

# Assignment

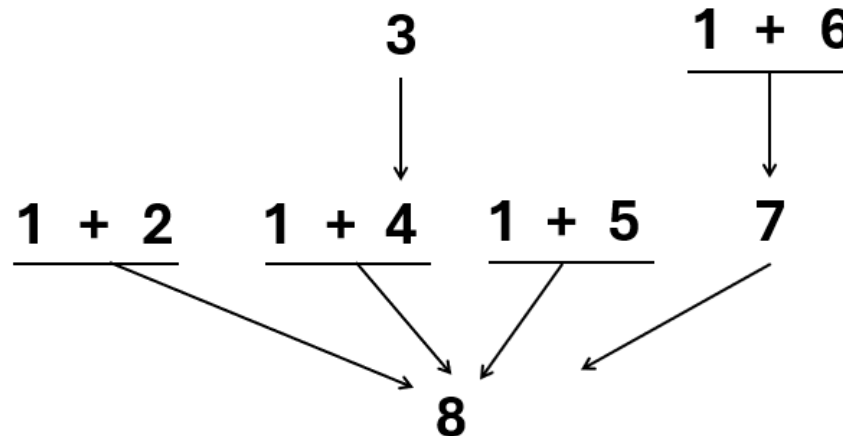
**Read the article in the following link**

<https://www.baogiaothong.vn/tp-thu-duc-co-16-tuyen-duong-ngap-do-mua-khu-vuc-nang-nhat-ngap-toi-06m-192240516182450327.htm>

**Task:** Summarize a causal argument made by Thủ Đức city's authorities about the local flooding on May 15, 2024 and diagram the argument. Use clear premise and conclusion indicators.

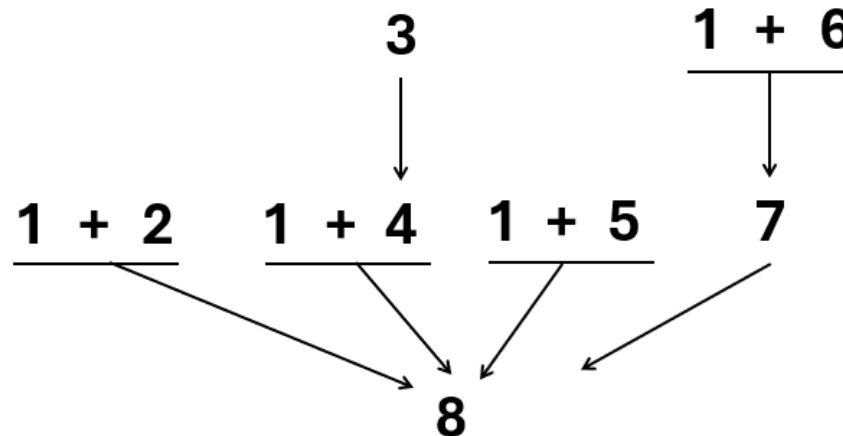
# Assignment

- (1) The intensity of heavy rain was concentrated over a short period.
- (2) The old and degraded sewer system is inefficient at draining water.
- (3) Waste carried by rainwater **covers** and **blocks** the drain inlets.
- (4) Therefore, **limit** the ability to collect water into the sewer system.
- (5) The road surface is locally sunken compared to the terrain of neighboring roads.
- (6) Thu Duc market is a low-lying area, the difference between Thu Duc intersection and Thu Duc market is about 20m.
- (7) So, the flow is very strong and the water flows back to Thu Duc market.
- (8) Hence, Thu Duc City **has 16 roads** flooded due to heavy rain and the heaviest flooding is the area around Thu Duc market.



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- (8) Hence, Thu Duc City **has 16 roads** flooded due to heavy rain **and the heaviest flooding is the area around Thu Duc market.**



## Assignment – Suggestion

1. The rain was too intense over a short period.
2. The old and degraded sewer system was inefficient at draining water.
3. Waste carried by rainwater covered and blocked the drainage inlets.
4. **So**, the old system's ability to collect water was severely limited.
5. Some roads in Thu Duc City are sunken compared to the neighboring roads.
6. The Thu Duc market is a low-lying area, with the difference between the Thu Duc intersection and the Thu Duc market of about 20m.
7. **So**, the flow was very strong and the water rushed back to the Thu Duc market.
8. The new drainage system has a capacity of 75.88mm of rain over 3 hours.
9. The rainwater on Dương Văn Cam St. (near the Thu Duc market) was measured 122,6mm in the short period.
10. **So**, this intense rain overflowed the capacity of the new drainage system.
11. Additionally, the flooding time (with the new drainage system in use) was reduced from 30 minutes or overnight to about 15 minutes.
12. **Overall**, the new drainage system is effective, but the intense concentration of heavy rain over a short period combined with several infrastructural and geographical factors led to significant flooding in 16 roads in Thu Duc City, particularly around the Thu Duc market.

$$\begin{array}{ccccccc} \underline{1 + 2 + 3} & & & & \underline{6} & & \underline{8 + 9} \\ \downarrow & & & & \downarrow & & \downarrow \\ 4 & + & 5 & + & 7 & + & 10 & + & 11 \\ \hline & & & & & & & & 12 \end{array}$$


# **CHAPTER 8**

**Evaluating Arguments**

and

**Refuting Arguments**

# WHERE HAVE WE BEEN SO FAR?

1. To know what critical thinking is and why we learn it. **Chapter 1**
2. To know basic elements of critical thinking and two patterns of reasoning **Chapters 2 + 3**
3. To evaluate deductive arguments by using tools **Chapters 9 + 10**
4. To recognize mistakes in reasoning **Chapters 5 + 6**
5. To analyze and standardize arguments **Chapter 7**
-  To evaluate and strengthen arguments **Chapter 8**



# **Part 1: Evaluating arguments**

# Part 1: Evaluating Arguments

- Once an argument is summarized/standardized, you need to evaluate it so that you can decide whether or not to accept the conclusion.
- Two main questions to evaluate:
  1. Is the argument a good argument?
  2. Are the premises acceptable?



# What is NOT a good argument?

What a 'good argument' does **NOT** mean:

- **“agree with my views”**

- ☐ The conclusion is *forceful* or *imposing*.

- **“persuasive argument”**

- ☐ People can be persuasive by giving *eloquent speech* (which contains both rhetoric and fallacies).

- **“well-written/spoken”**

- ☐ Clarity, eloquence and organization can all occur in the presence of logical mistakes.

# When is an argument ‘good’?

What a “good argument” does mean:

- **deductively sound**

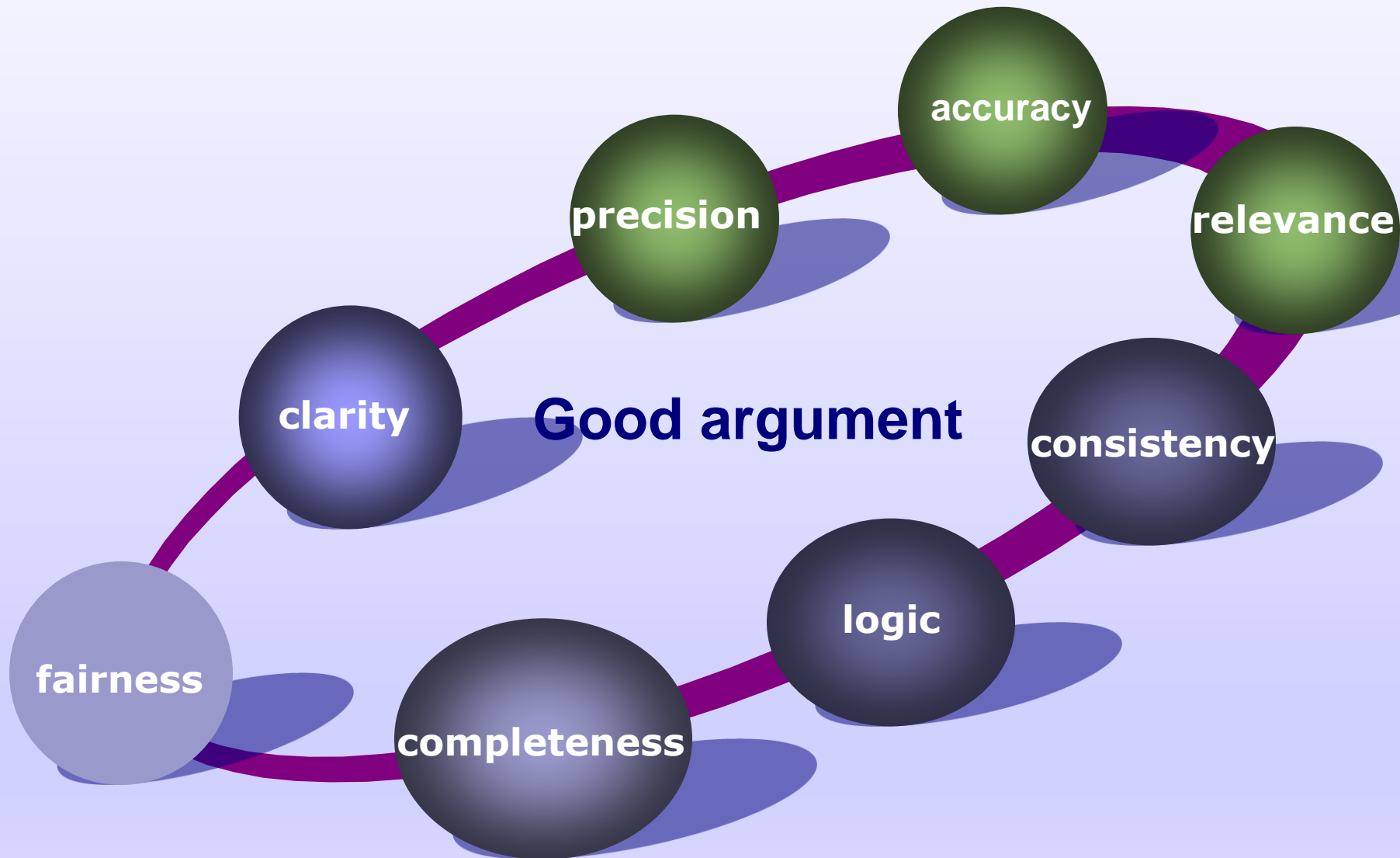
- true conclusion following true premises

- **inductively cogent**

- probably true conclusion following true premises

- A good argument embodies all the good qualities of critical thinking to have logic and make sense.

# EIGHT STANDARDS OF GOOD ARGUMENTS



# How to make an argument 'good'?

## ■ Clear

- ☐ Be understandable

## ■ Correct (accurate + precise + logical)

- ☐ Use exact language and avoid equivocation

## ■ Relevant

- ☐ Avoid off-topic and off-track material

## ■ Consistent

- ☐ Avoid logical contradictions

## ■ Complete

- ☐ Do not ignore facts relevant to the conclusion

## ■ Fair

- ☐ Do not hastily dismiss objections

# Which standard(s) is/are missing?



**Missing precision**



**Missing relevance**



**Red herring**





## **Part 2: Refuting arguments**



# Key concepts

## **Argue → Argumentation**

To reason systematically in support of an idea

## **Refute → Refutation**

To prove that an argument is incorrect; to directly weaken/attack an argument

## **Rebut → Rebuttal**

To try to prove that an argument is incorrect, not strongly or directly attacking



# Samples

## Example – A simple argument:

Online learning is convenient for our class with some far-from campus students.

**Claim/conclusion:** Online learning is convenient for our class.

**Evidence/premise:** Some students in our class are far from the campus.

### Refutation

Online learning is **not quite convenient for our class**. Only some students are far from campus while the near-campus students struggle in noisy settings.

### Rebuttal

Online learning is **not quite convenient for our class**. Not all far-from-campus students in our class have good Internet access and devices.

→ **Critical thinkers focus on refutations, not rebuttals.**





# How to refute a claim

## 1. Reduce to the absurd

- show that a statement is false by proving that it logically implies something that is clearly false or absurd (fallacious, unreasonable, illogical, or inappropriate)

### Example:

**Roommate:** Absolutely all killing is wrong.

**You:** Is it wrong to eat any plants or animals?

# How to refute a claim (cont)

## 2. Provide a counter-example

- an example that proves that a general claim is false

### **Example:**

**A:** All international academic institutions in Vietnam are private.

**B:** Wait a minute. HCMC International University is a public one.

# How to refute arguments

Two ways to refute an argument:

1. Show that a premise - or a group of premises - is false or dubious (vague, doubtful).
2. Show that the conclusion does not follow from the premises.

# Refuting deductive arguments

## 1. Show false or dubious premises

- If a premise is critical to an argument, showing its falsehood will refute the argument.

(1) All presidents live in the White House. **false**

(2) Bill Gates is a president. **true/false**

So, (3) Bill Gates lives in the White House.

**\* We rarely have these arguments in real life.**

# Refuting inductive arguments

1. Children who have unsupervised access to the Internet may be exposed to pornographic and violent images.
2. Some sexual predators use the Internet to find and communicate with children.
3. Children have no ability to use a keyboard or mouse correctly. **false**
4. So, children should not be allowed unsupervised access to the Internet.

→ For inductive arguments, showing ONE false premise is NOT sufficient to prove the conclusion is wrong.

## Refuting inductive arguments (cont)

Children should not be allowed free access to the Internet due to its physico-mental and social impacts. This is because when children have unsupervised access, they may be exposed to pornographic and violent images.

**→ Show insufficient premises for the conclusion**

**Critical question to refute: What is/are its social impact(s)?**



# Practice: Refute the argument

## 1. Show that the conclusion does not follow from the premises (cont)

### Example 1:

Get high-speed Internet access by satellite. It's fast, reliable, and won't tie up your phone lines.

- **Ask questions to show these premises are insufficient.**
  - What about costs (installation fee & high monthly payments)?
  - What about long-term contracts?

# Practice: Refute the argument (cont)

## 2. Show that the conclusion does not follow the premises (cont)

### Example 2:

I must ask my husband to buy me a Mercedes. Most of my rich friends drive luxury cars.

- **Ask questions to show these premises are irrelevant and/or insufficient.**
  - Why do you have to follow your friends? **bandwagon**
  - Is your husband rich? **weak analogy**



# Practice: Refute the loaded questions (cont)

<  **Lê Kiên Thành** ✓  
24 phút · 🌐

Với tất cả sự kính trọng Thầy và lòng yêu mến của các bạn với Thầy, tôi chỉ muốn hỏi những người muốn và đang theo bước Thầy:

AI SẼ LÀ NGƯỜI TRỒNG LÚA ĐỂ CÓ GẠO CHO THẦY DÙNG BỮA?  
AI SẼ DỆT NHỮNG TẮM VẢI ĐỂ CÓ ÁO CHO THẦY MẶC?  
AI SẼ GIỮ BÌNH YÊN TRÊN NHỮNG CON ĐƯỜNG THẦY SẼ ĐI?



- **Ask questions to show these loaded questions are false, or not totally relevant to the monk's followers.**

Do the followers include all farmers (in Vietnam)?

Do the followers include all textile workers (in Vietnam)?

Do the followers include all police (in Vietnam)?

**Hasty generalization**



# Argument refutation & Argument essay

# What does a critical thinker do?

- Don't accept an argument at face value.

→ Ask good questions to find out possible **fallacies**.

What evidence is accurate and relevant?

**Accept**

What evidence may the arguer illogically include or ignore?

**Refute**

Is the argument reasonable or does it need to improve?

**Evaluate**

# 5 types of deductive argument and common fallacies

## 1. Hypothetical syllogism

Fallacy of the Converse  
(affirming the consequent)

$p \rightarrow q$

$q$

$\therefore p$

**invalid**

Fallacy of the Inverse  
(denying the antecedent)

$p \rightarrow q$

$\sim p$

$\therefore \sim q$

**invalid**

## 2. Categorical syllogism

Four terms included in the three-line arguments

## 3. Argument by elimination

Irrelevant/Insufficient evidence for elimination

## 4. Mathematical argument

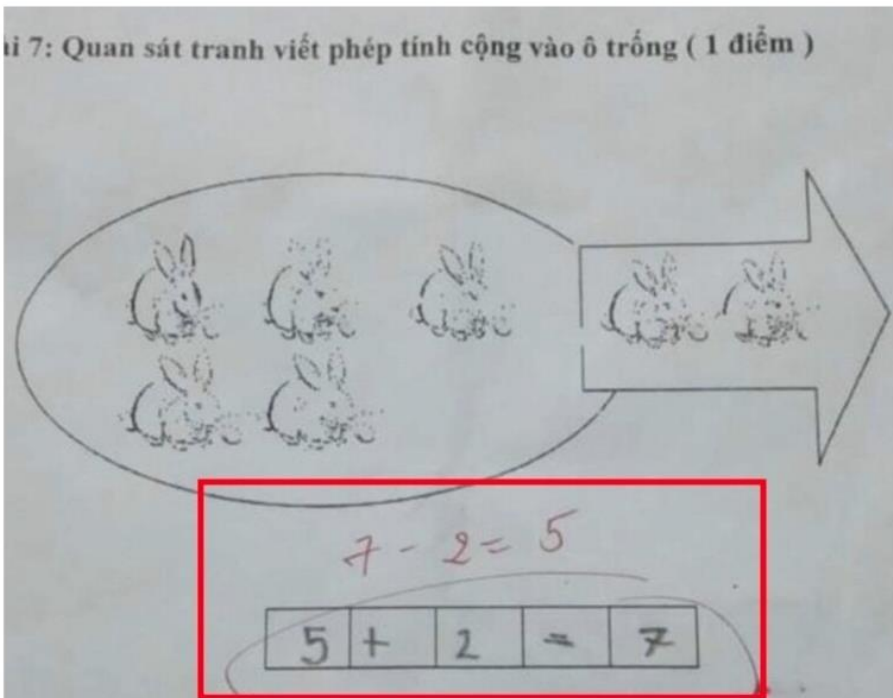
Inaccurate, dubious vocabulary or grammar

## 5. Argument from definition

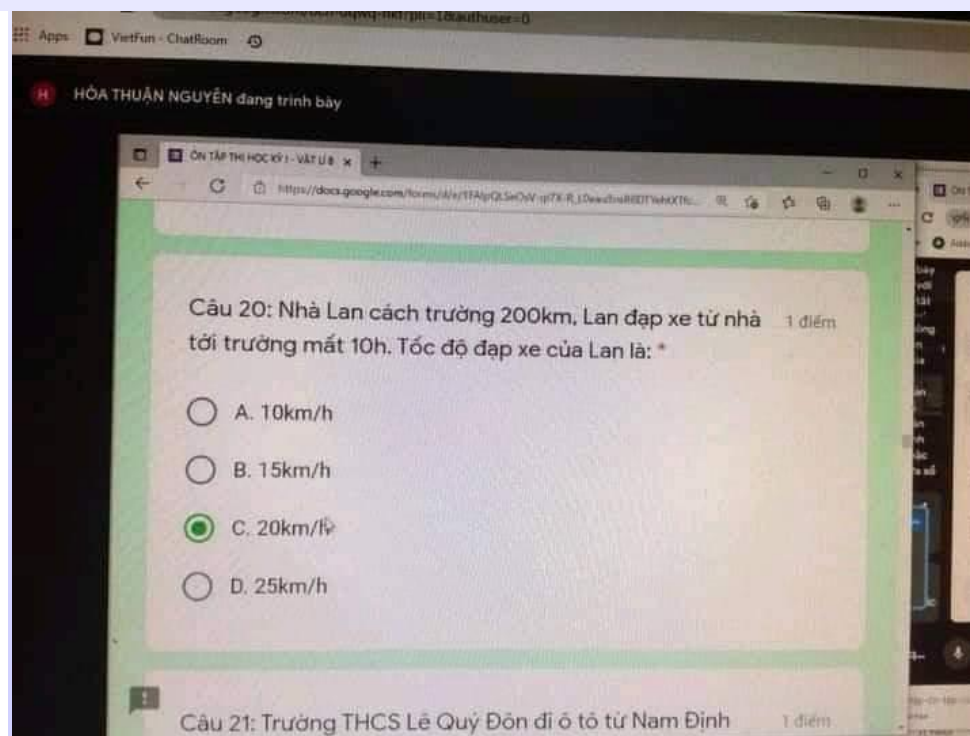
Definitions lacking in eight standards of critical thinking

# Common fallacies in mathematical arguments

**Task:** Observe the picture and write the addition in the boxes.



**Task:** Lan's house is 200 km away from school. Lan cycles to school in 10 hours. So, Lan's average speed is \_\_\_\_.



# Common fallacies in arguments from definition

Messenger • bây giờ ^



**Nguyễn Minh Hiếu**

Em ơi

Một ngày có 24h

Thì 1s anh dành để thở 🙄

Còn 23h99s anh nhớ em 🙄🙄

Thích Phản hồi Tất

**Definition:** one hour =  
100 seconds (inaccurate)

Darling,

There are 24 hours a day.

So, I save 1 second to  
breathe and the remaining  
23h99s to miss you. 😊😊



## 6 types of inductive argument and common fallacies

1. Generalization argument ➤ What is true for a/some members is true for a group
2. Predictive argument ➤ Assuming things stay the same while time changes
3. Authority-based argument ➤ Cite authorities/sources in inappropriate ways
4. Causal argument ➤ Confusing cause-effect relationship
5. Statistical argument ➤ Relying on a potentially unrepresentative statistics
6. Analogy argument ➤ Drawing a weak analogy between two things

## **Activity: What fallacies do the arguments commit?**

1. I couldn't understand the lecture last week, so I'm sure today's lesson will be impossible.
2. I have a recurring headache these weeks. Critical Thinking has caused my headache!
3. More than 100 students in our university have voted 'No' for the online final exam. Probably all students prefer an in-class exam.
4. A meal in the canteen costs as much as our home-made meal. Thus, it provides us with equivalent nutrition.
5. 95% of students in our class support the removal of PE (Physical Education) out of the curriculum. Therefore, I'm sure my classmate Mary doesn't like this subject.
6. Invest in bitcoins and other virtual currencies to get huge returns. Don't you see some showbiz celebrities promote them on their pages?





## Task: Analyze the argument

“The rate of crimes committed by teenagers in the country of Alta has steadily increased. This increase in teenage crime parallels the increase in violence shown on television. According to several national studies, even very young children who watch a great number of television shows featuring violent scenes display more violent behavior within their home environment than do children who do not watch violent shows. Furthermore, in a survey conducted by the Observer, over 90% of the respondents were parents who indicated that prime-time television - programs that are shown between 7 p.m. and 9 p.m. - should show less violence. Therefore, in order to lower the rate of teenage crime in Alta, television viewers should demand that television programmers reduce the amount of violence shown during prime time.”

# Task: Analyze the argument (cont)

1. ↑ teen crime in Alta
2. ↑ violence on TV
3. studies: very young children watching violence on TV → ↑ violent @home
4. Observer survey: over 90% of parents: prime-time programs should have ↓ violence

1. ↑ teen crime is violent or non-violent?
2. Do teenagers watch these programs?
3. Who conduct(s) the studies?
4. Very young children = teenagers?
5. Which types of parents and how many were interviewed?
6. Who/What is the Observer?

➡ TV viewers should demand programmers to reduce violence shown during prime time  
→ ↓ teen crime in Alta

7. Can viewers' opinions alone change/influence TV programmers?

# Sample refutation

## Format:

- Summarize the text
- **State the fallacy**
- Give a reason
- Give an example
- Conclude/Improve

*Firstly, the author mentions the increasing crime rate committed by teenagers in Alta as one reason for his/her suggestion to reduce violent shows on TV during prime-time. However, the author may commit the **fallacy of red herring** when failing to clearly indicate if these crimes are violent or non-violent. If teenagers in Alta mostly commit non-violent wrongdoing like pickpocketing or shoplifting, the reduction of violent shows on TV does not solve the problem.* Therefore, the author should clarify the nature of teenage crimes to make it more relevant to his/her conclusion.

# Sample refutation

## Format:

- Summarize the text
- State the fallacy
- Give a reason
- Give an example
- Conclude/Improve

*In addition, the author offers a survey showing that 90% of the interviewed parents request prime-time television programs show less violence. However, the survey methods are not discussed - it is possible that the sample was improperly chosen to include academic parents that are very much opposed to television violence (biased sample). Additionally, it is possible that 90% of the parents interviewed belonged to a total number of 50 parents in a neighborhood of 300.000 residents (small sample). Therefore, it is hasty if the arguer bases his/her conclusion on that possibly unrepresentative survey result.*

# Argument essay template

## ■ Introduction

- ☐ Summarize the given argument.
- ☐ State your point of view (agree or disagree with the argument).

## ■ Body paragraphs 2 - 4

- ☐ Summarize the fallacious text.
- ☐ Refute it with your own claim (name the fallacy).
- ☐ Give reason(s) and example(s) to support your claim.
- ☐ Wrap up with 1 concluding sentence (optional).

## ■ Conclusion

- ☐ Restate your point of view.
- ☐ Show how to strengthen the argument.

## SAMPLE INTRODUCTION

The author **states** that the rate of teenage crime in the country of Alta has increased along with the increase in violence shown on television. *In addition*, the author **indicates** several national surveys that show young children watching violent television programs are more prone to violence than children who do not. The author *also* **says** that a survey indicated that 90% of parents responding said that prime-time programs should show less violence. These (premises) take the author to the conclusion that to lower the rate of teenage crime in Alta, television watchers should ask for a reduction in violence shown during prime time. **This argument suffers from several critical fallacies.**

# SAMPLE BODY PARAGRAPH 1

**Firstly**, the author equates the rate of increase in teenage crime in Alta to the increase in violence shown on television but gives no causal linkage other than the similar time periods. **This may be just a mere correlation.** In addition, the author makes no distinction between types of crimes - whether they are violent or nonviolent crimes by teenagers - **and (s)he oversimplifies the cause of teenage crimes**, that is, violent shows only. In fact, there are several possible causes of the increase in teen crimes. *For example*, maybe the police are now doing a better job of catching teenage criminals than they were before. One more reason for the increase in teenage crime rate is simply an decrease in the overall population, so that the same teenage criminals seem to account for a higher rate than it was before. *Without ruling out these and other causes, the argument fails to convince by showing no causal linkage between television violence and teenage crime.*



## SAMPLE BODY PARAGRAPH 2

**Secondly**, the author mentions some national studies that show that young children that watch violent programs show more violent behavior at home than children who do not watch such programs. This argument **fails on two levels** - one by assuming that very young children and teenagers are equally affected by television programs (**weak analogy**); and two by again assuming that there is some type of cause-effect relationship between children's bad behavior at home and teenage crime in society (**questionable cause**). Young children and teenagers are not the same in their awareness levels, since nurture at home and discipline or order in society may influence children and teenagers in different ways. As such, it should not be assumed that more violent behavior within the home leads to crimes in society as these children grow into teenagers.



## SAMPLE BODY PARAGRAPH 3

**Thirdly**, the author offers a survey showing that 90% of the respondents were parents claiming that prime time television programs should show less violence. *However*, the survey methods are not discussed - it is possible that the sample was improperly chosen to include academic parents that are very much opposed to television violence (**biased sample**). Additionally, it is possible that 90% of the parents interviewed belonged to a total number of 50 parents in a neighborhood of 300.000 residents (**small sample**). *Therefore, it is hasty if the arguer bases his/her conclusion on that possibly unrepresentative survey result.*



## SAMPLE CONCLUSION

In conclusion, it cannot be denied that the author has good intention to build a healthier community, **but his/her argument is not built on solid evidence.** To strengthen his/her argument, the author needs to show some direct causal linkage between television violence and teen crime rather than making vague and unsupported comparisons to show a link. When more proof is given, parents and authorities will agree on a change for the benefits of their young television viewers.



# Practice: Analyze the argument

All mothers should stay home with their young kids. It would promote closer family ties, and studies show that children with stay-at-home moms do better in school, have higher self-respect, and are less likely to get involved with drugs or commit crimes.



# Analysis

## Premises:

1. Stay-home moms promote better ties with kids
2. Studies show that children with stay-at-home moms:
  - do better in school
  - have higher self-esteem
  - are less likely to get involved with drugs/ crimes

## Conclusion:

All mothers should stay home with their young kids.

# Analysis (cont)

## Fallacies:

1. Questionable cause: Stay-home moms may put more pressure on kids -> worse relationships
2. Biased sample: Studies may have had surveys on good moms only.
3. Questionable cause: Kids may learn good things from school, not from moms
4. Red herring: young kids and children who can get involved with drugs or crimes are different groups.
5. Hasty generalization: Not all moms, including single moms or poor moms, can stay home with their kids.

# Activity: Analyze the argument

## Vietcetera.

PODCAST

NỔI BẬT

VNI SUMMIT

MỚI

#TÓM LẠI LÀ

29 Thg 11

CUỘC SỐNG > XU HƯỚNG CUỘC SỐNG

### Nờ Ô Nô: Của cho

Đó là câu tục ngữ mà TikTokers Nờ

## 5. Làm từ thiện sao cho thiện?

Việc làm từ thiện với tâm ý tốt có thể dẫn tới những hệ lụy không tốt. Đó có thể là việc phá vỡ văn hóa của cộng đồng nhận từ thiện, cũng có thể là những tranh cãi xung quanh việc từ thiện minh bạch và đúng người, đúng cách.

Những vấn đề này đã hiện diện trong nhiều sự kiện từ thiện cho các cộng đồng dân cư ở vùng núi phía Bắc, hay những nạn nhân của bão và lũ lụt tại miền Trung. Bên cạnh đó, nhiều hành động từ thiện còn thể hiện tâm lý khiêu dâm nghèo đói ([poverty porn](#)) – tức việc trưng dụng hình ảnh người nghèo để thỏa mãn cảm giác cao thượng về đạo đức chứ không phải vì quan tâm tới người nghèo, người yếu thế.

Hành động của Nờ Ô Nô có lẽ là một biểu hiện rõ ràng của khiêu dâm nghèo đói. Anh này không những không cho thấy sự đồng cảm với hoàn cảnh khó khăn, mà còn dựa vào sự nghèo đói để miệt thị người khác nhằm nâng bản thân mình lên.

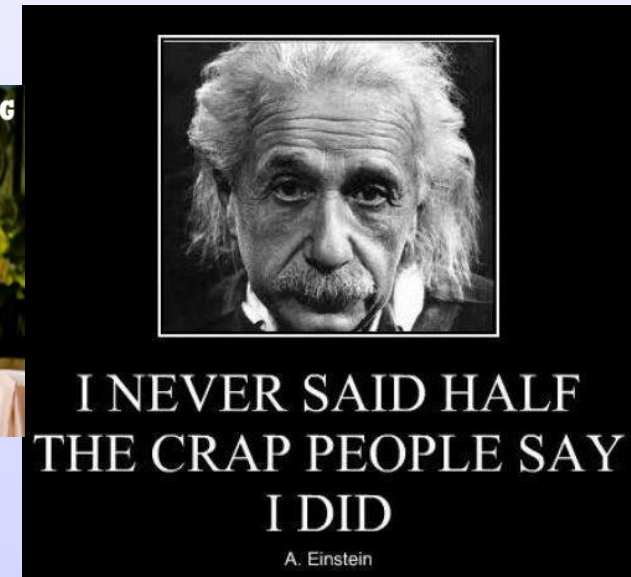
## GROUP PARTICIPATION SCORE IMPROVEMENT

Find any (controversial) **excerpts of newspaper articles/books, a public speech, etc.**, find the fallacies and refute them. (1 bonus point for a **reasonable refuting paragraph**).

### Format:

- |                      |  |
|----------------------|--|
| - Summarize the text | <i>The writer/speaker claims that...</i>                 |
| - State the fallacy  | <i>However, this statement commits the fallacy of...</i> |
| - Give a reason      | <i>This is because....</i>                               |
| - Give an example    | <i>For instance,</i>                                     |
| - Conclude/Improve   | <i>Therefore, the writer/speaker should...</i>           |

# Some suggestions



<https://goodshepherdshorehambeach.org.uk/just-for-fun/a-famous-debate/>





**If your Participation score is over 100, the accumulated points will go to the final project.**

**Link to submit:**

<https://forms.gle/L9nDNQfSvV4QSHRT8>

**Deadline: Before the exam date**



# Attendance check



**THANK YOU**