Covid-Relief

LR + RC COURSE

Sponsored by Ave Maria School of Law

Lesson 1 Outline

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CONCEPTS PART 1: LOGIC + REASONING

I. CONCEPT: LOGIC AND REASONING

a. As should be obvious, the LOGICAL REASONING section will test our skill of using LOGIC to assess REASONING. But what does this actually mean?

b. Reasoning is simply the use of evidence to reach a conclusion.
   i. On the LSAT, you are asked to *assess* reasoning.

c. There are different ways to assess reasoning:
   i. In the real world, we assess things from the perspective of *likelihoods*.

      Ex. Every day for the last billion years, the sun has risen. Therefore, the sun will rise tomorrow.

   ii. On the LSAT, we need to assess things using LOGIC.
      1. Logic asks the question, "does the evidence 100% prove the conclusion?"
         a. If 100%, then it is VALID. Anything less than 100% is INVALID!

d. In everyday life, we rarely, if ever, assess thing from the perspective of logic and validity. That is, we accept as true an infinite number of conclusions that are not *technically* 100%.

e. On the entire LSAT, not just LR, we should be assessing things from the perspective of LOGIC. This means that we must account for EVERY hypothetical situation and begin to train our brain to not to overlook hypothetical possibilities simply because they seem improbable

f. Achieving mastery of "Logical Reasoning" takes full understanding and awareness of four main "pillars" of logic:

   i. Structure

   ii. Language

   iii. Degrees

   iv. Conditionality

g. In loose terms, you could think of these 4 pillars as a "flow chart" or "check-list" of the issues that may arise in any given question.

II. THE FOUR "PILLARS"

PILLAR ONE: STRUCTURE

a. The first thing you must assess in any given question is the structure of the reasoning.
    i. Generally, there are two main types of structures:
        1. If there is a conclusion being reached in the stimulus, we refer to that as an "argument."
        2. If there is no conclusion, it is simply "information."
            a. About 85% of all questions' stimulus will be "arguments"

b. When there is just information, without an argument, you will generally be asked to either draw an inference or to resolve a paradox.
    i. A paradox will stand out as something that has "weird" or "conflicting" or "counter-intuitive."

c. When you have an argument, you should first try to identify the <u>conclusion</u> and then identify the <u>evidence</u> for the conclusion!

    i. To help do this, you should be thinking about how each phrase is being used in context of the others. When a phrase has support, a reason, or an explanation for it, then it is a conclusion. The phrase providing the support is generally the evidence.

d. There are certain more specific/advanced issues that can also alter the structure:

    i. <u>Opposition Arguments</u> (Main Conclusion vs. Alternative Conclusion)
        1. Generally, this is when the argument reads as "they say this, but I say that."

        2. This is a relatively common format, most notable when the stimulus starts with a particular position being attributed to certain people.

        3. The key to these structures is understanding how specifically the author responds to the Alternative.
            a. This could be done by attacking the Alternative's source, evidence, conclusion, or their assumption!

        4. Ex. June '07, s. 3, q. 12

        5. "Negative Reference Conclusions"
            a. At times, the conclusion will simply be reference language to a previous idea and then a rejection to some degree of that idea. In

this case, we need to "rephrase" the conclusion by identifying the referred to idea and negating it.

i. Ex. June '07, s. 3, q. 5

ii. *Note: the main conclusion in that question is technically "the early entomologist was wrong." But this is what is referred to as a negative reference conclusion. The key is to rephrase it by understanding the reference and then negating the idea. Here, the "true conclusion" would be: "the ants were not bringing food to their neighbors."*

ii. Multiple Conclusions (Main Conclusion vs. Intermediate Conclusion)

1. In at least several arguments made throughout each section, there will be two conclusions. A phrase is by definition a conclusion when there is support for it. If two phrases each have their own support, then those two are both conclusion.

2. When you have two conclusions, one of them will be providing the support for the other. This creates a MAIN CONCLUSION and a SUBSIDIARY/INTERMEDIATE CONCLUSION.

3. Ex. June '07, s. 3, q. 18

iii. Principle + Application Structures

1. As you will learn more about later, there is a LSAT concept called a "principle." Generally, they are used to validate otherwise invalid arguments (referred to as "applications"). However, when you see a principle and application structure, the principle will FAIL to validate the application. You will then be asked a question related to why it failed.

2. These are "newer" formats and only started around the PT's numbered in the mid-50s. Since then, they have been about one question per test.

e. After you break down the structure and begin to assess, remember that ***evidence must always be accepted as 100% true.*** Only conclusions can be questioned.

i. If you do have multiple conclusions, you can question each of them!

f. To best understand which role each phrase plays, beyond your basic reading skills, you should be focused on the key INDICATOR WORDS. While you should not strictly go by the indicators and **should not** try to memorize these as a list, the following are some examples:

i. Conclusion Indicators:

1. Therefore, thus, so, should, accordingly, conclude, hypothesize, infer, hence

2. NOTE: Remember that Conclusion indicators can only signal that the phrase is *a* conclusion; it does not mean that it is the *main* conclusion. Whenever you see multiple conclusions, ask yourself which one is the reason for the other to determine which is the main and which is subsidiary!

ii. Evidence/Premise Indicators:
    1. Further, moreover, additionally, after all

iii. Indicators for BOTH evidence and conclusion:
    1. Since, because, for

    2. NOTE: The proper usage of SINCE/BECAUSE/FOR

        a. ____Conclusion____ since _____Evidence_____

        b. Since _____Evidence_____, _____Conclusion_____

iv. Negative Transition indicators = words used in Opposition arguments that signal the transition away from the Alternative Position and begin the author's argument:
    1. However, yet, nonetheless, regardless, rather, though, even so

v. Negative Evidence indicators = phrases that will the author is acknowledging as factual and likely counter to the ultimate point, but will attempt to reach a conclusion in spite of the "countering facts"
    1. Although, while, despite

PILLAR TWO: LANGUAGE

a. Arguably the most important pillar in terms of how it is tested on the LSAT, we must train ourselves to assess language properly.

b. The key to this is to be focusing only on the EXPLICIT language. We must ignore our instincts to look at the IMPLICIT conclusions our brain wishes to reach.

c. The best way to start training your brain to rely on LOGIC and VALIDITY, is to really assess how "on target" language from one phrase is with the language from the other phrases.

Ex. Are you going out tonight?

Answers:

- I'm really tired.
- I have work tomorrow morning
- I'm just going to watch a movie at home tonight

vi. Many times statements will seem to be on target, but are not. This is because they are IMPLICATIONS that suggest, but not necessarily validly, the relationship. Our brain is trained to subconsciously equate or fill-in the gaps between ideas, but we have to train ourselves to stop!

d. <u>"PARTS ANALYSIS"</u>

vii. We can break most phrases into parts to better make sure we understand the true meaning of a phrase. Most parts can be identified as either "subject matters" or "characteristics." Ultimately, the difference between two is not overly meaningful on the LSAT, but being able to separate the parts is a huge part of success on this test.

viii. A basic phrase will consist of just one subject matter and one characteristic:

Ex. Brandon teaches the LSAT.

1. Subject matter = Brandon
2. Characteristic = teaches the LSAT.

ix. At times, we have more Extended parts, which may be overwhelming. However, the key is to recognize, it is just ONE PART with multiple characteristics! Most often, these are very "basic phrases" that students fail to interpret properly because of their seemingly excessive language!

Ex. Grad students with engineering degrees who take night classes work extra hard on any in-class assignment given on a Friday before a holiday weekend.

1. Subject matter = grad students with engineering degrees who take night classes.
2. Characteristic = work extra hard on any in-class assignment given on a Friday before a holiday weekend.

x. Many phrases will have more than just one subject matter and one characteristic. Comparitive phrases, conditional phrases, as well as many other formats, will entail multiple subject matters and multiple characteristics.

Ex. When Brandon teaches LSAT, Melissa watches the kids.

1. Subject Matter #1 = Brandon
2. Characteristic #1 = teaches the LSAT
3. Subject Matter #2 = Melissa
4. Characteristic #2 = watches the kids

xi. We can also see often phrases that have "generic subject matter" which is referring to any and everyone!

Ex. If you jump in a pool then you will get wet.

1. Subject Matter #1 = "you"… but really generically applies to anyone!
2. Characteristic #1 = jumps in a pool
3. Subject Matter #2 = "you"… but really generically applies to anyone!
4. Characteristic #2 = will get wet

xii. There are also times where there are "extra parts" that we cannot classify as subject matter or characteristics. One example is source:

Ex. Brandon says that Melissa is the best mother.

a. Source = Brandon
b. Subject Matter = Melissa
c. Characteristic = best mother

xiii. **<u>IMPORTANT NOTE</u>**:

1. As was mentioned earlier, don't stress too much about breaking things into perfect "subject matter" and "characteristics" every single phrase. The general exercise will help you be more precise in your interpretations, but is not something we formally do every phrase we read!

e. <u>"LSAT Common Sense" standard and "most supported" language</u>

xiv. While Logic is grounded in exact precision, a lot of the Logical Reasoning and Reading Comprehension section has some gray.

xv. This is specifically allowed due to two things the LSAT test itself does:

1. <u>"LSAT Common Sense" Standard</u>
    a. This comes from the directions of the LR section! It is something that we have to learn what is and is not acceptable from the LSAT Common Sense perspective. If it's at all close, don't stress! Generally assume things are on target if they're close, but if you get it wrong, you learn!

        Example: Over the last 10 years, Group A got sick more often and more seriously than Group B. Therefore, Group B was healthier than Group A during the 10 year period.

        This type of jump has been considered "on target" on certain LSAT questions!

2. <u>"Most supported" language</u>
    a. Very often, a question will be stated to suggest that the correct answer is connected to the stimulus in a way that is "most supported" (or something similar).

    b. Some students take this to mean that more than one right answer is correct, but that the some have "*more*" support. This is NEVER the explanation for why a wrong answer is wrong!

    c. What the language "most supported" allows is slightly "grayer" language jumps than would be acceptable in strict logic. This is essentially an extension of the "LSAT Common Sense" standard!

f. <u>GENERIC LANGUAGE vs BROAD/NARROW</u>

xvi. Often on the LSAT, when being tested on whether two phrases are "on target" or not, you will need to understand the distinction between "generic language" and "broad/narrow" language.

xvii. In short, this is an issue of scope. Generic is when it *could be the same scope*.

xviii. Issues of Broad/Narrow would be when the language is *definitively different scope.*

xix. A conclusion, inference, or answer choice that uses Generic language is VALID. A conclusion that uses too Broad or Narrow language would NOT be valid.

Example:

Imagine evidence that says:

"American Bald eagles migration patterns are unique because of X, Y, and Z."

Based on that evidence, assess whether the following is fully "on target":

1. "American Bald eagles' migration patterns are unique because of X and Y."

2. "Because of X, Y, and Z, eagles' migration patterns are unique."

3. Due to a variety of factors, certain birds' migration patterns are unlike any other."

ANSWERS:

1. This would be TOO NARROW because it is definitively excluding Z!

2. This would be TOO BROAD because it is about ALL EAGLES!

3. This would be GENERIC, but VALID! The language "variety of factors" *could possibly* be describing the three issues of X, Y, and Z. The language "certain birds" *could possibly* be describing the correct scope of American Bald eagles!

PILLAR THREE: DEGREES

a. On the LSAT, we must to always be attuned to the exact extent, scope, strength, etc., to which ideas are connected.

b. We need to be aware of three different "playing fields" upon which degrees are tested:
   i. Correlation vs. Cause
   ii. Absolute vs. Relative
   iii. Strong vs. Weak

CORRELATION vs. CAUSE

a. In countless undergrad courses, the phrase "Correlation does not equal Cause" is drilled. On the LSAT, it is no different! The difficulty is recognizing *when* these issues arise!

i. Correlation = any relationship between two ideas, most notably when one subject has some sort of likelihood difference versus other subjects.

ii. Cause = when the wording of the connection *establishes* that one idea is *responsible* for the likelihood relationship.

iii. Example:
    1. People who go to the beach weekly have significantly higher instances of skin cancer than people who do not.
        a. This "passive" language here is just *mere correlation*.
    2. Going to the beach increases a person's chances of getting skin cancer.
        a. The "active" language here creates cause!

b. On the LSAT, there are 3 main types of correlation you should be "ready" for:
    a. Statistical Correlation:
        i. Ex. People with X are more likely to have Y than people who do not have X.
    b. Time Correlation:
        i. Ex. First X happened, then Y happened.
    c. Phenomenon Correlation (connections through occurrences):
        i. Ex. Brandon used course X for LSAT prep and got an unbelievably high score.

c. When you see evidence of one of these correlations, there is a strong probability they will reach a conclusion based on a causal degree!

ABSOLUTE vs. RELATIVE (vs. Extreme Relative) LANGUAGE

a. One common degree to be on the lookout for is when issues of *comparison* come into play. Generally, this separates issues of Absolute (non-comparison) and Relative (comparison).
    iv. Example: Tall vs. Taller
        3. The "extreme relative" is the equivalent of being the "tallest"

    xx. Advanced: Internal vs External Relative
        1. Generally, relative words can be used to either describe INTERNAL or EXTERNAL relative issues.
            a. INTERNAL = a single subject matter going through a change
            b. EXTERNAL = comparing two different subject matter

        2. Brandon is taller than Melissa = EXTERNAL
        3. Brandon got taller this year = INTERNAL

STRENGTH of Probability and Proportions (STRONG vs. SEMI-STRONG vs. WEAK LANGUAGE)

b. One of the most important aspects of assessing reasoning will be your ability to catch the strength of phrases. Generally, think of it like this:

   v. Strong statements = definitive, absolute language with tangible meaning

   vi. Weak statements = open-ended, abstract language with subjective meaning.

   vii. Formally, on the LSAT, there are actually three tiers of strength:

      4. Strong
      5. Semi-Strong
      6. Weak

   viii. Strong = no exceptions
   ix. Semi-Strong = more/less than 50% of the time
   x. Weak = too open-ended; which means it has almost any possible meaning

   xi. Each of these ideas also can come in a positive or negative form. While there are many words that can relate to each of these tiers and positive/negative positions, I like to think of the "face" of each tier using the following chart:

	Positive	Negative
Strong	all	none
Semi-Strong	most	rarely
Weak	some / many	not all

   xii. NEGATING A PHRASE: For each of these tiers, beyond needing to understand their formal definitions and meaning on the LSAT, we need to know it's logical opposite!
      7. To reveal the opposite of a degree, you would "flip" positive and negative AND also "flip" strong and weak (Semi-strong "flips" with itself!)
         a. Examples of opposites:
            i. **All** + **Not all**
            ii. **None** + **Some/Many**
            iii. **Most** + **Rarely**

   xiii. ***TIP:*** ***Strong proportional degrees also create conditionals! More on this later!***

c. RELATING OTHER LANGUAGE TO THEIR STRENGTH

i. It is extremely important that we are able to relate any and all degree words to their level of strength.

ii. While most of the time this is obvious, there are a few tricky ones.

1. Example:

iv. Brandon goes out *extremely often*.

1. Inclusiveness = ____weak!_____

v. Joe *tends* to get assignments in ahead of schedule.

1. Inclusiveness = _____semi-strong!_____

iii. HOMEWORK:

2. I go to work every Wendesday.

b. Inclusiveness = _____

3. Melissa never drives on highways.

c. Inclusiveness = _____

4. Charlie usually watches the game at his house.

d. Inclusiveness = _____

5. Studying will likely improve your score.

e. Inclusiveness = _____

6. An extremely large number of voters will base their vote on tax policies.

f. Inclusiveness = _____

7. Practicing will make you better.

g. Inclusiveness = _____

8. Nearly all of my friends are boys.

    h. Inclusiveness = _____

9. Not all lawyers are successful.

    i. Inclusiveness = _____

10. Few people in Florida have ski clothes.

    j. Inclusiveness = _____

11. Having fun with the LSAT is not impossible.

    k. Inclusiveness = _____

g. ANSWERS

1. I go to work every Wednesday.

    a. Strength = _____Strong (positive)_____

2. Melissa never drives on highways.

    a. Strength = _____Strong (negative)_____

3. Charlie usually watches the game at his house.

    a. Strength = _____Semi-Strong (positive)_____

4. Studying will likely improve your score.

    a. Strength = _____Semi-strong (positive)_____

5. An extremely large number of voters will base their vote on tax policies.

    a. Strength = _____Weak (positive)_____

6. Practicing will make you better.

    a. Strength = _____Strong (positive)_____

7. Nearly all of my friends are boys.

    a. Strength = _____Semi-strong (positive)_____

8. Not all lawyers are successful.

    a. Strength = _____Weak (negative)_____

9. Few people in Florida have ski clothes.

    a. Strength = _____Semi-strong (negative)_____

10. Having fun with the LSAT is not impossible.

    a. Strength = _____Weak (positive… "not impossible" just means "possible!")_____

PILLAR FOUR: CONDITIONAL LOGIC

a. Conditional statements, in its simplest form, are phrases that create *"if-then"* connections.

    Ex. If you win the lottery, then you bought a ticket.

ii. At its core, conditional statements are comprised of SUFFICIENT conditions and NECESSARY conditions.

1. Sufficient means that it is enough to guarantee validly, the other idea.

    a. Winning the lottery is SUFFICIENT to know that you bought a ticket.

2. Necessary means that if we do not have it, we cannot have the other.

    a. Buying a ticket is NECESSARY if you want to win the lottery.

3. As conditional reasoning is one of the trickiest concepts of logic, for most situations it is much easier to NOT think of ideas as sufficient and necessary!
    a. All you really need to remember is that:
        i. SUFFICIENT = "if"
        ii. NECESSARY = "then"

b. As it relates to conditional logic, there are 3 main skills you will need to develop. Specifically, you will be tested on your ability to:
    a. IDENTIFY conditional phrasing
    b. TURN PHRASES INTO IF/THEN statements
    c. APPLY conditional reasoning validly

<u>CONDITIONAL SKILL #1 = IDENTIFYING CONDITIONAL PHRASING:</u>

a. As you hear me say with almost every aspect of this test, you will need to balance conceptual ability with simply memorizing rules.

    i. <u>At a conceptual level</u>, you will want to think of conditional reasoning any time you have a "strong" connection between two ideas.

        1. To clarify, this would be any strong proportionality; NOT strong probability. Generally, the difference is whether the strong connection is between two different Characteristics or if it is simply connecting one Subject Matter to one Characteristic.

            Example:

            a. Brandon goes to work every Wednesday.
                i. This is conditional, as it tells us that on 100% of Wednesdays, Brandon goes to work.

            b. Brandon will definitely go to work tomorrow.
                i. This is NOT conditional, as the strong language is just guaranteeing a specific situation will happen.

    ii. <u>At a more technical level</u>, there are words that create the Sufficient and Necessary relationships that you can always say create conditional phrasing.
        1. Words you should *DEFINITELY* memorize are:
            a. *If, Only, and Unless.* (more on these later!)

        2. You should also be thinking conditions when you have words that sound synonymous to SUFFICIENT and NECESSARY ideas, such as: *requires, ensures, must*
            a. DON'T try to memorize these right away. Rather, just worry about these as you get trapped! If you continue to make mistakes with certain words, THEN you memorize!

CONDITIONAL SKILL #2 = TURNING PHRASES INTO IF/THEN STATEMENTS

a. After Identifying a conditional phrase, at the technical level, you must understand the Sufficient and Necessary relationship. The easiest way to do this is to turn the phrase into an "if-then" statement.

b. As stated earlier, a Sufficient condition is one that guarantees a result. This would go in the "if" portion.
c. A Necessary condition is one that would be a problem to go without. This would go in the "then" portion.
d. Logically, every conditional phrase can ALWAYS be reduced into TWO different "if-then" statements:

EXAMPLE:

"In order to win the lottery, you must buy a ticket"

This could be restated as: "If you win the lottery, then you bought a ticket."

OR it could be: "If you don't buy a ticket, you cannot win the lottery."

iii. The two "if-then" phrases created by a single conditional phrase are essentially logical mirror images; they look a little different, but they are in fact the same logic!
    1. There is a very important term for when two phrases look different but logically mean the same thing. We call them: CONTRAPOSITIVES

e. After reducing conditional statements to "if-then" phrases, you can always represent them using the symbology of:

$A \rightarrow B$
or
$\sim B \rightarrow \sim A$

i. The "arrow" represents the "if-then" flow
ii. The ~ symbol represents "no" or "negative"

Ex. If you win the lottery, then you bought a ticket

Can be represented as:
- Win the lottery → ticket
- ~ ticket → ~win the lottery

iii. Though it is not necessary to always write out symbolically, the *ability* to quickly and efficiently lay out the components of the conditional logic will help us read and analyze an argument efficiently.

Here are a few examples to highlight some key rules:

iv. Example 1
    1. Verbal statement:
        a. If A, then B
    2. Symbolically:
        a. A → B
    3. Contrapositive = (1) flip variables to the other side of "→"; and
       (2) negate both sides
        a. ~B → ~A

v. Example 2
    1. Verbal statement:
        a. If A and B, then C
    2. Symbolically:
        a. A + B → C
    3. Contrapositive (Note: "AND" and "OR" must negate with each other):
        a. ~C → ~A or ~B

vi. Example 3
    1. Verbal statement:
        a. If A, then B or C
    2. Symbolically:
        a. A → B or C
    3. Contrapositive:
        a. ~B + ~C → ~A

USING CONDITIONALS IN THE LR SECTION

vii. For the most part, when writing out conditionals in LR, we do not want to be using random variables like A or B; rather, it is important to make sure you represent the KEY WORDS that the phrase uses.

1. Key words = essentially, the Subject Matter and Characteristic words

viii. Below are some practice examples to help simultaneously pull out the key words and reduce conditional phrases into "if-thens":

ix. Exercises:

1. If you go to bed early, you will wake up refreshed

   a. _____

   b. _____

2. If you don't eat pizza, you will eat pasta

   a. _____

   b. _____

3. If you don't wear jeans, you will wear khakis or sweats

   a. _____

   b. _____

4. If you exercise and eat right, you will lose weight

   a. _____

   b. _____

h. As previously mentioned, most of the time that conditional logic appears on the LR section, it will not already be in "if-then" form. We will need to be extremely proficient and reducing other conditional language into "if-then" form.

c. ONLY IF

i. General:

1. A only if B

ii. Formal Logic: "only if" = the necessary condition, i.e. the "then" or "→"

1. A → B

iii. Exercises:

1. You will get good grades only if you study

a. _____

b. _____

2. Only if you don't give up will you overcome adversity.

a. _____

b. _____

3. You will get a job only if you have a good resume and apply

a. _____

b. _____

4. You will get better and make the team only if you practice

a. _____

b. _____

d. THE ONLY

iv. General:

1. The only As are Bs

v. Formal Logic: "The only" = introduces the sufficient condition, i.e. the "If"

1. A → B

vi. Exercises:

1. The only way to get an A is to study

   a. _____

   b. _____

2. The only way to go to law school is to take the LSAT and graduate college

   a. _____

   b. _____

3. The only way to not get pulled over is to drive safely

   a. _____

   b. _____

4. The only way to be happy and successful is to work hard

   a. _____

   b. _____

e. UNLESS

vii. General:

1. A unless B

viii. Formal Logic: "unless" = "If not one, then the other" or the word "or"

1. ~A → B
   a. *TIP*: Just pick one side to negate and put it in the "if" part!

ix. Exercises:

1. You take the train unless you take the bus

   a. _____

   b. _____

2. You can't go out unless you get your homework done

   a. _____

   b. _____

3. You can't drive a car unless you have a license and have insurance

   a. _____

   b. _____

4. Unless you go to the mall or shop online, you will not get new shoes

   a. _____

   b. _____

f. <u>MORE EXERCISES:</u>

x. Amy only goes to the grocery store on Tuesdays.

   1. _____

   2. _____

xi. Greg will only go to the party with Sally.

   1. _____

   2. _____

xii. As long as it's raining, there will be no outdoor activities.

   1. _____

   2. _____

xiii. Only police officers can make valid arrests.

   1. _____

   2. _____

xiv. You only walk the dog in the morning and late at night.

1. _____

2. _____

xv. No applicant will get hired at the office without a college degree.

1. _____

2. _____

xvi. Ted will get a raise as long as his boss doesn't give one to Sally.

1. _____

2. _____

xvii. I only go to the movies when I am sad and it is raining outside.

1. _____

2. _____

xviii. Anyone who isn't on a team cannot play in the tournament

1. _____

2. _____

xix. Brian will not run in the race if his knee does not feel better or if he doesn't get his knee brace in time.

1. _____

2. _____

xx. If, but only if, you get this question correct, will you feel good about this exercise.

1. _____

2. _____

g. ANSWERS:
   i. REMEMBER: the two different lines are BOTH correct. If your top is my bottom line and vice-versa, that is OK!

   ii. IF-THENS
      1. If you go to bed early, you will wake up refreshed
         a. _____bed early → wake up refreshed_____
         b. _____~wake up refreshed → ~bed early
      2. If you don't eat pizza, you will eat pasta
         c. _____~eat pizza → eat pasta
         d. _____~eat pasta → eat pizza
      3. If you don't wear jeans, you will wear khakis or sweats
         e. ____~wear jeans → wear khakis or sweats
         f. _____~wear khakis + ~wear sweats → wear jeans
      4. If you exercise and eat right, you will lose weight
         g. _____exercise + eat right → lose weight
         h. _____~lose weight → ~exercise or ~eat right

   iii. ONLY IF
      5. You will get good grades only if you study
         i. ___good grades → study
         j. _____~study → ~good grades
      6. Only if you don't give up will you overcome adversity.
         k. _____overcome adversity → ~give up
         l. _____give up → ~overcome adversity

7. You will get a job only if you have a good resume and apply

   m. _____job → good resume + apply

   n. _____~good resume or ~not apply → ~job

8. You will get better and make the team only if you practice

   o. _____get better + make team → practice

   p. _____ ~practice → ~get better or ~make team

iv. THE ONLY

9. The only way to get an A is to study

   q. _____A → study

   r. _____~study → ~A

10. The only way to go to law school is to take the LSAT and graduate college

   s. _____law school → LSAT + graduate college

   t. _____~LSAT or ~graduate college → ~law school

11. The only way to not get pulled over is to drive safely

   u. _____~pulled over → drive safely

   v. _____~drive safely → pulled over

12. The only way to be happy and successful is to work hard

   w. _____happy + successful → work hard

   x. _____~work hard → ~happy or ~succesful

v. UNLESS

13. You take the train unless you take the bus

y. _____~train → bus

z. _____~bus → train

14. You can't go out unless you get your homework done

aa. _____~homework done → ~go out

bb. _____go out → homework done

15. You can't drive a car unless you have a license and have insurance

cc. _____~license or ~insurance → ~drive a car

dd. _____drive a car → license and insurance

16. Unless you go to the mall or shop online, you will not get new shoes

ee. _____new shoes → mall or shop online

ff. _____~mall + ~shop online→ ~new shoes

h. MORE EXERCISES:

vi. Amy only goes to the grocery store on Tuesdays.

17. _____grocery store → Tuesday

18. _____~Tuesday → ~grocery store

vii. Greg will only go to the party with Sally.

19. _____Greg is at the party → with Sally

20. _____~Sally goes with Greg → ~ Greg is at the party

viii. As long as it's raining, there will be no outdoor activities.

21. _____raining → ~outdoor activities

22. _____outdoor activities → ~raining

ix. Only police officers can make valid arrests.

23. _____valid arrest → police officer

24. _____~police officer → ~valid arrest

x. You only walk the dog in the morning and late at night.

25. _____walking the dog → morning or late at night

26. _____~morning + ~late at night → ~walking the dog

xi. No applicant will get hired at the office without a college degree.

27. _____~college degree → ~hired

28. _____ hired → college degree

xii. Ted will get a raise as long as his boss doesn't give one to Sally.

29. _____~Ted gets a raise → Sally

30. _____~Sally gets a raise → Ted

xiii. I only go to the movies when I am sad and it is raining outside.

31. _____movies → sad + raining

32. _____~sad or ~raining → ~movies

xiv. Anyone who isn't on a team cannot play in the tournament

33. _____~team → ~tournament

34. _____tournament → team

xv. Brian will not run in the race if his knee does not feel better or if he doesn't get his knee brace in time.

35. ____~Knee better or ~ brace in time → ~run in race_____

36. _____Run in race → Knee better + Brace in time_____

xvi. If, but only if, you get this question correct, will you feel good about this exercise.

37. ___Question correct (double arrow) Feel good about exercise___

38. ___~ Feel good about exercise (double arrow) ~ Question correct____

CONDITIONAL SKILL #3: APPLYING CONDITIONAL REASONING VALIDLY

i. Conditional Reasoning will be one of the most common forms of reasoning employed by the LSAT writers. It is very often done validly, but it is also done invalidly. To determine this, we have to understand the ways in which conditional reasoning can be used.
   a. While there will be more advanced issues with applying conditional reasoning discussed later, there are three basic forms of conditional applications that you should know:
      1. TRANSITIVE REASONING
      2. RULE + APPLICATION
      3. OVERLAPPING SUFFICIENTS

   b. TRANSITIVE REASONING is a fairly basic concept. You can "chain" together conditional phrases when you have a matching concept between one conditional phrase's "then" part with another phrase's "if" part.

      Example:

      A → B
      B → C
      Thus, A → C

      (essentially, this is A → B → C)

   c. RULE + APPLICATION is when you are given a conditional premise and then specific examples are providing information about one of the Sufficient or Necessary conditions. The key is knowing whether you can conclude anything about the other.

d. Specifically, there are 4 patterns that are "played around with" in trying to reach conclusions using the Rule + Application reasoning.

Example:

A → B

Brandon has A. Thus, he has B. -- VALID (definitive pattern)
Brandon has B. Thus, he has A. -- INVALID (converse pattern)
Brandon does not have A. Thus, he does not have B -- INVALID (inverse pattern)
Brandon does not have B. Thus, he does not have A. -- VALID (contrapositive)

i. *Note: the 2nd and 3rd patterns are mistakes we can refer to as "confusing necessary and sufficient conditions."*

e. <u>OVERLAPPING SUFFICIENTS</u> is when two phrases' "if" parts are identical, which allows you to create a combination of the "then" parts

Example:

A → B
A → C
Thus, A → B + C

j. <u>"ADVANCED CONDITIONAL" APPLICATIONS</u>

a. On a small number of questions each section, the LSAT will test you on your ability to apply conditional-type reasoning to statements that are not Strong, but rather are Semi-Strong or even Weak.

b. The easiest way to think of these statements as conditionals is to use the same symbols, but add a "symbol" at the front of the phrase:

i. For Semi-Strong, we want to think of the word "most" and so you can put a lower-case "m" in front of what would be your "if" statement.

1. Example:

Most of Brandon's friends like football.

mBrandon's friends → like football

ii. For Weak, we want to think of the word “some” and so you can put a lower-case “s” in front of what would be your “if” statement.

1. Example:

Some of Brandon’s friends like football.

sBrandon’s friends → like football

c. Once you have reduced these to “conditional format” you just need to remember the following rules for applying them

i. TRANSITIVE:

1. Rule = you cannot “chain” the phrase if there is a modifier in front of the part that is used as the “link” in the “second phrase”

a. Example:

mA → B
B → C
Thus, mA → C

This is VALID. Because the “link” is Strong!

A → B
mB → C
Thus, mA → C

This is INVALID. Because the “m” is in front of the “link” in the second phrase.

ii. RULE + APPLICATION:

1. Rule = You CAN do the definitive pattern, but you CANNOT do the contrapositive!

a. Example:

mA → B
Brandon has A.
Thus, he likely has B.

This is VALID. It follows the definitive pattern!

mA → B
Brandon does not have B.
Thus, he likely does not have A.

This is INVALID. It attempts the contrapositive pattern, which is not allowed with a Semi-Strong or Weak phrase!

iii. OVERLAPPING SUFFICIENTS

1. There are many different combinations that would be hard to memorize every single overlap.

mA → B
mA → C
Thus, _____ ?

mA → B
sA → C
Thus, _____?

2. The easiest trick for when you have "if" parts that are the same, but you have Semi-Strong or Weak degrees involved, is to imagine the CANVAS TRICK:
    a. Imagine you are tasked with painting a canvas with two different colors: Red and Yellow. Think of one phrase as telling you how much to paint Red and the other telling you how much to paint Yellow. But your job is to have as little "orange" as possible. That is, if you paint the same area red and yellow, you will end up with orange; your job is to not have as little overlap as possible!

With the above examples:

mA → B
mA → C
Thus, _____ ?

- Here, you would have to paint "most" of the canvas red and then "most" of the canvas yellow, while trying to overlap as little as possible. No matter how hard you try, you will ultimately end up with at least SOME orange!
    - Thus, you could VALIDLY conclude that: sA → B + C

mA → B
sA → C
Thus, _____?

- Here you would have to paint “most” of the canvas red, but only “some” of the canvas yellow. It would be entirely possible to have ZERO orange and so you cannot validly conclude that any amount is orange!
    - Thus, any conclusion from this would be INVALID!

iv. INFERRING “SOME” STATEMENTS

1. One trick with any of these “advanced conditionals” is that you can infer a “some statement” between any two ideas that have any degree of connection elsewhere, and in either direction.

EXAMPLES:

If you have:

- mA → B + C

We can validly infer any of the following:

sA → B or sB → A

sA → C or sC → A

sB → C or sC → B

2. The only rule with this is that you must be concluding the same positive/negative as the idea in the original phrase. That is, no contrapositives!

LOGICAL REASONING

QUESTION TYPES

Part 1

I. BASIC STRUCTURE OF THE LR SECTION

a. Each Logical Reasoning ("LR") section is made up of 25-26 "stand-alone" questions.
   i. Remember that this will be TWO of your four scored sections and accounts for about 50% of your total score.
      1. HOWEVER, if you are taking the FLEX version (the "at-home" version), you will only have ONE section of LR!!

b. Each question in LR is composed of three parts:
   i. **Stimulus** (the paragraph prompt at the beginning)
   ii. **Question Stem** (the one line that asks the question)
   iii. **Answer Choices**

c. Each of the questions will generally be one of 19 types of questions. The question types are:
   i. Flaws
   ii. Necessary Assumptions
   iii. Sufficient Assumptions
   iv. Strengthen
   v. Weaken
   vi. Most Useful
   vii. Paradox
   viii. Most Support Inference
   ix. Strict Inference
   x. Main Conclusion
   xi. Point at Issue
   xii. Parallel
   xiii. Flawed Parallel
   xiv. Role of a Phrase
   xv. Method of Reasoning
   xvi. Applying Principle
   xvii. Justify the Argument
   xviii. Illustrated Principle
   xix. Complete the Argument

d. Keep in mind, your performance on this test is NOT about how well you memorize the specifics of each question type. The "skill" that you are tested on is WAY MORE about your mastery of the concepts! Having said that, understanding the specifics of each question type will advance your score! While any given question could test on any of our concepts at any given time, there will be certain correlations between questions that will make us that much stronger at getting to the correct answer!

e. The 19 question types are not completely independent and there WILL be questions that do not fit "neatly" into one of these types. As your number one skill is understanding issues CONCEPTUALLY, if you are unable to label a certain question to a type, that is FINE!!

f. For each question type, we will want to know:

   i. **How to identify the question....** this will be based on the Question Stem
   ii. **What to look for in the stimulus…** we will refer to this as the "PRE-ANSWER"
   iii. **What the answer choice should accomplish…** we will call this the "TEST"
   iv. **Tips and Tendencies for that question type**

II. QUESTION TYPE FAMILIES

a. One of the biggest benefits to knowing your question types is to be able to PRE-ANSWER or PREDICT the issue most relevant to what will be the correct answer choice. While each question type will have differences, they can be thought of generally as falling in one of three groups, or QUESTION TYPE FAMILIES. The three family types are:

1. INFERENCE FAMILY
2. STRUCTURE FAMILY
3. INVALID FAMILY

b. As with so much of the test, while we can classify each question as generally falling into one of these families, be aware that there are certain questions that could "technically" fall under multiple families, as well there being question types within the same family that are very different.

c. INFERENCE FAMILY

i. These will be questions where the general focus will be making sure you can support your answer choice based on the language in the stimulus.

ii. The biggest key to INFERENCE FAMILY questions will be that you generally do NOT need to break down structure. Essentially, your entire stimulus will be your evidence and your correct answer will be some sort of valid conclusion.

iii. Accordingly, you should key in on STRONG evidence, especially CONDITIONAL premises. If there is none, do not stress!

d. STRUCTURE FAMILY

i. As the name implies, these questions will significantly test your ability to understand the STRUCTURE. Identification of the Main Conclusion, is the first step to basically each of these questions!

ii. Generally, you will NOT need to assess or judge the validity of the stimulus!

e. INVALID FAMILY

i. Each one of these questions will have a stimulus that relies on INVALID reasoning. Your number one task will be to understand *WHY* the argument is invalid, so that you can properly attack that issue!

f. This lesson will introduce some of the INFERENCE and STRUCTURE family questions!

I. **QUESTION TYPE: MAIN CONCLUSION**

a. CONCEPTUALLY:
   i. Main conclusion questions are perhaps the most straightforward question type conceptually. They are simply asking you to identify the main conclusion!

b. QUESTION STEMS:
   i. Which one of the following is the main point of the passage?
   ii. Which one of the following best expresses the main conclusion of the passage?

c. FAMILY: STRUCTURE

d. PRE-ANSWER:
   i. Identify the main conclusion!
      1. Very often you will need to tie it with another phrase via reference language

      2. On rare occasion, there will not be a clear conclusion phrase or phrases. If so, treat it more like a "Main Point" question from Reading Comp (more on this later!)

e. TEST:
   i. The correct answer will be a near verbatim repetition of the bracket!

f. TIP: Be wary of too strong/weak answers!

g. EXAMPLES:
   i. J'07, s. 2, q. 1
   ii. J'07, s. 2, q. 10

II. **QUESTION TYPE: ROLE OF A PHRASE**

a. CONCEPTUALLY:
   i. You will be asked to identify what role a particular sentence, phrase, or sub-phrase plays in the scope of the argument and conclusion.

b. QUESTION STEMS:
   i. The author's comment about _____ plays which one of the following roles?
   ii. The sentence "_____" does what to the author's conclusion?

c. FAMILY: STRUCTURE

d. PRE-ANSWER:
    i. FIRST IDENTIFY THE CONCLUSION!
        1. One pitfall is to try to go straight to the line they ask about in the question stem! You should always find the conclusion first!

    ii. Locate the phrase in question and underline it.
        1. Then generally label the line as either the main conclusion or supporting/attacking the main conclusion.
            a. There are more specific labels you could apply and the correct answer is mostly going to be more specific than those general labels, but you do NOT need to get too specific with your Pre-Answer!

e. TEST:
    i. Read an answer choice and figure out what type of role it describes.

    ii. *NOTE*: Often, answer choices will be "two part" questions. That is, they may name a role, but put it in perspective of another phrase's role, or they may add in a "method of argument" type description.

f. EXAMPLES:
    i. J'07, s. 2, q. 11

III. **QUESTION TYPES: MOST SUPPORT INFERENCE + STRICT INFERENCE**

a. CONCEPTUALY:
    i. The word inference simply means "a conclusion."
        1. An inference does not have to be the main conclusion or any type of particular deduction; it just simply has to be something that is based on the information in the paragraph.

    ii. There are two types of inference question types. For both questions, you are being asked to pick an answer that is supported by the paragraph. The difference has to do with how strict of a lens we will use with rules of validity.

        1. Most Support Inference →
            a. The correct answer does not have to be 100% valid, but something that falls under the limited exceptions

        2. Strict Inference →
            a. The correct answer must be 100% valid.

b. MOST SUPPORT INFERENCE QUESTION STEMS:
    i. Which one of the following is most strongly supported by the statements above?
    ii. The statements above, if true, most support which of the following?

c. STRICT INFERENCE QUESTION STEMS:
    i. If the information above is true, which of the following must be true?
    ii. Which one of the following can be inferred from the passage?
    iii. Based on the information in the passage, which of the following could be true?
    iv. According to the information above, which one of the following must be false?

d. FAMILY: INFERENCE

e. INFERENCE APPROACH, GENERALLY

    i. Pre-Answer
        1. COMBINE PHRASES! (if possible)
            a. Properly combine phrases whenever possible, especially through conditionality.
                i. Many of these you will not be able to create any pre-answer!

    ii. Test
        1. Ensure that your correct answer can be validly supported by information in the stimulus, keying in on the subject matters/characteristic and degree!

    iii. HINTS:
        1. It is generally easier to prove "weak" conclusions than "strong" ones, so focus on strong words in the stimulus and weak words in the answers!

f. MOST SUPPORT INFERENCE APPROACH:
    i. Pre-Answer
        1. While we are trying to combine phrases, we most often cannot. So do not be too concerned if you cannot.
        2. Simply read and "remember" the information in the paragraph.

    ii. Test
        1. When connecting the answer to the paragraph, Most Support Inference answers are more likely to play off the exceptions for inferences 100% valid:

            a. We refer to these as "gray" language jumps, often based on "LSAT Common Sense" standard!

iii. Examples:
1. J'07, s. 2, q. 22

g. STRICT INFERENCE APPROACH:
i. Pre-Answer
1. For these, conditional phrasing will be extremely common and the correct answer will be based on conditional reasoning extremely often!

2. Thus, focus on your conditional statements!
a. In the early stages, feel free to write out your conditionals for these questions in order to see the "chain" of connections.

ii. Test
1. When connecting the answer to the paragraph, it must be 100% valid:

iii. Examples:
1. J'07, s. 3, q. 22

IV. APPLYING A PRINCIPLE

a. PRINCIPLES, CONCEPTUALLY:
i. As it is used on the LSAT, a "principle" is a broad idea that promotes some sort of generalized belief.
1. Essentially, a principle is a conditional evidence, where there is a broad "standard" (the "if") that allows you to reach a "judgment" (the "then").

ii. All principles, if taken as true, justify many narrow "applications" that conform to the generalization.
1. An application is essentially an argument that on its own is invalid, but when put in context of a principle, it is valid.

iii. When this happens, we can say that:
1. The principle justifies the applications…
2. And the application conforms to the principles

b. CONCEPTUALLY:
i. Applying Principle questions are where the paragraph presents a principle and you will need to find an application that properly conforms to that principle.

c. FAMILY: INFERENCE

d. QUESTION STEMS:
    i. Which one of the following conforms to the principle in the passage?
    ii. The statements above most justify which one of the following?

e. PRE-ANSWER:
    i. Identify the principle.
        1. That is, create an "if-then" statement if possible.
            a. Sometimes there is more than one "if-then" to worry about. If so, the correct answer only has to apply to one of the two.
            b. Additionally, some principles are more "abstract" and would be easier thought of not in a conditional statement.

f. TEST:
    i. Step 1: Match the answer choice's conclusion to the paragraph's "judgement" (i.e. the "then"). If the conclusion is not on target with the judgement, it is automatically wrong.
    ii. Step 2: Identify the paragraph's "standard" (i.e. the "if") and match it to the answer choice's evidence.
        1. NOTE: You can always do those two steps in opposite order if you want!

g. EXAMPLES:
    i. J'07, s. 3, q. 1

III. ILLUSTRATED PRINCIPLE

a. CONCEPTUALLY:
    i. These questions will provide a stimulus that describes a specific scenario and asks you to pick an answer that describes a principle that stimulus "exhibits" or "illustrates"

b. FAMILY: INFERENCE

c. QUESTION STEMS:
    i. The situation above best illustrates which of the following?
    ii. The scenario described exhibits which of the following principles?

d. PRE-ANSWER:
    i. Generally, this should be treated very similarly to Most Supported Inference questions!
        1. Be aware, once in a while, this may ultimately test on the assumptions created by the scenario, more similar to a Justify the Argument question (more on this later)!

e. TEST:
    i. Treat it like a Most Supported Inference question!
        1. For the minority of times where there is an argument and a jump, then treat it like a Justify the Argument question!
f. EXAMPLES:
    i. J'07, s. 3, q. 6

IV. **POINT AT ISSUE**

a. CONCEPTUALLY:
    i. The paragraph will have two people speaking, with one responding to the other, on a single subject matter. You will be asked to identify the "issue" is between the two.

b. QUESTION STEMS:
    i. Person A and Person B disagree about which of the following?
    ii. The point at issue between Person A and Person B is:

c. FAMILY: STRUCTURE (though overlaps with INFERENCE)!

d. PRE-ANSWER:
    i. Whenever there is an "opposition argument" (a stimulus that has a first position that is later countered or attacked), you must identify the conclusion in the first person's argument. Then try to narrow down whether they are attacking the:
        1. Source
        2. Evidence
        3. Assumption/Method of Reasoning
        4. Conclusion

    ii. Even within attacks of Evidence, you should know *which* piece of evidence!

e. TEST:
    i. Go through each answer asking whether each person would "Agree/Disagree/Cannot validly say"

    ii. As these questions are asking about what issue the two parties are disagreeing about, use process of elimination, whereby you identify whether one party says I agree" and the other party says "disagree" to the answer choice.

f. NOTE:
    i. There are times where the LSAT asks "point of agreement" questions or even other "point at issue" style questions; adjust your approach accordingly
g. EXAMPLES:
    i. J'07, s. 2, q. 16

V. **HOMEWORK**

a. After watching the lesson video, read over Logic Concepts Part One and do the fill-in-the-blank exercises for DEGREES (pg. 13) and CONDITIONALITY (pg. 19).
   i. The answers are at the end of the exercise!

b. PILLAR EXERCISE:
   i. To get a strong foundation in the Four Pillar assessment, you should go through both sections of PrepTest 52, purely focused on the stimulus (ignore the question and answer choices). You should do each of the following:

      1. STRUCTURE:
         a. For each stimulus of a section, try to ID the main conclusion. DON'T TRY TO ANSWER IT; JUST ID THE MAIN CONCLUSION. Remember, some paragraphs are just information with no main conclusion!

      2. LANGUAGE:
         a. After you ID the conclusion, cover it up and try to write out the conclusion as you best remember it. Then break your conclusion into parts.
         b. Then go look back at the conclusion and assess how close your parts are to the stimulus. Keep doing this until you feel confident your parts are "on target" with the conclusion!

      3. DEGREE:
         a. For the conclusions, identify any relevant degrees
            i. <u>Degree Issue #1:</u>
               1. Strong
               2. Semi-Strong
               3. Weak

            ii. <u>Degree Issue #2:</u>
               1. Absolute (non-comparitive)
               2. Relative (comparative)
                  a. ADVANCED:
                     (1) Internal Relative
                     (2) External Relative

            iii. <u>Degree Issue #3:</u>
               1. Correlation
               2. Cause

4. CONDITIONALITY:
    a. Determine if the conclusion is a Conditional phrase
        i. If so, turn into if/then

ii. There will be a HW explanation video for this as part of the LSAT Wizard subscription!

c. QUESTION TYPE DRILLING!
    i. For each of the following question types, do the assigned question. After grading, trying to make sure you can explain why the wrong answers are wrong.
        1. You can/should use this outline to help break it down!

    ii. There will be a HW explanation video for this as part of the LSAT Wizard subscription!

        1. Main Conclusion:
            a. PT 52, s. 2, q. 1
            b. PT 52, s. 3, q. 2
            c. PT 53, s. 2, q. 4
            d. PT 53, s. 3, q. 3
            e. PT 53, s. 3, q. 5

        2. Role of a Phrase
            a. PT 52, s. 3, q. 17
            b. PT 53, s. 2, q. 11
            c. PT 53, s. 2, q. 14
            d. PT 54, s. 2, q. 17
            e. PT 54, s. 3, q. 15

        3. Most Support Inference:
            a. PT 52, s. 2, q. 7
            b. PT 52, s. 2, q. 15
            c. PT 52, s. 2, q. 24
            d. PT 52, s. 3, q. 14
            e. PT 52, s. 3, q. 18
            f. PT 52, s 3, q. 23

        4. Strict Inference:
            a. PT 52, s. 2, q. 5
            b. PT 52, s. 2, q. 18
            c. PT 53, s. 2, q. 7
            d. PT 53, s. 2, q. 16
            e. PT 53, s. 3, q. 19

5. Applying Principles
    a. PT 52, s. 2, q. 22
    b. PT 53, s. 2, q. 17
    c. PT 54, s. 3, q. 17

6. Illustrated Principle
    a. PT 53, s. 2, q. 5
    b. PT 54, s. 2, q. 8

7. Point at Issue
    a. PT 52, s. 3, q. 10
    b. PT 53, s. 2, q. 2