Introduction to Logical Reasoning

Review Session #1

Informal Logical Reasoning

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The Skills You Have Practiced...

1. Dispute analysis,

2. Statement classification,

3. Argument parsing, and

4. Argument diagramming.

Dispute Analysis

In dispute analysis you must (1) determine the statement in dispute and (2) the position each side takes with respect to on that statement. Whenever possible, you should also (3) look for the reasons given to justify each position. With these understood, you then (4) ascertain whether the dispute is either

A. Merely verbal, being sure to identify the ambiguous word or phrase,

B. Obviously genuine, or

C. Apparently verbal but really genuine, being sure to identify the ambiguous or phrase while explaining why that is not the actual issue at stake.

Furthermore, if there is a genuine dispute, then you must go on to (5) determine whether that dispute is over beliefs, stating the fact in dispute, or over attitudes, stating the evaluations or prescriptions in dispute.

Common Problems

Many people seem to just assume that there is always some verbal ambiguity in any dispute. But a difference of opinion is not necessarily due to the parties understanding a word or phrase differently. If you are confident that there is a verbal dispute, then identify the *precise* word or phrase that the parties are using differently, being clear how each side is using that word differently. Do not just make stuff up or guess; instead use the reasons presented by each party.

Examples

Dispute 1

A: Hafsa finally got rid of that old Kia and bought herself a new car. She's driving a Land Cruiser now.

B: No, Hafsa didn't buy a new car. That Land Cruiser is a good three years old.

Dispute 2

A: Hamid finally got rid of that old Kia and bought himself a new car. He's driving a Land Cruiser now.

B: No, Hamid didn't buy a new car. It is his brother's new Land Cruiser that he's now driving.

Statement Classification

Statement classification involves determining whether a statement is

1. Simple: positive,
2. Simple: negative,
3. Compound: conjunctive,
4. Compound: disjunctive,
5. Compound: hypothetical, or
6. Some combination of these.

Common Problems

People often forget that when dealing with a compound statement you need to figure out the type of statements each parts is, until you finally reach all simple statements (either positive or negative).

Example

If I study hard for the exam, then I will either pass the exam or not be happy.

Common Problems

Remember the compound statement indicator words. But do not get complacent—you are not a robot!

Common Conjunctive Indicators

and	but	while
both . . . and . . .	yet	however
also	though	furthermore

Common Disjunctive Indicators

or	either . . . or . . .	unless

Common Hypothetical Indicators

if . . . then . . .

Examples

Statement 1

Study hard but do not do it at the last minute.

Statement 2

Study hard and you will pass this logic class.

Argument Parsing

When parsing an argument, you are searching for the following things

1. Premise indicators (if any),
2. Conclusion indicators (if any),
3. The main conclusion, and
4. Sub-conclusions (if any) and premises.

Common Problems

Do not confuse inference indicators (premise/conclusion) with compound statement indicators (conjunction/disjunction/hypothetical).

Common Premise Indicators

because	in view of the fact	assuming that
since	given that	for the reason that
for	seeing that	inasmuch as
as	due to the fact that	as indicated by
follows from	being that	the reason being

Common Conclusion Indicators

therefore	which implies that	it must be that
thus	consequently	as a result
hence	it follows that	which means that
so	we can conclude that	ergo

Example

If I study hard then I will pass logic. Furthermore, if I pass logic then I will make the Dean's list. Therefore, if I study hard then I will make the Dean's list.

Common Problems

Remember that each premise and conclusion is a complete statement. This statement may either be simple or compound.

Hypothetical and disjunctive statements *cannot* be broken down into separate premises or conclusions. They are always either one single premise or one single conclusion.

Conjunctive statements *should* be broken down, each conjunct treated as a separate premise or conclusion, depending on the context.

Examples

Argument 1

Either I will study hard or I will fail the class. I am not failing this class, so I must be studying hard.

Argument 2

I will study hard because I want to pass the class and I want on the dean's list.

Argument Diagramming

When diagramming an argument, you are identifying the inferential structure of how the premises entail the conclusion. This adds two important steps in the argument analysis process:

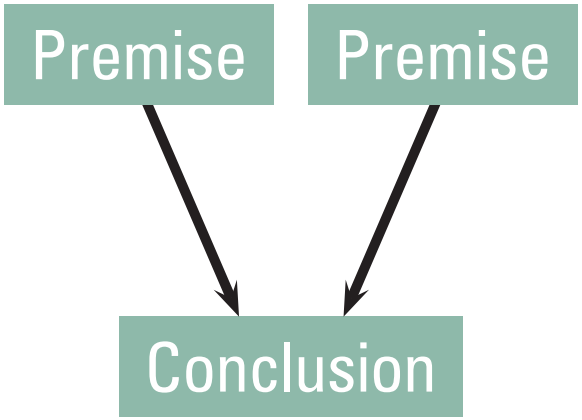
1. Distinguishing between premises and sub-conclusions.

2. Distinguishing between argument chains, dependent premises, and independent premises.

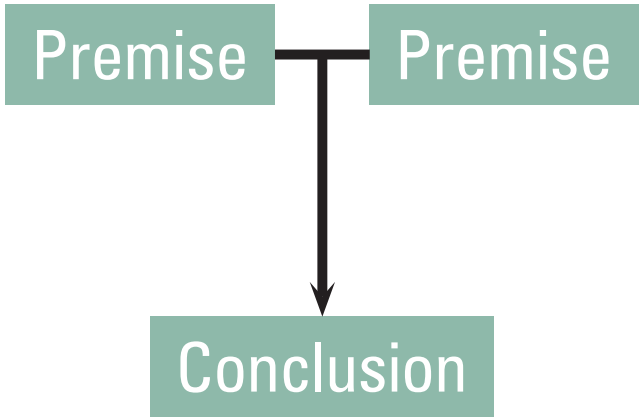
Common Problems

Remember the differences between the three inference patterns:

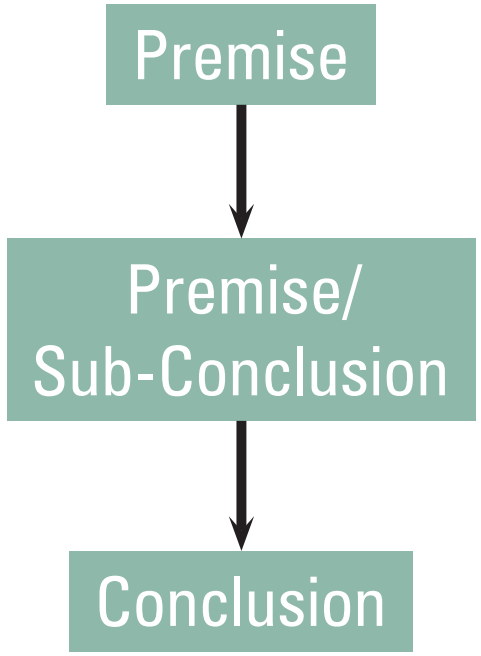
Independent Premises



Dependent Premises



Argument Chain



Examples

Argument 1

I will study hard, because I want to pass the class and I want on the dean's list.

Argument 2

I will study hard, because studying hard will put me on the dean's list and I want on the dean's list.

Argument 3

I will study hard, because I want to pass the class as I really desire to be on the dean's list.

Next Class...

Exam #1 will begin promptly at 3:30PM in **lecture hall 1202**. Please show up and be seated by that time.

Be aware that you will be asked to put anything you bring (including cell phone) in the aisle or the back of the room. You will *not* be able to leave the room until you finish the exam. Plan accordingly.

You will be provided with two pencils, one pen, and scratch paper.

Otherwise, please do not forget to turn in your response to the Review Session #1 Questionnaire on your way out.