

Cheat Sheet: Chain-of-Thought vs. Reflection

- ⚡ CoT = reasoning step by step → builds the answer.
- ⚡ Reflection = reviewing afterwards → checks and improves the answer.

Why this matters

Chain-of-Thought (CoT) and Reflection look similar because both involve “thinking in steps”.

But Reflection is an **extra layer**: without it you simply repeat your reasoning and miss the quality check.

What are CoT and Reflection?

- **Chain-of-Thought (CoT)**: Explicitly reasoning through intermediate steps.
- **Reflection**: Assessing and improving an earlier answer afterwards.

Working out each technique

Chain-of-Thought (CoT)

- **Definition**: Making reasoning steps explicit in a linear sequence to reach a solution.
- **Strength**: Suitable for complex reasoning and transparency.
- **Example prompt + answer**:

Prompt: “Write a 5-point plan to launch a podcast.”

Answer:

1. Choose topic and audience.
2. Write content plan.
3. Buy recording equipment.
4. Record first episodes.
5. Publish via platforms.



Reflection

- **Definition:** Reviewing whether a previous answer is complete, correct and useful.
- **Strength:** Identifies mistakes, adds nuance and alternatives.
- **Example prompt + answer:**
Prompt: “Review your podcast plan: what’s missing and how can it be improved?”
Answer:
 - Missing promotion strategy → add social media and SEO.
 - Missing evaluation → schedule feedback after 5 episodes.
 - Conclusion: strengthen the plan with distribution and learning loops.

Comparison Table

Aspect	Chain-of-Thought (CoT)	Reflection (Self-critique)
Structure	Forward: build steps	Backward: review and improve
Process	Follow linear logic	Critical hindsight
Flexibility	Focuses on solution	Can add new perspectives
Application	Reasoning, planning, maths	Checking, refining, correcting
Error handling	Errors can propagate	Detects and fixes mistakes
Risk if confused	Assuming reflection is “built-in”	You check nothing, just repeat

✓ Handy rules of thumb

- Use **CoT** to tackle complex problems.
- Use **Reflection** to safeguard quality and reliability.
- **Best practice:** start with CoT → then apply Reflection as a quality filter.

Try this

Ask the AI:

1. “Write a study group plan.” (CoT)
2. “Evaluate this plan: what’s strong and what’s missing?” (Reflection)

👉 Compare how the reflection layer enriches the plan.

Learn & apply yourself

“An answer is only strong if you both **build** it and **test** it.”

👉 Practise by systematically adding a reflection layer to your CoT results.

Discover more

Cheat Sheet: [Chain-of-Thought Prompting – step-by-step reasoning \(PDF\)](#)

Cheat Sheet: [Reflection – checking & improving answers \(PDF\)](#)

More cheat sheets on prompting: symbio6.nl/en/sheets