

Table 17: Comparison among Qwen3-8B / Qwen3-4B (Thinking) and other reasoning baselines. The highest and second-best scores are shown in bold and underlined, respectively.

		DeepSeek-R1 -Distill-Qwen-14B	DeepSeek-R1 -Distill-Qwen-32B	Qwen3-4B	Qwen3-8B
Architecture	Dense	Dense	Dense	Dense	Dense
# Activated Params	14B	32B	4B	8B	
# Total Params	14B	32B	4B	8B	
<i>General Tasks</i>					
MMLU-Redux	84.1	88.2	83.7	<u>87.5</u>	
GPQA-Diamond	59.1	62.1	55.9	<u>62.0</u>	
C-Eval	78.1	<u>82.2</u>	77.5	<u>83.4</u>	
LiveBench 2024-11-25	52.3	45.6	<u>63.6</u>	<u>67.1</u>	
<i>Alignment Tasks</i>					
IFEval strict prompt	72.6	72.5	81.9	<u>85.0</u>	
Arena-Hard	48.0	60.8	<u>76.6</u>	<u>85.8</u>	
AlignBench v1.1	7.43	7.25	<u>8.30</u>	<u>8.46</u>	
Creative Writing v3	54.2	55.0	<u>61.1</u>	<u>75.0</u>	
WritingBench	6.03	6.13	<u>7.35</u>	<u>7.59</u>	
<i>Math & Text Reasoning</i>					
MATH-500	93.9	94.3	<u>97.0</u>	<u>97.4</u>	
AIME'24	69.7	72.6	<u>73.8</u>	<u>76.0</u>	
AIME'25	44.5	49.6	<u>65.6</u>	<u>67.3</u>	
ZebraLogic	59.1	69.6	81.0	<u>84.8</u>	
AutoLogi	78.6	74.6	<u>87.9</u>	<u>89.1</u>	
<i>Agent & Coding</i>					
BFCL v3	49.5	53.5	<u>65.9</u>	<u>68.1</u>	
LiveCodeBench v5	45.5	<u>54.5</u>	<u>54.2</u>	<u>57.5</u>	
CodeForces (Rating / Percentile)	1574 / 89.1%	1691 / 93.4%	1671 / 92.8%	1785 / 95.6%	
<i>Multilingual Tasks</i>					
Multi-IF	29.8	31.3	<u>66.3</u>	<u>71.2</u>	
INCLUDE	59.7	68.0	61.8	<u>67.8</u>	
MMMLU 14 languages	73.8	78.6	69.8	<u>74.4</u>	
MT-AIME2024	33.7	44.6	<u>60.7</u>	<u>65.4</u>	
PolyMath	28.6	35.1	<u>40.0</u>	<u>42.7</u>	
MLogiQA	53.6	63.3	<u>65.9</u>	<u>69.0</u>	

Table 18: Comparison among Qwen3-8B / Qwen3-4B (Non-thinking) and other non-reasoning baselines. The highest and second-best scores are shown in bold and underlined, respectively.

		LLaMA-3.1-8B -Instruct	Gemma-3 -12B-IT	Qwen2.5-7B -Instruct	Qwen2.5-14B -Instruct	Qwen3-4B	Qwen3-8B
Architecture	Dense	Dense	Dense	Dense	Dense	Dense	Dense
# Activated Params	8B	12B	7B	14B	4B	8B	
# Total Params	8B	12B	7B	14B	4B	8B	
<i>General Tasks</i>							
MMLU-Redux	61.7	77.8	75.4	80.0	77.3	79.5	
GPQA-Diamond	32.8	40.9	36.4	45.5	<u>41.7</u>	39.3	
C-Eval	52.0	61.1	76.2	78.0	72.2	77.9	
LiveBench 2024-11-25	26.0	43.7	34.9	42.2	48.4	<u>53.5</u>	
<i>Alignment Tasks</i>							
IFEval strict prompt	75.0	80.2	71.2	81.0	<u>81.2</u>	<u>83.0</u>	
Arena-Hard	30.1	82.6	52.0	68.3	66.2	<u>79.6</u>	
AlignBench v1.1	6.01	7.77	7.27	7.67	<u>8.10</u>	<u>8.38</u>	
Creative Writing v3	52.8	79.9	49.8	55.8	53.6	<u>64.5</u>	
WritingBench	4.57	<u>7.05</u>	5.82	5.93	6.85	<u>7.15</u>	
<i>Math & Text Reasoning</i>							
MATH-500	54.8	85.6	77.6	83.4	84.8	<u>87.4</u>	
AIME'24	6.3	22.4	9.1	15.2	<u>25.0</u>	<u>29.1</u>	
AIME'25	2.7	18.8	12.1	13.6	<u>19.1</u>	<u>20.9</u>	
ZebraLogic	12.8	17.8	12.0	19.7	<u>35.2</u>	<u>26.7</u>	
AutoLogi	30.9	58.9	42.9	57.4	<u>76.3</u>	<u>76.5</u>	
<i>Agent & Coding</i>							
BFCL v3	49.6	50.6	55.8	<u>58.7</u>	57.6	<u>60.2</u>	
LiveCodeBench v5	10.8	<u>25.7</u>	14.4	21.9	21.3	<u>22.8</u>	
CodeForces (Rating / Percentile)	473 / 14.9%	462 / 14.7%	191 / 0.0%	904 / 38.3%	842 / 33.7%	1110 / 52.4%	
<i>Multilingual Tasks</i>							
Multi-IF	52.1	<u>65.6</u>	47.7	55.5	61.3	<u>69.2</u>	
INCLUDE	34.0	65.3	53.6	<u>63.5</u>	53.8	62.5	
MMMLU 14 languages	44.4	<u>70.0</u>	61.4	70.3	61.7	66.9	
MT-AIME2024	0.4	16.7	5.5	8.5	13.9	<u>16.6</u>	
PolyMath	5.8	<u>17.6</u>	11.9	15.0	16.6	<u>18.8</u>	
MLogiQA	41.9	<u>54.5</u>	49.5	51.3	49.9	<u>51.4</u>	