

	Induction	Deduction		FOL		Others			Avg. Results
	Clutrr	ProntoQA	ProofWriter	FOLIO	LogicNLI	AR-LSAT	Logic. Dedu.	LogiQA	
Prior RBRs									
HtT (Zhu et al., 2023)	40.3	92.0	88.0	71.0	54.0	97.0	100.0	79.1	77.7
RGFB (Diallo et al., 2025)	31.3	94.0	88.0	74.0	55.0	95.0	100.0	79.1	77.1
Chain-of-Logic (Servantez et al., 2024b)	44.8	91.0	92.0	80.0	54.0	97.0	100.0	80.6	80.0
Frontier Reasoners									
OpenAI o1 (Jaech et al., 2024)	52.2	91.0	91.0	77.0	60.0	98.0	88.0	82.1	79.9
OpenAI o3-mini (Zhang et al., 2025b)	40.3	94.0	93.0	74.0	55.0	96.3	100.0	77.6	78.8
Claude-3.7-Sonnet (Anthropic, 2025)	65.7	92.8	90.0	74.7	58.0	76.2	97.0	81.5	79.5
DeepSeek-R1 (Guo et al., 2025)	71.6	40.0	27.0	72.7	49.0	89.7	98.3	85.0	66.7
Behavioral Cloning									
SFT w/o CoT (Wei et al., 2022b)	37.5	96.0	88.8	73.4	74.8	37.5	85.9	76.1	71.2
SFT w/ Short CoT (Yeo et al., 2025)	77.6	92.6	87.0	82.9	73.8	54.8	87.6	88.0	80.9
SFT w/ Long CoT (Yeo et al., 2025)	83.5	95.6	89.2	83.4	76.6	68.6	79.6	79.1	81.9
Advanced RLVRs									
GRPO (Shao et al., 2024)	73.1	95.4	96.4	72.3	66.6	36.3	90.3	70.1	75.0
Dr. GRPO (Liu et al., 2025)	68.6	96.0	95.6	73.9	75.4	32.1	84.3	65.6	73.9
DAPO (Yu et al., 2025)	86.5	96.0	94.8	80.9	65.8	40.0	95.3	74.6	79.2
RULEREASONER (Ours)									
RULEREASONER-4B	82.0 _{0.4}	95.0 _{0.6}	96.3 _{0.3}	78.9 _{0.8}	66.6 _{0.4}	38.6 _{0.5}	96.3 _{0.2}	80.5 _{0.7}	79.2 _{0.6}
RULEREASONER-8B	95.5 _{0.3}	96.4 _{0.4}	97.0 _{0.2}	84.7 _{0.6}	70.4 _{0.1}	46.8 _{0.3}	98.3 _{0.4}	83.5 _{0.3}	84.0 _{0.5}