



Analytical Reasoning: Master Cheat Sheet

1. Introduction Strategy

Analytical reasoning problems test your ability to structure arbitrary data, deduce hidden information, and evaluate complex conditional rules.

Core Steps:

1. **Identify Variables:** List all entities (people, positions, times).
2. **Translate Rules:** Convert natural language into strict symbolic logic.
3. **Setup a Grid/Diagram:** Visualize spatial or chronological order.
4. **Deduce Inferences:** Combine overlapping rules before looking at options.

2. Types of Logic Linkages

Conditional (If-Then): $P \implies Q$ (If P is true, Q must be true). *Contrapositive:* $\neg Q \implies \neg P$ (Crucial

for test success!).

Biconditional (If and only if): $P \iff Q$ (P and Q always occur together or not at all).

Exclusive / Inclusive Or: $P \vee Q$ (At least one); $\text{XOR}(P, Q)$ (Exactly one, not both).

3. Common Problem Structures

Linear Ordering (Sequencing): Arranging entities in a single line (e.g., race finishes, building floors).

- Use position slots: _ _ _ _ _
- Handle relative blocks: e.g., $[A - B]$ means A immediately before B .

Grouping Problems: Selecting or sorting teams from a larger pool.

- Pay attention to size constraints (e.g., exactly 3 members).

- Watch out for mutual exclusions (A cannot be with B).

Matching Problems: Linking two distinct sets (e.g., matching 4 people to 4 unique cars and cities).

- Build a 2D matrix grid and cross out impossibilities.

4. Shortcut Tips Tricks

- **Look for Bottlenecks:** Start with entities mentioned in the highest number of rules.
- **Test the Extremes:** Check what happens when the most restricted variable is placed in position 1.
- **Elimination via Options:** For questions asking "Which of the following could be complete?", eliminate choices violating any single master rule instantly.