GMAT Prep Critical Reasoning 1



Topics: Assumption & Inference/Conclusion

Introduction

- Critical Reasoning questions measure your skills in making an argument, evaluating an argument, and formulating a plan of action. The questions are based on materials drawn from a variety of sources. You don't need to be familiar with the subject matter to answer correctly.
- You will read a short passage and then answer a question related to the argument. For example, you may be asked to identify an answer choice that strengthens (or weakens) an argument, draw an inference or conclusion from the short passage, or complete the argument.
- Be certain you understand the statement or set of statements on which a question is based. Specifically, you will look for what is factual, what claims can be substantiated; and what is not said, but necessarily follows from what is said.
- If a question is based on an argument, identify which part of the argument is its conclusion. It's not necessarily at the end of the passage. It may appear somewhere in the middle, or even at the beginning. Determine exactly what the question is asking. Read the question first, so you know what to look for. Make sure that you read all the answer choices carefully before choosing one.





INSPIRUS "RIPE" Strategy for Critical Reasoning Questions:

- Read the Question Stem and ascertain what will be the objective of the question.
- Identify the *key components* of the passage, which are relevant for the question.
- Predict an answer that can fit the requirement of the question in the context of the passage.
- Eliminate the options that are irrelevant or do *not match* with the predicted answer.

Sample Question: Nursing homes range from three to five stories in height. If a nursing home room is above the first floor, it has a fire escape.

If the above statements are true, which of the following must also be true?

- A. First-floor rooms in nursing homes do not have fire escapes.
- B. Fire escapes are allowed but not required for first-floor rooms in nursing homes.
- C. Some nursing homes have no fire escapes.
- D. Not all nursing homes have proper fire escapes.
- E. Second-floor rooms in nursing homes have fire escapes.





What is a critical reasoning argument?

A Critical Reasoning (CR) argument is usually structured into facts (also sometimes referred to as premises) and a conclusion. It is important that you are able to identify the parts of an argument. Your job is never to question the facts of the argument.

Premise

- A premise is information used by the author to support some claim or conclusion.
- Can be a fact or a third-party opinion; can be a description, historical information, statistical or numerical data, or a comparison of things.
- Often signaled by words or phrases such as because of, since, due to, as a result of...
- All arguments contain at least one premise.

Conclusion

- A conclusion represents the author's main opinion or claim; can be in the form of a prediction, a judgment of quality or merit, or a statement of causality.
- supported by at least one premise.
- Often signaled by words such as therefore, thus, so, consequently...
- Most (though not all) arguments contain a conclusion.





Background

Provides context to help understand the core.

Almost always fact-based; can be in almost any form: historical information, numerical or other data, descriptions of plans or ideas, definitions of words or concepts, and so on.

Counter-point

Opposes or goes against the author's conclusion in some way.

Often signaled by transition words such as however, yet, but...





Identify the components in the following argument:

The expansion of the runways at the Bay City Airport will allow for larger planes to travel to and from Bay City. These new planes will create a large amount of noise, a nuisance for residents who live near the airport. However, many of the residents in this neighborhood work in construction, and the contract to expand the runways has been awarded to a local construction company. Thus, the expansion of the runways will lead to an increased quality of life for the residents of this neighborhood.





Fact = background / premise

The expansion of the runways at the Bay City Airport will allow for larger planes to travel to and from Bay City.

Counterpoint

Negative Effect = Purpose Unclear = Premise or Counter-Point.

These new planes will create a large amount of noise, a nuisance for residents who live near the airport.

Premise

Could be either the Premise or the Counter-Point.

However, many of the residents in this neighborhood work in construction, and the contract to expand the runways has been awarded to a local construction company.

Conclusion

Main Point / Outcome that follows from the third statement.

Thus, the expansion of the runways will lead to an increased quality of life for the residents of this neighborhood.





Assumption

- An assumption is something that *the author must believe to be true* in order to draw a certain conclusion, but he/she *does not state* it in the argument. Thus, it is the missing link between the premise and the conclusion.
- As a result, it is also called the Missing Premise. The assumption itself might not necessarily be true in the real world. In short, the Assumption plus the Premise is equal to the Conclusion.

Common question stems for assumption include:

- Assumption / Assumed / Assumes
- Presupposition / Presupposed / Presupposes
- Justify the conclusion...
- Inserted as an additional premise...
- The conclusion cannot be true unless which of the following is true?
- The conclusion will be more properly drawn if...





Negation technique

- The negation technique can be used to determine if the given answer choice is the true assumption or not. In other words, it is a reliable way to validate the answer (recommended use) or to determine whether an answer choice is an assumption.
- The correct answer choice is like a missing premise. This means that it has to be true for the conclusion to hold true. This implies that the negated version of the correct answer choice will shatter, falsify, or invalidate the conclusion.
- Hence, once we have narrowed down our answer choice(s), we can verify it by evaluating whether the negated version really shatters the conclusion or not. If it does, then your selected choice is indeed the conclusion, otherwise not.





1. During the past 20 years, computer scientists focused increasingly on starting and running successful businesses. However, since businesses must be profitable, computer scientists must focus on developing products that generate profit. Consequently, computer science has lost its creative aspect.

Which of the following assumptions is most necessary in order for the conclusion above to be drawn from the argument above?

- A. All computer programs must lack creativity in order to be well received.
- B. Some computer scientists entirely disregarded creativity and chose instead to pursue profit.
- C. A program cannot be both creative and profitable.
- D. Computer scientists are obsessed with the profitability of their work.
- E. Non-profit institutions use large amounts of software.





2. When the state of Tennessee passed a law prohibiting the teaching of the theory of evolution in its public schools, leaders of the American Civil Liberties Union (ACLU) persuaded John T. Scopes, a teacher in Dayton, Tennessee, to teach evolution in his classroom in order to test the law in court. However, because Scopes did not break the law on his own initiative, he should never have been brought to trial.

Which of the following is an assumption from the conclusion of the passage?

- A. Those who commit crimes at the suggestion of others should not be held responsible for their actions.
- B. Both Scopes and the ACLU leaders should have been tried for breaking the law.
- C. The ACLU leaders, rather than Scopes, should have been brought to trial.
- D. Groups like the ACLU should not encourage criminal activities as a means of testing laws.
- E. Tennessee did not have the right to make the teaching of evolution a crime.





3. Traditionally, decision-making by managers that is reasoned step-by-step has been considered preferable to intuitive decision-making. However, a recent study found that top managers used intuition significantly more than most middle-or lower-level managers. This confirms the alternative view that intuition is actually more effective than careful, methodical reasoning.

The conclusion above is based on which of the following assumptions?

- A. methodical, step-by-step reasoning is inappropriate for making many real-life management decisions.
- B. Top managers have the ability to use either intuitive reasoning or methodical, step-by-step reasoning in making decisions.
- C. The decisions made by middle- and lower-level managers can be made as easily by using methodical reasoning as by using intuitive reasoning.
- D. Top managers use intuitive reasoning in making the majority of their decisions.
- E. Top managers are more effective at decision-making than middle- or lower-level managers.





4. A researcher discovered that people who have low levels of immune-system activity tend to score much lower on tests of mental health than do people with normal or high immune-system activity. The researcher concluded from this experiment that the immune system protects against mental illness as well as against physical disease.

The researcher's conclusion depends on which of the following assumptions?

- A. High immune-system activity protects against mental illness better than normal immune-system activity does.
- B. Mental illness is similar to physical disease in its effects on body systems.
- C. People with high immune-system activity cannot develop mental illness.
- D. Mental illness does not cause people's immune system activity to decrease.
- E. Psychological treatment of mental illness is not as effective as is medical treatment.





5. If the airspace around centrally located airports were restricted to commercial airliners and only those private planes equipped with radar, most of the private-plane traffic would be forced to use outlying airfields. Such a reduction in the amount of private plane traffic would reduce the risk of mid-air collision around the centrally located airports.

The conclusion drawn in the first sentence depends on which of the following assumptions?

- A. Outlying airfields would be as convenient as centrally located airports for most pilots of private planes.
- B. Most outlying airfields are not equipped to handle commercial airline traffic.
- C. Most private planes that use centrally located airports are not equipped with radar.
- D. Commercial airliners are at greater risk of becoming involved in mid-air collisions than are private planes.
- E. A reduction in the risk of mid-air collision would eventually lead to increases in commercial airline traffic.





6. Gortland has long been narrowly self-sufficient in both grain and meat. However, as per capita income in Gortland has risen toward the world average, per capita consumption of meat has also risen toward the world average, and it takes several pounds of grain to produce one pound of meat. Therefore, since per capita income continues to rise, whereas domestic grain production will not increase, Gortland will soon have to import either grain or meat or both.

Which of the following is an assumption on which the argument depends?

- A. The total acreage devoted to grain production in Gortland will not decrease substantially.
- B. The population of Gortland has remained relatively constant during the country's years of growing prosperity.
- C. The per capita consumption of meat in Gortland is roughly the same across all income levels.
- D. In Gortland, neither meat nor grain is subject to government price controls.
- E. People in Gortland who increase their consumption of meat will not radically decrease their consumption of grain.





Inference/conclusion

To infer something means to arrive at a conclusion based on certain information provided. In critical reasoning questions, the correct answer choice should be based entirely on the information provided, meaning that it should be free of any extrapolations or assumptions.

Common question stems for conclusion / inference:

- Which of the following conclusions/assertions/inferences/statements is most strongly supported by the passage?
- Which of the following must be true as per the passage?
- Which of the following can be inferred/implied from the passage?
- The main point of the passage is that...

Note:

- Any statement that is inconsistent with the passage is always wrong.
- The correct answer MUST be true, not MAY be true.
- The negation Technique can be used for Inference just as it is used for Assumption.





7. The main principle of Feng Shui is that our environment must be ordered to permit and encourage the free flow of energy. One of the fundamental steps is to eliminate clutter, which blocks the flow of energy.

Based on the information, which of the following statements is also likely to be true?

- A. Proper ventilation will improve the flow of energy.
- B. Objects should be dispersed as evenly as possible around the room.
- C. Square objects should be placed in corners.
- D. Walls should be kept bare except for mirrors.
- E. Light-colored paints are best.





8. Increases in funding for police patrols often lower the rate of crimes of opportunity such as petty theft and vandalism by providing visual deterrence in high-crime neighborhoods. Levels of funding for police patrols in some communities are increased when federal matching grants are made available.

Which of the following can be correctly inferred from the statements above?

- A. Areas with little vandalism can never benefit from visual deterrence.
- B. Communities that do not increase their police patrols are at higher risk for crimes of opportunity late at night.
- C. Visual deterrence is the most effective means of controlling petty theft.
- D. Federal matching grants for police patrols lower the rate of crimes of opportunity in some communities.
- E. Only federal matching grants are necessary to reduce crime in most neighborhoods





9. Large national budget deficits do not cause large trade deficits. If they did, countries with the largest budget deficits would also have the largest trade deficits. In fact, when deficit figures are adjusted so that different countries are reliably comparable to each other, there is no such correlation.

If the statements above are all true, which of the following can properly be inferred on the basis of them?

- A. Countries with large national budget deficits tend to restrict foreign trade.
- B. Reliable comparisons of the deficit figures of one country with those of another are impossible.
- C. Reducing a country's national budget deficit will not necessarily result in a lowering of any trade deficit that country may have.
- D. When countries are ordered from largest to smallest in terms of population, the smallest countries generally have the smallest budget and trade deficits.
- E. Countries with the largest trade deficits never have similarly large national budget deficits.





10. Meteorite explosions in the Earth's atmosphere as large as the one that destroyed forests in Siberia, with approximately the force of a twelve-megaton nuclear blast, occur about once a century. The response of highly automated systems controlled by complex computer programs to unexpected circumstances is unpredictable.

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

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





11. High levels of fertilizer and pesticides, needed when farmers try to produce high yields of the same crop year after year, pollute water supplies. Experts therefore urge farmers to diversify their crops and to rotate their plantings yearly. To receive governmental price-support benefits for a crop, farmers must have produced that same crop for the past several years.

The statements above, if true, best support which of the following conclusions?

- A. The rules for governmental support of farm prices work against efforts to reduce water pollution.
- B. The only solution to the problem of water pollution from fertilizers and pesticides is to take farmland out of production.
- C. Farmers can continue to make a profit by rotating diverse crops, thus reducing costs for chemicals, but not by planting the same crop each year.
- D. New farming techniques will be developed to make it possible for farmers to reduce the application of fertilizers and pesticides.
- E. Governmental price supports for farm products are set at levels that are not high enough to allow farmers to get out of debt.





12. Laws requiring the use of headlights during daylight hours can prevent automobile collisions. However, since daylight visibility is worse in countries farther from the equator, any such laws would obviously be more effective in preventing collisions in those countries. In fact, the only countries that actually have such laws are farther from the equator than is the continental United States.

Which of the following conclusions could be most properly drawn from the information above?

- A. Drivers in the continental United States who used their headlights during the day would be just as likely to become involved in a collision as would drivers who did not use their headlights.
- B. In many countries that are farther from the equator than is the continental United States, poor daylight visibility is the single most important factor in automobile collisions.
- C. The proportion of automobile collisions that occur in the daytime is greater in the continental United States than in the countries that have daytime headlight laws.
- D. Fewer automobile collisions probably occur each year in countries that have daytime headlight laws than occur within the continental United States.
- E. Daytime headlight laws would probably do less to prevent automobile collisions in the continental United States than they do in the countries that have the laws.





Additional Practice Questions

13. The average hourly wage of television assemblers in Vernland has long been significantly lower than that in neighboring Borodia. Since Borodia dropped all tariffs on Vernlandian televisions three years ago, the number of televisions sold annually in Borodia has not changed. However, recent statistics show a drop in the number of television assemblers in Borodia. Therefore, updated trade statistics will probably indicate that the number of televisions Borodia imports annually from Vernland has increased.

Which of the following is an assumption on which the argument depends?

- A. The number of television assemblers in Vernland has increased by at least as much as the number of television assemblers in Borodia has decreased.
- B. Televisions assembled in Vernland have features that televisions assembled in Borodia do not have.
- C. The average number of hours it takes a Borodian television assembler to assemble a television has not decreased significantly during the past three years.
- D. The number of televisions assembled annually in Vernland has increased significantly during the past three years.
- E. The difference between the hourly wage of television assemblers in Vernland and the hourly wage of television assemblers in Borodia is likely to decrease in the next few years.



14. The increasing complexity of scientific inquiry has led to a proliferation of multiauthored technical articles. Reports of clinical trials involving patients from several hospitals are usually coauthored by physicians from each participating hospital. Likewise, physics papers reporting results from experiments using subsystems developed at various laboratories generally have authors from each laboratory.

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

- A. Clinical trials involving patients from several hospitals are never conducted solely by physicians from just one hospital.
- B. Most reports of clinical trials involving patients from several hospitals have multiple authors.
- C. When a technical article has multiple authors, they are usually from different institutions
- D. Physics papers authored by researchers from multiple laboratories usually report results from experiments using subsystems developed at each laboratory.
- E. Most technical articles are authored solely by the researchers who conducted the experiments these articles report.





15. In an experiment, each volunteer was allowed to choose between an easy task and a hard task and was told that another volunteer would do the other task. Each volunteer could also choose to have a computer assign the two tasks randomly. Most volunteers chose the easy task for themselves and under questioning later said they had acted fairly. But when the scenario was described to another group of volunteers, almost all said choosing the easy task would be unfair. This shows that most people apply weaker moral standards to themselves than to others.

Which of the following is an assumption required by this argument?

- A. At least some volunteers who said they had acted fairly in choosing the easy task would have said that it was unfair for someone else to do so.
- B. The most moral choice for the volunteers would have been to have the computer assign the two tasks randomly.
- C. There were at least some volunteers who were assigned to do the hard task and felt that the assignment was unfair.
- D.On average, the volunteers to whom the scenario was described were more accurate in their moral judgments than the other volunteers were.
- E. At least some volunteers given the choice between assigning the tasks themselves and having the computer assign them felt that they had made the only fair choice available to them.





16. 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 only the utensils that he had used.
- E. The children were not able to distinguish the rolling pins they used from other rolling pins.





17. Many people suffer an allergic reaction to certain sulfites, including those that are commonly added to wine as preservatives. However, since there are several winemakers who add sulfites to none of the wines they produce, people who would like to drink wine but are allergic to sulfites can drink wines produced by these winemakers without risking an allergic reaction to sulfites.

Which of the following is an assumption on which the argument depends?

- A. These winemakers have been able to duplicate the preservative effect produced by adding sulfites by means that do not involve adding any potentially allergenic substances to their wine.
- B. Not all forms of sulfite are equally likely to produce the allergic reaction.
- C. Wine is the only beverage to which sulfites are commonly added.
- D. Apart from sulfites, there are no substances commonly present in wine that give rise to an allergic reaction.
- E. Sulfites are not naturally present in the wines produced by these winemakers in amounts large enough to produce an allergic reaction in someone who drinks these wines.





18. The importance of the ozone layer to terrestrial animals is that it entirely filters out some wavelengths of light but lets others through. Holes in the ozone layer and the dangers associated with these holes are well documented. However, one danger that has not been given sufficient attention is that these holes could lead to severe eye damage for animals of many species.

Which one of the following is most strongly supported by the statements above, if they are true?

- A. All wavelengths of sunlight that can cause eye damage are filtered out by the ozone layer where it is intact.
- B. Few species of animals live on a part of the earth's surface that is not threatened by holes in the ozone layer.
- C. Some species of animals have eyes that will not suffer any damage when exposed to unfiltered sunlight.
- D. A single wavelength of sunlight can cause severe damage to the eyes of most species of animals.
- E. Some wavelengths of sunlight that cause eye damage are more likely to reach the earth's surface where there are holes in the ozone layer than where there are not.





19. Exposure to certain chemicals commonly used in elementary schools as cleaners or pesticides causes allergic reactions in some children. Elementary school nurses in Renston report that the proportion of schoolchildren sent to them for treatment of allergic reactions to those chemicals has increased significantly over the past ten years. Therefore, either Renston's school children have been exposed to greater quantities of the chemicals, or they are more sensitive to them than schoolchildren were ten years ago.

Which of the following is an assumption on which the argument depends?

- A. The number of school nurses employed by Renston's elementary schools has not decreased over the past ten years.
- B. Children who are allergic to the chemicals are no more likely than other children to have allergies to other substances.
- C. Children who have allergic reactions to the chemicals are not more likely to be sent to a school nurse now than they were ten years ago.
- D. The chemicals are not commonly used as cleaners or pesticides in houses and apartment buildings in Renston.
- E. Children attending elementary school do not make up a larger proportion of Renston's population now than they did ten years ago.





20. Flavonoids are a common component of almost all plants, but a specific variety of flavonoid in apples has been found to be an antioxidant. Antioxidants are known to be a factor in the prevention of heart disease.

Which one of the following can be properly inferred from the passage?

- A. A diet composed largely of fruits and vegetables will help to prevent heart disease.
- B. Flavonoids are essential to preventing heart disease.
- C. Eating at least one apple each day will prevent heart disease.
- D. At least one type of flavonoid helps to prevent heart disease.
- E. A diet deficient in antioxidants is a common cause of heart discase.





21. In Wareland last year, 16 percent of licensed drivers under 21 and 11 percent of drivers ages 21–24 were in serious accidents. By contrast, only 3 percent of licensed drivers 65 and older were involved in serious accidents. These figures clearly show that the greater experience and developed habits of caution possessed by drivers in the 65-and-older group make them far safer behind the wheel than the younger drivers are.

Which of the following is an assumption on which the argument depends?

- A. Drivers 65 and older do not, on average, drive very many fewer miles per year than drivers 24 and younger.
- B. Drivers 65 and older do not constitute a significantly larger percentage of licensed drivers in Wareland than drivers ages 18–24 do.
- C. Drivers 65 and older are less likely than are drivers 24 and younger to drive during weather conditions that greatly increase the risk of accidents.
- D. The difference between the accident rate of drivers under 21 and of those ages 21–24 is attributable to the greater driving experience of those in the older group.
- E. There is no age bracket for which the accident rate is lower than it is for licensed drivers 65 and older.





22. Neuroscientist: Memory evolved to help animals react appropriately to situations they encounter by drawing on the past experience of similar situations. But this does not require that animals perfectly recall every detail of all their experiences. Instead, to function well, memory should generalize from past experiences that are similar to the current one.

The neuroscientist's statements, if true, most strongly support which of the following conclusions?

- A. At least some animals perfectly recall every detail of at least some past experiences.
- B. Perfectly recalling every detail of all their past experiences could help at least some animals react more appropriately than they otherwise would to new situations they encounter.
- C. Generalizing from past experiences requires clear memories of most if not all the details of those experiences.
- D. Recalling every detail of all past experiences would be incompatible with any ability to generalize from those experiences.
- E. Animals can often react more appropriately than they otherwise would to situations they encounter if they draw on generalizations from past experiences of similar situations.





23. Proposed new safety rules for the Beach City airport would lengthen considerably the minimum time between takeoffs from the airport. In consequence, the airport would be able to accommodate 10 percent fewer flights than currently use the airport daily. The city's operating budget depends heavily on taxes generated by tourist spending, and most of the tourists come by plane. Therefore, the proposed new safety rules, if adopted, will reduce the revenue available for the operating budget.

The argument depends on assuming which of the following?

- A. There are no periods of the day during which the interval between flights taking off from the airport is significantly greater than the currently allowed minimum.
- B. Few, if any, of the tourists who use the Beach City airport do so when their main destination is a neighboring community and not Beach City itself.
- C. If the proposed safety rules are adopted, the reduction in tourist numbers will not result mainly from a reduction in the number of tourists who spend relatively little in Beach City.
- D. Increasing the minimum time between takeoffs is the only way to achieve necessary safety improvements without a large expenditure by the city government on airport enhancements.
- E. The response to the adoption of the new safety rules would not include an increase in the number of passengers per flight.





24. Transportation expenses accounted for a large portion of the total dollar amount spent on trips for pleasure by residents of the United States in 1997, and about half of the total dollar amount spent on transportation was for airfare. However, the large majority of United States residents who took trips for pleasure in 1997 did not travel by airplane but used other means of transportation.

If the statements above are true, which of the following must also be true about United States residents who took trips for pleasure in 1997?

- A. Most of those who traveled by airplane did so because the airfare to their destination was lower than the cost of other available means of transportation.
- B. Most of those who traveled by airplane did so because other means of transportation to their destination were unavailable.
- C. Per mile traveled, those who traveled by airplane tended to spend more on transportation to their destination than did those who used other means of transportation.
- D. Overall, people who did not travel by airplane had lower average transportation expenses than people who did.
- E. Those who traveled by airplane spent about as much, on average, on other means of transportation as they did on airfare.





25. Infotek, a computer manufacturer in Katrovia, has just introduced a new personal computer model that sells for significantly less than any other model. Market research shows, however, that very few Katrovian households without personal computers would buy a computer, regardless of its price. Therefore, introducing the new model is unlikely to increase the number of computers in Katrovian homes.

Which of the following is an assumption on which the argument depends?

- A. Infotek achieved the lower price of the new model by using components of lower quality than those used by other manufacturers.
- B. The main reason cited by consumers in Katrovia for replacing a personal computer is the desire to have an improved model.
- C. Katrovians in households that already have computers are unlikely to purchase the new Infotek model as an additional computer for home use.
- D. The price of other personal computers in Katrovia is unlikely to drop below the price of Infotek's new model in the near future.
- E. Most personal computers purchased in Katrovia are intended for home use.





Home Assignment

Critical Reasoning	Book 1	Class Assignment Home assignment	Solve and Review 20	~ 45 minutes	25 Qs 20 Qs
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Thank you