AI Math Claims Meet Legal Scrutiny as Model Competition Deepens

AI High Signal Digest

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By AI High Signal Digest • July 11, 2026

A claimed AI-generated mathematical proof and Apple's lawsuit against OpenAI led a day defined by both capability milestones and operational scrutiny. The brief also tracks agent-memory research, product fixes, enterprise deployments, and stronger model-access safeguards.

Top Stories

Why it matters: AI's most consequential claims now span original research, enterprise competition, and legal exposure.

- **OpenAI says GPT-5.6 Sol Ultra produced a proof of the 50-year-old Cycle Double Cover Conjecture.** The company says it used 64 subagents in under an hour and released the prompt and proof; it also open-sourced a Lean formalization authored by the model. The result still requires independent verification, as one commentator explicitly noted. [1, 2, 3]
- **Apple sued OpenAI over alleged trade-secret theft tied to unreleased AI hardware.** Apple alleges a coordinated effort to obtain confidential product information; the suit names hardware chief Tang Tan and former Apple engineer Chang Liu. Apple is seeking destruction of the materials and redesign of affected devices. These are allegations, and OpenAI had not responded when Bloomberg published. [4]
- **Meta's Muse Spark 1.1 posted competitive independent benchmarks at a low claimed cost.** Artificial Analysis scored its xhigh setting at 51 on its Intelligence Index—an eight-point gain in three months—and

estimated about $0.26 per Index task. It also scored 69 on the group's Coding Agent Index, at an estimated $1.40 per task. [5, 6, 7]

Research & Innovation

Why it matters: advancing agents increasingly depends on memory, verification, and coordinated execution—not just larger base models.

- **Meta researchers target "behavioral state decay" in long-running agents.** Their plug-in memory agent maintains a structured memory bank and decides when to inject reminders into an otherwise unchanged action agent; the reported result is higher pass@1 on Terminal-Bench 2.0 and tau-squared-Bench. [8]
- **LLM-as-a-Verifier proposes scaling evaluation as a route to better agents.** The framework uses finer-grained scoring, score-token probability distributions, repeated sampling, and criteria decomposition; its authors report state-of-the-art results on four agentic benchmarks. [9]
- **A six-day Gemma 4 optimization sprint delivered a 5× inference-speed gain on one NVIDIA A10G.** More than 100 humans and agents collaborated; the fastest lossless result reached 315 tokens per second, while the 491.8 TPS result involved quality trade-offs. [10]

Products & Launches

Why it matters: the race is shifting from raw model access toward reliable, manageable agent workflows.

- **OpenAI reset Codex and ChatGPT Work limits after launch feedback.** It acknowledged unclear high-compute usage, desktop-navigation problems, multi-agent regressions, and plugin issues; immediate changes include model-picker defaults and plugin fixes, with broader UI and usage-visibility updates planned next week. [11]
- **Claude Code desktop gained a sandboxed in-app browser.** Claude can open, read, click through, and interact with external sites such as docs and designs; users choose whether browser sessions persist. [12]
- **Cursor introduced durable side chats and transcript search.** Side conversations can be mentioned back into the main thread, while a local index enables searches across thousands of prior agent conversations. [13, 14]

Industry Moves

Why it matters: model providers are turning performance claims into distribution and internal deployment decisions.

- **GPT-5.6 became the preferred model in Microsoft 365 Copilot** and is rolling out with Work IQ across Copilot Chat, Cowork, Microsoft 365 apps, GitHub, and Foundry. [15, 16]
- **Tesla staff were reportedly directed to move internal AI work to Grok,** with Musk citing Grok 4.5's lower token costs relative to competitors and asking employees to send feedback directly to him. [17]

Policy & Regulation

Why it matters: frontier-model access is being paired with more explicit security and adversarial-testing controls.

- **OpenAI expanded its Bio Bug Bounty into an ongoing private program and doubled rewards to $50,000** for researchers who find universal jailbreaks against predefined biosafety challenges. Separately, Trusted Access for Cyber members must use FIDO2 hardware security keys from September 1 to retain access to the most cyber-capable models. [18, 19]

Quick Takes

Why it matters: these updates add evidence on orchestration, open-model efficiency, and talent competition.

- Perplexity made **Grok 4.5** available as a Computer orchestrator after reporting the top WANDR score among six configurations at roughly half Opus 4.8's cost. [20]
- Unsloth released **Qwen3.6 NVFP4 quantizations** it says run 2.5× faster; its 27B model fits in 24GB VRAM. [21]
- MIT mathematician **Gilbert Strang joined Anthropic**, saying he will teach LLMs rather than humans. [22]

Sources

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