRANSLATORS

- they have different writing styles, which can sometimes be incompatible

COMPUTERS

- faster than humans
- stylistically uniform
- 80% accuracy rate

The author of this stimulus discusses large translations, which are sometimes assigned to groups of human translators with various styles. The author asserts that computers, which would be of more consistent style with 80% accuracy, should be used instead.

Imagine you assign Anton, Beth, and Cecilia to translate the first 20 pages, the middle 20 pages, and the final 20 pages of a document, respectively. These three translators might all do wonderful work translating their portions of the text. However, you are likely to end up with sudden shifts in style every 20 pages. You may read for 20 pages about the role of agreements in the workplace. Then suddenly the text could focus on 'understanding.' Finally in the last twenty pages, you could shift to reading only about 'contracts.'

The reason for this shift could be simple decisions made about how to translate the same word: Anton could choose to translate *les accord* as 'agreement', then Beth might choose to translate it as 'understanding,' and finally Cecilia could choose 'contracts.' The result would be a text that confuses the reader about what the topic of the document really is.

That is a simplistic example - different styles goes beyond word choice - but I hope it illustrates the problem presented in the stimulus. Now when we use a single computer program for the entire document, we would not have to worry about shifts in style in the middle of a document. Whether or not a computer program has a specific style, we would only read one style throughout the text.

We have no reason to avoid a "distinct style" in a translation. We only want to avoid shifts in two distinct styles that create incompatibility. For this reason, answer choice (C) would not help us evaluate computer translation programs.

Answer choice (A): If stylistic guidelines could solve the inconsistency problem, then this provides an easy solution. Knowing this would certainly

be valuable in assessing the value of computer translation versus human translation. This is relevant, because if we can solve the problem associated with human translators, then human translators become a better option than before.

Answer choice (B): If numerical comparisons of accuracy can be made, then that provides another basis for assessing whether computer translations would be preferable.

This is a relevant question, because what if the whole "80% accuracy rate" is total nonsense? What if 80% accuracy by computer is less readable than the stylistic differences of the human translators? This is relevant, because the 80% accuracy rate was one of the premises. If the 80% accuracy rate is meaningless, then the author's endorsement of COMPUTERS is weakened by having one less leg to stand on.

Answer choice (C): This is the correct answer choice, because the answer to this question would not help us to assess the author's conclusion that computer translations are preferable. Since this is the only choice whose answer would not help us to evaluate the author's argument, it is the correct answer to this Evaluate Except question. This is irrelevant, because whether different programs have different styles or not, that wouldn't enter into our debate between using A COMPUTER PROGRAM vs. SEVERAL HUMAN TRANSLATORS. If we're using a computer, we're using ONE computer program, which will produce a "stylistically uniform translation". So, it doesn't matter whether different programs have distinct writing styles, because we'd only ever use one at a time. We'd never encounter the problem we do with several human translators, who can have incompatible writing styles.

The tricky thing to watch out for is that we are given the plural form of "programs," so one might be tempted to think that different computer programs will be used and having this variety, in terms of programs, will produce varied writing styles. However, the author used the plural version of "programs" in the stimulus and said that they would produce the same results stylistically. So, the author would probably state that this isn't something that they forgot to address, as it is explicitly accounted for in their argument.

Answer choice (D): The answer to this question is rather vital to the question of the value of computer translation, so this is an incorrect answer to this Evaluate Except question. This is relevant because this digs into how trivial / important that 20% inaccuracy rate of the computer program is. Is the computer messing up words that are inconsequential or is it messing up incredibly integral parts of the text?

Answer choice (E): This is another important question to ask in comparing the relative strengths of computer- versus human-created translation.



This is relevant because we don't know how accurate human translators are. Are they 99% accurate? Are they 50% accurate? And do the type of mistakes computer programs make more/less important to users than the type of mistakes humans make?

### Top 1% expert replies to student queries (can skip)

The argument essentially says computer translations have three things - speed, uniformity, and accuracy (80% accuracy being fairly highly accurate is an implied understanding we develop on reading the passage). So providing translation jobs to computers is better than to provide them to humans (who produce non-uniform translations as an example, if multiple people work on the same document).

So now if we take either end of Option (B), we get either that numerical comparisons of translation accuracy are possible or that numerical comparisons of accuracy are not possible. If the former, then whatever be the respective numbers, but accuracy of computers and that of humans can be compared and the argument may be affected (the accuracy piece at least). Now, if the comparisons cannot be established then that part of the argument fails that says computers produce (fairly) accurate translations. So definitely Option (B) is important to evaluate.

Note - We are evaluating Option (B) to see whether at least that one part of the argument (among three - fast, uniform, **accurate**) holds up or not. To that end, it is important to evaluate Option (B). In this case, don't go by a formulaic approach - rather go by one that is based on logically thinking through the problem. If we say on one end that a numerical percentage for accuracy cannot be established, then computers producing 80% accurate translation does not hold up in any way, shape, or form. But it is also important to see whether such an accuracy percentage can be established, because therein lies one of the three aspects (accuracy) based on which the argument says computers should be asked to do translations, and not humans.

### Top 1% expert replies to student queries (can skip)

The issue with using human translators for long documents is that the different styles are usually incompatible with one another.

For example, imagine you assign Anton, Beth, and Cecilia to translate the first 20 pages, the middle 20 pages, and the final 20 pages of a document, respectively. These three translators might all do wonderful work translating their portions of the text. However, you are likely to end up with sudden shifts in style every 20 pages. You may read for 20 pages about the role of agreements in the workplace. Then suddenly the text could focus on 'understanding.' Finally in the last twenty pages, you could shift to reading only about 'contracts.' The

reason for this shift could be simple decisions made about how to translate the same word: Anton could choose to translate *les accord* as 'agreement', then Beth might choose to translate it as 'understanding,' and finally Cecilia could choose 'contracts.' The result would be a text that confuses the reader about what the topic of the document really is.

That is a simplistic example - 'different styles' goes beyond word choice - but I hope it illustrates the problem presented in the stimulus. Now when we use a single computer program for the entire document, we would not have to worry about shifts in style in the middle of a document. Whether or not a computer program has a specific style, we would only read one style throughout the text.

We have no reason to avoid a "distinct style" in a translation. We only want to avoid shifts in two distinct styles that create incompatibility. For this reason, answer choice (C) would not help us evaluate computer translation programs.

Note - This is an Evaluate-EXCEPT question. Remember when you do EXCEPT questions to be careful about describing the correct answer in unfair terms.

In Games, it's totally fair to flip a Could Be True - EXCEPT into "Which Must be False?"

On GMAT, it is not fair to flip a Strengthen-EXCEPT into "Which one Weakens?" Instead, we would just think, "Which one DOESN'T Strengthen?" (Remember, something could just be irrelevant ... irrelevance DOESN'T strengthen or weaken)

So 4 of these answer choices will be relevant to strengthening/weakening the argument, and 1 correct answer will be irrelevant.



10.

Conclusion:

If atmospheric volcanic ash caused China's weird weather in 43 B.C., then Mt. Etna's erupted ash must have spread over great distances

Premise:

There was weird weather in China the year after Mt. Etna erupted

In order to assess assumptions/objections to arguments, we frequently assume the opposite of the conclusion.

For example, if an author concludes that "Harvard is better than Stanford", it's our job to consider how we could argue that "Harvard is NOT better than Stanford".

However, when you disagree with a conditional conclusion, it's a little trickier.

We need to accept that the weird Chinese weather WAS caused by volcanic ash in the atmosphere but argue that the ash from Mt. Etna did NOT travel over great distances.

It seems like the only way to make that idea coherent is to argue that the weird Chinese weather was caused by volcanic ash from some different, closer source.

(A) Modern equipment is totally irrelevant. We're trying to assess the cause of something in the past.

(B) This would only help elaborate the details of the EFFECT. But the conclusion is assessing the CAUSE. This answer choice has nothing to do with whether the ash in the Chinese atmosphere came from Mt. Etna or some other source.

(C) What's happening in Sicily is not our concern. We're looking to figure out whether the ash in China's atmosphere came from Mt. Etna or from elsewhere.

**(D) This works! This helps us assess where the ash in China's atmosphere came from.**

(E) We only care about this eruption, not subsequent ones.

The conclusion acknowledges this possibility by starting off, "If these phenomena [the temperature drops] were caused by volcanic ash, then..."

In other words, when we are considering the validity of this conclusion, we are taking it for granted, for the purpose of the argument, that the temperature drops were caused by volcanic ash. Now we have a narrower question to deal with: we have to determine whether the volcanic ash causing the temperature drops came from Mount Etna. Even if we grant that the temperature drops come from volcanic ash, at the moment we do not know whether the volcanic ash causing the temperature drops came from Mount Etna.

This is where answer choice D came in. It brought up the possibility that another eruption closer to China occurred. If such an eruption had occurred, then it would be less likely that Etna's volcanic ash needed to travel all the way around the world. If no such eruption occurred, then it would be more likely that Etna's volcanic ash was responsible for the temperature drops.

The problem with answer choice C is that it disregards the fact that for the purposes of the conclusion, we are already granting that volcanic ash caused colder temperatures in China. Regardless of the temperatures in Sicily, we will not know whether the volcanic ash causing the colder temperatures in China came from Mount Etna or not.

If the temp in Sicily didn't drop, you might be thinking that Mt Etna didn't produce enough ash/wasn't powerful enough to be the cause of any such decline in temp, and if it did drop you might be thinking that it could have been powerful enough to be the cause. But there is a problem with both sides of that evaluation, and that is that the stimulus never gave us any information about where the temperature would drop. If the ash cloud moves with the wind and gets carried away from the site of the eruption, then perhaps it would be powerful enough to cause a drop in temperature somewhere downwind from the site of the eruption, with no impact at the eruption site. That is, normal temperatures in Sicily tell us nothing about whether Mt Etna could have caused a temperature drop somewhere else. Likewise, a drop in temperature in Sicily would tell us nothing about whether Mt Etna could have caused a similar temperature drop in China. Maybe it could do both, but then again maybe it could only do one? It would have to be a mighty big ash cloud to cause both places to drop in temperature, right?

**B.**

We know that cold temperatures exist for a year or more, but we don't know whether that would be just right by the eruption site or whether even faraway places that were impacted would be impacted for a full year. Therefore, B is not relevant.

11.

The argument concludes that the program will sharply reduce Country B's reliance upon foreign oil. It means that the country will not have to import. The only condition that a country doesn't need to import is:

**Production  $\geq$  Consumption**

Production alone or consumption alone can't decide the import. So, the right answer must talk about both production and consumption.

Use negation technique on D ... if the consumption is increasing faster than production,  
the country will have to import.

SO ... this argument assumes either that Country B's energy demands will not increase beyond current levels or that the country will be able to produce additional oil and ethanol to meet any growth in demand.

(D) CORRECT. If gasoline consumption were to increase at a substantially higher rate than oil and ethanol production, then domestic production would no longer meet domestic demand, and this specific program would not reduce Country B's reliance on foreign oil specifically by substituting domestic. **And the country will HAVE TO import.**

(A) The argument does not mention electric power, nor does it claim that ethanol is superior to all other alternatives. The conclusion concerns only the claim that Country B can reduce its dependence on foreign oil via its own ethanol and oil production.

(B) The argument does not make a distinction between the amount of ethanol versus oil production, nor does it make a distinction about the rate of increase in production of either energy source. The claim simply says that the two sources combined are expected to substitute for the foreign oil.

(C) It is not necessary to the argument that ethanol be suitable for other applications for which oil is used. The conclusion asserts only that Country B will be able to reduce its dependence on foreign oil if it uses ethanol, in addition to oil, to power automobiles.

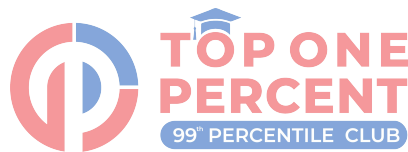
(E) It is not absolutely necessary to the argument that ethanol be as efficient, on a mile per gallon basis, as gasoline. The program could still reduce oil imports even if ethanol were not as efficient as gasoline.

## **Top 1% expert replies to student queries (can skip)**

Efficiency has nothing to do with availability

If the demand goes up a millionfold in the future but they have only one liter of the fuel (it may be as efficient), will they have to import?

Both consumption and production matter when we consider imports.



12.

The argument concludes that rising sea levels caused by global warming will destroy major coastal population centers and displace millions of people. Any assumption in support of this conclusion would have to corroborate that these events will definitively take place.

**Use negation technique:** If all the water can be diverted using some new technology (option A), then the cities will not submerge and millions of people will not be displaced.

(A) CORRECT. If new technological developments in the next century allow people to divert rising seas from the world's cities (i.e., population centers), cities will not be destroyed and millions of people will not be displaced. Thus, a necessary assumption is that these technologies will not be developed.

(B) A simple awareness of the steps to reduce emissions in no way undermines the argument's conclusion, as this answer choice does not describe any action being taken by individuals. Additionally, greenhouse gases are never mentioned as the primary by-product of human activity that causes global warming, and are therefore not sufficient to address the argument.

(C) The argument never suggests that all coastal population centers are similarly affected; this choice is too extreme and overreaching for the argument's conclusion.

(D) This might be true, but it is not an assumption on which the conclusion rests. Instead, this answer choice is simply an inference that might be drawn from the premises.

(E) The idea that human activity is the sole cause of global warming is neither suggested nor assumed by the argument. In addition, the wording "sole cause" is too extreme.

### Alternate sol from gmatclub

- New technological developments in the next century will not divert rising seas from the world's coastal cities.  
this is an assumption which is directly affecting conclusion.. so correct
- Individuals will not become more aware of the steps they can take to reduce the emission of greenhouse gases.  
a very close second. it is truly an assumption but if we look closely. it

does not support conclusion but supports the prediction...

- Rising sea levels similarly affect all coastal population centers.

no role in supporting..

- Some global warming experts predict a greater than eight degree Fahrenheit increase in global temperatures during the next century.

out of scope

- Human activity is the sole cause of increasing global temperatures.

out of scope..



13.

The claim of the companies is that the renewable sources will provide **stable** supplies of energy to all its customers. We are asked to find an assumption underlying this argument. In order for this argument to be valid, it must in fact be true that these renewable sources of energy will provide **stable** supplies.

(C) CORRECT. If we assume that weather patterns are consistent and predictable, then with the stated premises, we can say that the companies will be able to provide **stable** energy supplies at low cost.

**Use negation technique:** Weather patterns are **inconsistent** and **unpredictable**, then solar and wind powers are not reliable and thus will not provide **stable** energy supplies. Thus, the argument's conclusion directly depends on this assumption.

(A) The utility companies' claim has to do with the supply risk of the new energy sources, not with how these sources are received by the public.

(B) If no new supplies of traditional energy sources are found, then it is true that perhaps these nonrenewable supplies will continue to fluctuate in price in a risky manner. However, the argument does not depend upon any assumption about the future discovery of oil and gas supplies.

(D) To reach the required conclusion, it is not necessary to assume that the conversion technology for new sources is not more expensive than the present technology.

(E) This choice does not directly affect the argument. Whether or not energy produced through combustion can be made less risky, the new energy sources might still be less risky than the older sources.

### **Top 1% expert replies to student queries (can skip)**

**In response to the increasing cost of producing energy through traditional means, such as combustion, many utility companies have begun investing in renewable energy sources, chiefly wind and solar power, hoping someday to rely on them completely and thus lower energy costs.** (This is a fact / observation) **These sources require significant initial capital investment, but the operating costs are not so high** (Fact / Observation); **so, the utility companies claim that they will be able to provide stable energy supplies to all their clients** (even though there is a 'So' at the start of the clause, it won't classify as a conclusion (at least the author's). This is also a fact / a conclusion that the companies (not the author) have

reached). **As one can easily see, these sources will be less risky for the utilities than non-renewable sources, such as gas, oil, and coal** (this I would say is the main conclusion of the author in the entire passage - everything else acts as premise for this), **whose prices can fluctuate dramatically according to availability** (another premise / fact that helps the main conclusion).





14.

Let's assume that **before 1992** there were 100,000 catchable lobsters in the sea. Of 100,000 catchable lobsters, let's assume all 100,000 were legally harvested. **In 1996**, we know that the number of legally harvested lobsters were 91,000. Therefore the passage states that that 9000 of the remaining lobsters (assuming there are still 100,000 catchable lobsters) were caught by illegal activities.

A. **CORRECT. Let's negate this:** The population of catchable lobsters in Belukia's territorial waters had sharply declined by 1996. This tells us that the catchable population is no longer 100,000. Let's assume that it has come down to 95,000. So going by this assumption, the number of lobsters illegally harvested comes to  $95,000 - 91,000 = 4000$ . This destroys the conclusion (**the conclusion is that the population of illegal lobsters caught in 1996 was about 9000**).

B. Since 1992 (the whole period) is not our consideration ... it is just pre-1992 and 1996.

C. Irrelevant. This doesn't talk about the difference to be exactly 9000.

D. This is not relevant ... we are bothered about the difference. We are not bothered about the actual value.

**Pre-1992 ... Legal = 10,000, Illegal = 0**

**1996 ... Legal = 1000, Illegal = 9000 ... still no problem ... the legal catch can be less than 9000 tons.**

E. This one may seem tempting. But we know that there "no reduction in the level of legal lobster fishing activity". **We are talking about the overall catch, not individual boats.** Thus this option does not affect our conclusion.

### **Top 1% expert replies to student queries (can skip)**

Negate Option (A) and see what we get - the population of catchable lobster has reduced significantly. If this is the case, the argument that outlaw boats over-harvested and this caused the tonnage of catch to go down becomes so much weaker - the reason tonnage is lower can very much be that the population has reduced. This is a necessary assumption (among the ones given) the argument was making then.

For B -Average of one outlaw boat is irrelevant. Perhaps may new boats join every year. So it is irrelevant.

For D-We do not have details of the number and our conclusion does not depend on it.



15.

Conclusion: if we can come to know the precise date when Rice and Yam cultivation started, we will come to know the precise date exactly when the agricultural society started ... as it is given that agricultural societies can't exist without staple crops.

So, in a way, the author has to assume that there was / were no other staple crop(s) before Rice and Yam.

Imagine the other way round. Suppose there were other crops before Rice and Yam (in the unrecorded history of crops). Then, just by knowing the date at which Rice and Yam cultivation, we will not be able to establish the exact date when the society started.

Let's start by negating options.

A. CORRECT. People in western Africa **developed** staple crops that they stopped cultivating once rice and yams were introduced.

If there were crops before rice and yams, then the estimate of the earliest date would be wrong. This at once destroys the conclusion that by establishing when rice and yams were introduced in Africa we could determine when the agricultural societies began.

B. There are plants native to western Africa that, if domesticated, could **(denotes future tense ... impossible)** serve as staple food crops. **The question is about PAST tense.**

C. This is good information but neither strengthens or weakens the conclusion as we are specifically concerned with the Western African societies ... **outside of Western Africa is clearly out of scope.**

D. / E. Kola and Okra are non-staple crops ... this is irrelevant.

**Top 1% expert replies to student queries (can skip)**

**Additional context on the argument** - The passage is saying that crops such as kola and okra are known to have been domesticated (cultivated for food) in Western Africa, but they are not staple foods. They are supplemental foods. It is also given that all recorded staple crops grown in Western Africa were introduced from elsewhere from some unknown date. **This started with crops such as rice and yams.** The passage then concludes that discovering/finding when rice and yams were introduced into Western Africa would establish when agricultural societies could have arisen there. We want to find the underlying assumption in this argument.

16.

The doctor concludes that federal legislation prohibiting the sale of video games to minors would help reduce the incidence of carpal tunnel syndrome. This conclusion hinges on the assumption that the only way for adolescents to access video games is to purchase the games themselves. **If parents are ready to buy video games for their minor children, the law that just prohibits the sale of video games to minors will have no effect on the incidence of the disease called carpal tunnel syndrome.**

(D) CORRECT. In order for the doctor's recommended legislation to reduce the incidence of carpal tunnel syndrome among adolescents, the prohibition from the purchase of video games must result in the actual possession of fewer video games. Thus, it must be assumed that parents will not simply purchase video games for their children.

(A) Majority consensus in the legislature has no bearing on whether the recommended legislation would actually help to curb carpal tunnel syndrome.

(B) This argument states that "adolescents who play video games on a regular basis are three times as likely to develop carpal tunnel syndrome." Thus, the argument directly indicates that carpal tunnel syndrome does not affect all adolescents who play video games. Rather than an assumption, this answer choice is simply an inference drawn from the text.

(C) The fact that adolescents can develop carpal tunnel syndrome by means other than playing video games has no bearing on whether the recommended legislation would help to curb carpal tunnel syndrome.

(E) The fact that video games can benefit adolescents in other ways has no bearing on whether the recommended legislation would help to curb carpal tunnel syndrome.

### **Alternate sol from Manhattan prep**

Another approach is to test whether the argument truly depends on the suggested assumptions. NEGATE the assumption (as in the all-caps words below), and if the conclusion collapses, you need that original assumption.

(A) If the majority of federal legislators would NOT vote for a bill that prohibits the sale of video games to minors, the doctor could still be right that legislation would help curb carpal tunnel.

(B) If ALL adolescents who play video games on a regular basis suffer from carpal tunnel syndrome, then the doctor could still be right.

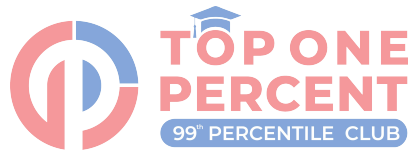
(C) If adolescents can develop carpal tunnel syndrome from OTHER ACTIVITIES, the doctor could still be right that video games are the main culprit.

(D) If most parents WOULD purchase video games for their adolescent children, then the doctor is WRONG that legislation would have the intended effect. The doctor's argument therefore depends on (D), and it is the correct answer.

(E) If playing of video games by adolescents DOES produce such beneficial effects as better hand-eye coordination and improved reaction time, then the doctor could still be right about the carpal tunnel issue.

**Top 1% expert replies to student queries (can skip)**

Here the critical piece of thinking that you have to catch on to is that the argument is not about whether such a legislation will be passed or not; the argument is that if passed, such a legislation will reduce carpal tunnel among adolescents. So negation of Option (A) still keeps the argument standing. However, if you negate Option (D), you have a situation where most parents will buy video games for their adolescent children. If that is the case, then legislation, if passed, targeting a ban on sale of video games to minors will not have its desired effect (adolescents will still be able to play video games).



17.

Conclusion: A causes B

Assumption: B doesn't cause A ... direct answer E

The researchers claim that Delta-32 prevents its carriers from contracting the Plague. They support this claim by noting that a strikingly large percentage of descendants of Plague survivors carry the mutation. We are asked to find an assumption underlying the claim.

(A) The argument is specific to the relationship between Delta-32 and resistance to the Plague. Other diseases are irrelevant.

(B) Again, the argument is specific to the relationship between Delta-32 and resistance to the Plague. Other diseases are irrelevant.

(C) Delta-32 may have existed in its current form before the sixteenth century and the merit of the argument would not change.

(D) The argument does not claim that Delta-32 prevents all bacteria-caused disease.

(E) CORRECT. The researchers claim that Delta-32 prevented its carriers from contracting the Plague on the basis of its presence in descendants of Plague survivors. But it is theoretically possible that these descendants carry the mutation Delta-32 because the Plague mutated the genes of their ancestors. In order to claim that the mutation prevented the Plague, we must assume that the Plague did not cause the mutation Delta-32.

## 18. A

Imagine there were 100 patients earlier out of whom 80 had appendicitis and 20 didn't. But all 100 were given surgery (although only 80 were necessary and 20 were not necessary).

With the test that is 98% accurate, there are 2 extreme possibilities:

### Case 1:

80 people have appendicitis; the test says all 80 have it.

20 people don't have appendicitis; the test says 18 don't have it and **2 have it**. In this case 18 out of 20 unnecessary will be avoided and the doctors will still perform 82 surgeries (more than the necessary number 80). So this satisfies all the conditions.

This case will be obtained when someone who doesn't have appendicitis is diagnosed to have it. **Option A says the same.**

### Case 2:

20 people don't have appendicitis; the test says all 20 don't have it.

80 people have appendicitis; the test says 78 have it and **2 don't have it**. In this case 2 necessary ones will also be avoided. The doctors will perform 78 surgeries (fewer than the necessary number 80). So, this doesn't satisfy any condition.

In a test, a false positive refers to a diagnosis that mistakenly indicates that a condition, disease or infection is present. A false negative refers to a diagnosis that mistakenly indicates that a disease, infection or condition is absent. A false positive result from a doping test could ruin the career of an honest cyclist. A false negative result on a paternity test could prevent a father and son from reuniting.

**Clearly, using this test, doctors can largely avoid unnecessary removals of the appendix (eliminate false positives) without, however, performing any fewer necessary ones than before (i.e. without producing more false negatives), since .....**

It seems clear that before this test was developed, doctors removed the appendix of everybody who either had appendicitis or seemed to have it (false positives).

This test has an accuracy rate of 98%, but in order for the conclusion to be true, these few mistakes must involve cases in which people without

appendicitis are deemed to have it (false positives), not the other way around. In other words, these mistakes cannot involve genuine cases of appendicitis that are classified as having nothing to do with appendicitis (false negatives), or else doctors would be performing newer necessary operations (i.e. operations on appendicitis patients) than before.

With the test, they'll still perform the same number of necessary operations (as they used to). In other words, they'll catch people who have appendicitis just as much as they used to.

How can we support the conclusion that they'll catch just as many people who have appendicitis as they used to?

Well, if the 2% error rate is exclusively due to the test saying you have appendicitis when you don't (rather than not catching your appendicitis), that's essentially what choice A says.

If the 2% error rate were due to the test not catching your appendicitis, then the author's conclusion that the test would decrease the number of unnecessary operations is clearly weakened: the test would be decreasing the number of NECESSARY operations--clearly a bad outcome. **Because the denial of choice A hurts the argument**, choice A must be the assumption required by the argument.

99<sup>th</sup> PERCENTILE CLUB

Note that the passage says 2 things

- 1) 2 misdiagnoses for every 98 correct diagnoses
- 2) use of the machine will help avoid unnecessary operations without making the doctors perform any fewer necessary operations this simply means on using the machine, everyone who needs an operation will get one.

Therefore, the misdiagnosis cannot be a situation where a patient in need of an operation is told it's unnecessary.

B. CORRECT. This properly explains why using the machine will cut down unnecessary operations without cutting down the necessary ones.

### Top 1% expert replies to student queries (can skip)

There are always appendicitis symptoms, sometimes there is actual appendicitis, sometimes there isn't. In the latter cases, the surgery is unnecessary. Now symptoms are still always there, the scan when it says there is appendicitis is correct 98% of the time, same when it says there isn't appendicitis. So what are the two types of misdiagnoses the scan does / can do?

- i. There are symptoms, the scan says appendicitis, there is no appendicitis
- ii. There are symptoms, the scan says no appendicitis, there is appendicitis



In (i) above, any surgery performed will be unnecessary. In (ii) above, any surgery not performed can potentially be fatal.

The argument says using the scan doctors can reduce the number of unnecessary surgeries, but will not miss out any required surgeries. If the scan does (ii), then sometimes there is a possibility that a necessary surgery will be missed out. Then the scan *cannot* do (ii). So for the argument to stand, the scan can only do error type (i) above. This means Option (A) is a necessary assumption for the argument to hold.



## 19. D

1. We know the following:

- a) Parents are reluctant to subject children to the pain of injections
- b) Adults, who are at risk of serious complications from influenza, are commonly vaccinated
- c) A new influenza vaccine, administered painlessly in a nasal spray, is effective for children

From the above the author concludes that since nasal spray can be used effectively only on children and since children do not develop any serious complications from influenza, the widespread use of nasal spray vaccine does not have any serious health benefit.

This conclusion will hold true ONLY IF we can be sure that adults do not contract influenza from children. Only then will there be no significant health benefit in using the nasal spray.

A. Irrelevant. We know that this vaccine is effective only on children. Therefore, even if this weren't true, it would not make any difference to the conclusion.

B. Irrelevant. Once again, assumptions about the working of the vaccine is irrelevant to the conclusion.

C. Irrelevant. We are discussing the benefits of using nasal spray vaccine. The price of the injectable vaccine does not concern us.

D. **CORRECT.** Let's try the negation of this. Adults contract influenza primarily from children than have influenza. IF the negation were true, then the conclusion would become incorrect as there would then be a huge public health benefit to using nasal sprays for kids. If adults do contract influenza primarily from children who have influenza, then we need to vaccinate the children otherwise Adults will contract. So there are health benefits for this vaccine. As described above, if this option is not true, then Argument is not true. Hence it is the necessary assumption.

What if adults develop serious complication from influenza spread by a child? Note the fact is that children 'seldom develop serious complications'; they still may catch influenza and spread it, resulting in an adult developing serious complication from it. So to assert that no significant public health benefit would result from widespread vaccination of children, primary assumption is that Adults do not contract influenza primarily from children who have influenza.

E. We already know this to be true in the passage. "A new influenza vaccine, administered painlessly in a nasal spray, is effective for children."

Therefore, this becomes a fact and not an assumption.

### Top 1% expert replies to student queries (can skip)

What is the conclusion? *That no significant **public health benefit** would result from widespread vaccination of children using the nasal spray. [Pay attention to PUBLIC HEALTH BENEFIT]*

Why has the author concluded this? Because *children seldom develop serious complications from influenza.*

We have to find the assumption here.

Let us look at option D here.

D says that the assumption is *adults do not primarily contract influenza from children who have influenza.* Is this a required assumption?

Let us evaluate this option. If D is indeed the assumption, then we know that adults do not contract influenza primarily from children who have influenza, and so, even if children with influenza are not vaccinated against it, adults do not run the risk of contracting it from children who have influenza. Since the **non-vaccination** of children won't negatively adults, there is no **PUBLIC HEALTH BENEFIT** from widespread vaccination of children using the nasal spray [I hope this makes sense]

If we negate D, we get '*adults primarily contract influenza from children who have influenza*'. So we know that the main reason why adults contract influenza is from children who have influenza. Now, keeping this in mind, do we still think that there will be no significant public health benefit from widespread vaccination of children using the nasal spray? I hope not. If children, who are the main source of adults contracting influenza, are vaccinated using the nasal spray, the probability of adults contracting influenza from children will significantly go down. If this is the case, **there would be significant public health benefits from widespread vaccination of children using the nasal spray.**

Therefore, using the negation test, we clearly see that D is the answer.

Option E is out of scope. Whether nasal spray vaccines are effective on adults or not has absolutely no bearing on the possible public health benefits from widespread vaccination of children using nasal spray. Since E does not even mention children or a possible connection between the premise and the conclusion, it is incorrect.

## Alternate sol from gmatchclub

Premise 1: injectable vaccines are painful so Parents do not vaccinate the child. However, Adults who have serious complications are commonly vaccinated.  
Premise 2: A new influenza vaccine is painless and can be used to vaccinate children.

Conclusion: As children rarely develop serious complication, there is no health benefit for this new vaccination.

The conclusion is quite strong in that There is NO health benefit for this medicine. It means it doesn't help at all but the stated reason is only for children (they seldom develop serious complications) but what about adults ? As this is an assumption question , we need to fill a gap between premise and conclusion.

Now the options:-

Which of the following is an assumption on which the argument depends?

A. Any person who has received the injectable vaccine can safely receive the nasal-spray vaccine as well.

**Incorrect: Irrelevant. Conclusion is regarding health benefits.**

**Argument doesn't compare the safety of any of the vaccines.**

B. The new vaccine uses the same mechanism to ward off influenza as injectable vaccines do.

**Incorrect: Irrelevant. Argument is about the health benefits of the vaccine not the mechanism by which it achieves that.**

C. The injectable vaccine is affordable for all adults.

**Incorrect: Irrelevant. Argument is about the health benefits of the vaccine not its cost**

D. Adults do not contract influenza primarily from children who have influenza.

**Correct: Lets negate it. If Adults do contract influenza primarily from children who have influenza, then we need to vaccinate the children otherwise Adults will contract. So there are health benefits for this vaccine.**

**As described above. If this option is not true, then Argument is not true. Hence it is the necessary assumption.**

E. The nasal spray vaccine is not effective when administered to adults.

**Incorrect: Out of scope. Argument doesn't compare the effectiveness of any vaccine. If we take this option as true, It weakens the conclusion because if it is most effective then there will be benefits of this medicine.**

20. E

The Police Commissioner's proposal hopes to decrease the number of crimes in city Y by shifting police officers from low-crime to high-crime districts. His proposal is based on data that demonstrate that crime decreases when additional police officers are moved into a district. However, the data do not mention anything about the effect on the districts from which the police officers were removed. The commissioner's plan is based on the assumption that the movement of police officers will not have any adverse effects on the low-crime districts.

(A) While it is encouraging that a similar plan worked successfully in City X, this fact is certainly not essential for the success of the plan in City Y. The cities may be so different as to make the comparison meaningless.

(B) The police commissioner's proposal is focused solely on decreasing the number of crimes in city Y. The severity of the crimes has no bearing on whether the commissioner's proposal will succeed or not.

(C) The actual numerical distinction between high and low-crime areas of the city is immaterial to the commissioner's proposal. For instance, if the number of crimes committed in all high-crime districts was only double (instead of more than triple) the number of crimes committed in low-crime districts, the proposal could still be valid.

(D) It would be practically beneficial to the commissioner's plan if there were more low-crime than high-crime districts in city Y. This would enable the movement of police officers to every high-crime district. However, this is not necessary to achieve the commissioner's goal of decreasing the total number of crimes in city Y. Even if there were more high-crime districts than low-crime districts in city Y, police officers could still be shifted to some (though not all) high-crime districts, and thereby possibly reduce the total number of crimes in city Y.

(E) **CORRECT.** The police commissioner's proposal would not make sense if districts of the city from which police officers are removed experience significant crime increases shortly after the removal of those officers. This would at least partially, if not fully, negate the reduction in the number of crimes in the high-crime districts. This choice establishes that, in fact, the low-crime districts do NOT suffer from significant crime increases after the removal of some officers-- an essential assumption upon which the commissioner's proposal depends.

## 21. A

Between A and E ... negate the assumption and the argument should fall apart.

Negate E

Some of the salts carried into the Earth's oceans by rivers are used up by biological activity in the oceans.

But if the portion of salt consumed by biological activities has remained constant over the years ... we can still predict the age of the oceans ... the argument doesn't fall apart.

If, at the beginning of the last century, the ocean contained  $x$  kgs of salt. If in the last 100 years, 100 kgs of salt was dropped into the ocean by the rivers.

And suppose that in the past 100 years 5 kgs of salt was used up by the ocean because of its biological activity. Then 95 kgs was dropped in the last century. So the level becomes  $x + 95$ . Still we can find out the age of the ocean by taking 95 kgs as the average increase in 1 century. If oceans use salt for biological activities, it would have done so in the past 100 years as well. So, it doesn't point to a flaw in the proposed method.

So, even if salts are used up by the oceans, as long as that consumption rate is the same all throughout, the method will still work.

It makes no difference whether (or to what extent) salts 'are used up by biological activity'. Here, the evidence involves the OVERALL rate of increase in salt levels. This rate accounts for everything that affects salt levels in any way at all. If ocean animals are using salt for whatever biological purpose, that is already factored into the levels that are measured.

Negate A

The quantities of dissolved salts deposited by rivers in the Earth's oceans have been unusually large during the past hundred years. It means that the rate has not been constant .... we can't predict the age .... the argument falls apart ...

If the quantities of dissolved salts deposited by rivers in the Earth's oceans have been unusually large during the past hundred years, it will surely affect the result. Consider the salts deposited in the past century is  $X$ . The current salt level is, say  $5X$ . So as per the result ocean's age is 5 centuries. But if  $X$  is unusually large and the deposited salt level of previous centuries were say, only  $X/4$  per century then the result will have a blunder!

Analogy:

Cindy has a high-paying job. When she started this job, she had no savings. Over the past year, she has been able to save \$1,000 per month. She now has \$60,000 in savings, so she must have been hired at this job 5 years (= 60 months) ago.

This should make the issue obvious:

\$1,000/month is only what Cindy has saved over the past year.

We're just assuming—for no good reason—that we can extrapolate the same rate of saving all the way back to whenever Cindy was hired.

In the analogy above, choice A is like

Cindy did not receive a large pay raise just over a year ago.

Again, it should be quite clear why this is necessary. (If you negate it—if she DID get a large raise just over a year ago—then \$1000/month is probably much more than she was able to save before.)

choice E, on the other hand, is like

Cindy does not have to use any of her salary to pay down old student loans.

It should be equally clear why this is irrelevant: the figure of \$1000/month is what Cindy is able to save after taking all of her expenses into account.

So, it really doesn't matter what those expenses are, as long as they are consistent.

### **Alternate sol from gmatclub**

We can eliminate B, C and D after reading.

The argument is talking about: We can guess the maximum Earth's age when we calculate dissolved salts from rivers to oceans with the premise is at the first time, the salt level of oceans is zero.

B: Irrelevant because we do not discuss about salt level in rivers. It does not lead us to the conclusion.

C: Irrelevant, too.

D: Although it seems to be a right answer because it talks about a method. However, it is too general, and not assume anything.

E: The first time, I think E is the best answer. However, it is a mistake. First, it is too specific. If none of the salts were used by biological activity, so, how about other activities? (such as physical activity, chemical activity...)? Second, it does not lead us to a conclusion. We cannot conclude that the method is accurate because of the premise E.

A: It supports the premise:

Premise:

- At the first time, the salt level of oceans is zero.

- We calculate the salt level of oceans in the past hundred years, and we can know the Earth's age.

- In a process, the quantities of dissolved salts deposited by rivers in the Earth's

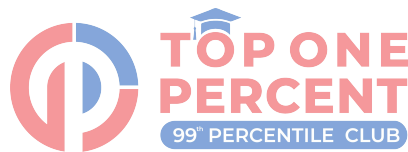


oceans have not been **unusually large** during the past hundred years.  
- Thus, we can convince that the result is believable.

### **Top 1% expert replies to student queries (can skip)**

Negation of B would be: At any given time, all the Earth's rivers DO NOT have the same salt levels. We don't have to think so much about the negation. Use of simple logic is enough. What is B saying? That all of Earth's rivers have the same salt levels. What could be its negation? That all of them do not have the same salt content.

Now, let's analyze B. Do we absolutely need all the rivers to have the same salt levels? We don't, right? The rivers can have different salt levels and the conclusion will still hold. We care about the total salt content, not the relative salt content in each river. Therefore, this is incorrect.





## 22. C

Conclusion- the current average height of Tufe's Turfil sunflowers is undoubtedly at least partially attributable to changes in Tufe's environmental conditions

This means that the changes in the newly formed island's climate caused the sunflower plants to get shorter.

Assumption: Here we are assuming the sunflowers on Tufe's island are affected in comparison with the sunflowers on the mainland (kept as a standard for comparison).

What if the sunflowers on the mainland are in fact different from the original species (because of the weather conditions on the mainland) while the sunflowers on Tufe have grown to the normal height (and therefore are unaffected by the climate on Tufe island)?

A. Irrelevant. We are not discussing if the weather is beneficial. We want to know if it affects the natural growth of Turfil sunflowers.

B. Irrelevant. Once again, we are wondering about the height of sunflowers and not about the numbers.

C. CORRECT. Let's negate this.



“The mainland's environment has changed in ways that have resulted in Turfil sunflowers on the mainland growing to be 40 centimeters taller than they did two centuries ago”.

This means the climate on the mainland changed too. How will the conclusion or evidence hold true in that case? Mainland could have become wetter which made the plants on the main island grow more and not the ones on the island grow less.

D. Irrelevant. We want to know if the weather conditions were “partially” responsible or not.

E. Irrelevant. This does not tell us anything new. Even if this were the only difference, this option neither strengthens nor weakens the conclusion.

We are given three things:

1. Separation of the peninsula from the mainland
2. Difference in the environmental conditions between the peninsula and the island
3. Difference in the height of the sunflowers found on the island and those found on the mainland

On the basis of the above three facts, the author concludes that the

difference in the environmental conditions between the peninsula and the island is responsible at least to some extent for the current (shorter) average height of the sunflowers found on the island. Now, in the pre-thinking phase for assumptions, what do we focus on? We try to think of scenarios in which the conclusion may not hold, right? Accordingly, what if someone told you that the difference in the height is not because the island sunflowers are shorter than before but because the mainland sunflowers are taller than before because of the changes in the environmental conditions on the mainland? Would the author's conclusion still be valid? Would the author still be able to blame the difference in the environmental conditions between the peninsula and the island as the cause for the difference in the average height of the sunflowers found at the two different places? The answer is NO! Choice C rules out this possibility by negating a possible counter to the link drawn between the difference in the environmental conditions between the peninsula and the island, and the difference in the height of the sunflowers. Try to negate Choice C and see the effect it has on the conclusion.

### Top 1% expert replies to student queries (can skip)

Negation of Option (C) takes away the argument (the argument ceases to exist), so Option (C) is a necessary assumption for the argument to stand.

There are two pieces of land here - the Tufe Island (which itself was earlier the Tufe Peninsula, attached to the mainland) and the mainland. The argument says flowers on the island are shorter because of environmental changes on the *island*. Negation of Option (C) says the flowers are shorter on average because of environmental changes on the *mainland*. So if we negate Option (C), the argument does not stand any more.

Now coming to Option (D) - the argument is *not* that nutrients in the soil or lack thereof result in Turfil sunflowers on Tufe Island being shorter on average. The argument is that because of Tufe Island's environmental conditions (true it says 'environmental conditions', but it specifically spells out lack of water). So even if you negate it and say the soil does not lack nutrients, even then the argument can hold because the lack of water can cause the sunflowers to grow shorter.

### Top 1% expert replies to student queries (cans skip)

An assumption is something that must be true for the conclusion to hold.

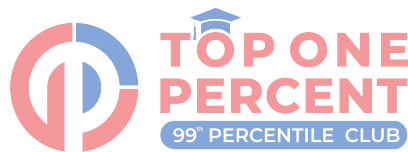
What is the conclusion here? That '*the current average height of Tufe's Turfil sunflowers is undoubtedly at least partially attributable to changes in Tufe's environmental conditions.*'

Now, we need to choose the option that has to be true for this conclusion to hold.

Let us look at D now. D says that *'The soil on Tufe Island, unlike that on the mainland, lacks important nutrients that help Turfil sunflowers survive and grow tall in a dry environment.'*

Now, **must** D be true? In other words, **must** the soil on Tufe Island lack important nutrients that help Turfil sunflowers survive and grow tall? Is soil the only environmental factor that affects the length of the sunflowers? What about sunlight, humidity, temperature? Do these factors not play any role in determining the length of sunflowers? I hope your answer is that they do play a role.

So, even if the soil on the Tufe Island does not lack important nutrients, the other factors, as mentioned above, could have played a role in determining the length of sunflowers on the Tufe Island.  
Therefore, we do not need to assume D and it is not our answer.



23.

We can summarize the argument as follows:

Flute fragment found with 4 notes of the diatonic scale. Therefore, creators of flute knew about and used the diatonic scale. In order to reach that conclusion, the author has to assume that the 4 notes on the fragment aren't just coincidentally on the diatonic scale. Some actual evidence that it's not just a coincidence OR something that allows us to extrapolate more info from the 4 notes on the fragment. Only choice (E) gives us useful information. If we know that the flute could have contained the entire scale, that's more evidence that the creators knew about and used the scale. This is a great situation to use **Negation Technique**. Let's look at the opposite of (E): It is NOT true that the cave-bear leg bone used to make the Neanderthal flute would have been long enough to make a flute capable of playing a complete diatonic scale.

Well, if the flute couldn't have been long enough to encompass the entire scale, then we're very skeptical that the Neanderthals were actually using the scale. In other words, the opposite of (E) casts doubt on the conclusion.

B is the most chosen wrong answer. This choice doesn't tell us that 'this' flute used a diatonic scale. If there was nothing that used a diatonic scale before, it doesn't mean that this flute did.

It is like: At a college, Bill got a distinction in four of the seven subjects. Nobody had ever got a distinction in four subjects before Bill at this college. So, Bill must have been the topper with the maximum marks in the history of the college. This argument is surely faulty.

A. This option tends to weaken the hypothesis. It makes it less likely the possibility that Neanderthals used other types of musical instruments employing the diatonic scale.

B. This option does not tell us whether the flute found at the campsite did indeed contain all the seven notes that comprises of a diatonic scale. It tells us that the excavated bone flute may have been one of the earliest instruments used to play a diatonic scale. But perhaps the excavated bone flute was not used to play the diatonic scale at all. Maybe the first diatonic instruments did not appear until thousands of years later? Choice (B) can be eliminated.

The information given above effectively means that there is no known record of a musical instrument that was diatonic and that pre-dates the bone flute. Now is the hypothesis proposed by the musicologists concerned with proving that the found flute fragment was part of the first ever diatonic instrument? The answer is a big NO! It does not matter

whether there was any instrument before the bone flute that could play the diatonic scale. All we need to establish is that the whole flute (whose fragment has been found) itself was diatonic. The information given in answer choice B does not help in doing so.

C. The fact that the cave-bear bone fragment that was apparently a flute came from a site where many other cave-bear skeletal remains were found ... in no way does this choice support the given conclusion.

D. Even if this were false – even if a simpler instrument could be constructed that used the diatonic scale- the existence of a flute employing the diatonic scale would provide no less support for the hypothesis.

E. CORRECT. If this were untrue i.e., if the bone fragment had not been large enough to create the seven-note scale, then the bone fragment's existence would not provide support for the hypothesis.

### **Top 1% expert replies to student queries (can skip)**

An implicit understanding we gain from the stem is that the Neanderthals predate (chronologically, were around before) the adoption of the diatonic scale by Western musicians, which happened around the Renaissance, by thousands of years. This is because the entire argument is that because a flutes that could have played the diatonic scale were found at Neanderthal campsites, it means that the diatonic scale was developed thousands of years before it was adopted by western musicians.

Now look at Option (B) - Its negation is that musical instrument(s) that used the diatonic scale have been found from even before in time than the one found at the Neanderthal site. The negation does not weaken / remove the argument; the negation makes the argument even stronger. So Option (B) can never be the answer

24.

**Conclusion:** A caused B

**Assumption:** B didn't cause A

Two things happened:

1. The student scored low.
2. The student had arguments with her parents.

While these two evidences seem to be interdependent, they may very well not be.

The student may be scoring low because of a third reason; perhaps she wants to pursue a different career altogether. Perhaps the very cause that triggered event 1 above could have also triggered 2, who knows.

Just because we are presented with two events, we can't deduce that one occurred because of the other.

(B) just reiterates one of the possible assumptions. It's excluding the possibility that event 1 caused event 2. For the conclusion to be true, we must at least make this assumption. There may be 1000 other assumptions to become sure of the conclusion; however, B should be one among those. "After all, an assumption" is what's asked.

Ans: "B"

**Top 1% expert replies to student queries (can skip)**

Negation of E would be: Fluctuations in academic performance are not typical for many students.

This option is completely irrelevant. E does not even talk about problematic family relationships and therefore is not a required assumption.

## 25. B

(A) says that the reviewers do not always have biases likely to slant their interpretations of the data in those papers. Let's negate (A) and say that reviewers do always have biases likely to slant their interpretations of the data. Does this negated answer destroy the argument? Not necessarily. The reviewers could have biases and yet be able to somehow, keep the biases from making it into publication. Perhaps the reviewers have an internal system to pass the documents amongst each other so as to check for biases they don't share with other reviewers. In any case, it is not necessary to assume (A).

Because even if all scientists do have biases, as long as they don't share the same bias, the issue will be addressed. The big danger to this argument is that all scientists share the same bias and so the interpretations of data would all suffer from the same bias. No peer review system could be expected to catch the slanted interpretation if all scientists shared the same bias that led to that slanted interpretation.

(A) is tempting but does not indicate that the bias for all scientists is the same. Maybe some are biased in one place, some in another. Even if all scientists were biased, so long as they didn't share the same bias, the slanted interpretations that follow from them could be caught. But they could have different biases, and be able to catch other people's biases. (Doesn't the stimulus say all scientists have biases?) So, **B is the answer**, because it asks the question, "What if everyone has the same biases?" If scientists share all biases, the reviewers will not notice and object to SOME biases. If this is the case, the conclusion cannot follow because no biases will be removed (all biases are shared).

(C) is out of scope. The issue isn't whether the value of the paper would be impaired but whether slanted interpretations would be present.

(D) is out of scope. The conclusion does not address issues other than whether slanted interpretations would be present in the paper.

(E) addresses the means by which the correction of the slanted interpretations would be caught. But while the argument suggests that peer review is sufficient to catch the slanted interpretations, it does not suggest nor assume that peer review is the only way to catch those biased interpretations.



### Top 1% expert replies to student queries (can skip)

We can choose between options A and B by negating the assumptions and checking if they're affecting the conclusion or not.

Option A : The scientists reviewing serious scientific papers for publication do not always have biases likely to slant their interpretations of the data in those papers.

Negation of option A : The scientists reviewing serious scientific papers for publication always have biases likely to slant their interpretations of the data in those papers. So what if they always have biases? This does not tell us anything about if the scientists share their biases or not. This does not affect our conclusion at all.

Option B : In general, biases that slant interpretations of data in serious scientific papers being reviewed for publication are not shared among all scientists.

Negation of option B : In general, biases that slant interpretations of data in serious scientific papers being reviewed for publication are shared among all scientists. The negation is saying that the biases that affect interpretation are shared among all scientists. Imagine there is a serious scientific paper, which has been written by an author with certain biases. This scientific paper will be reviewed by other scientists, who all have certain biases. Now, if these biases are the same as those of the author's, do you think the reviewers will be able to notice and object to the biases? No, right? Because they share the biases. This option directly affects the conclusion. Answer is B.

### Top 1% expert replies to student queries (can skip)

What does the passage say right at the start as a fact? That *all* scientists have personal biases. Then (a) that is not the conclusion of the argument and (b) the negation of Option (A) is not even possible (again, the passage literally tells you all scientists have biases).

What the conclusion is, is that *because* randomly selected other scientists (reviewers) will not likely share the *same* beliefs that the scientists who wrote the paper have (it's not that the reviewing scientists will not have *any* beliefs), then the set of biased beliefs that hampered the paper will be corrected for, before publication.



