

Muhammad Al-Khwarizmi

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wikipedia.org/wiki/Al-Khwarizmi | github.com/father-of-algebra



EDUCATION

Scholar of Mathematics, Astronomy, and Geography | House of Wisdom (Bayt al-Hikmah) approx. 820 AD
Focus: Studied and synthesized ancient Sanskrit, Persian, and Greek manuscripts under the direct patronage of Caliph Al-Ma'mun

EXPERIENCE

Chief Astronomer and Librarian (Lead Scholar) | House of Wisdom, Baghdad 820 AD – 850 AD

- Directed a massive translation movement, rescuing and expanding upon classical works from antiquity.
- Advised Caliph Al-Ma'mun on scientific initiatives, successfully conducting complex astronomical observations.
- Managed one of the world's most robust and historically significant repositories of scholarly manuscripts.

PROJECTS

Al-Kitab al-Mukhtasar fi Hisab al-Jabr wal-Muqabala

- Authored the foundational text of algebra, pioneering systematic solutions for linear and quadratic equations.
- Coined the term "algebra" (derived from *al-jabr*, meaning "completion" or "restoration").

Hindu-Arabic Numeral Integration (Algorithm)

- Developed a framework to adopt the decimal positional number system from Indian mathematics, enabling high-throughput calculation models.
- Simulated mathematical operations including addition, subtraction, multiplication, and division, proving extreme performance gains over Roman and Greek numeral systems.
- Evaluated systemic efficiency, resulting in my Latinized name ("Algoritmi") becoming the namesake for the modern concept of an "algorithm".

Zij al-Sindhind (Astronomical Tables)

- Compiled advanced tables tracking the movements of the sun, moon, and the five known planets.
- Introduced pivotal Indian trigonometric concepts (such as the sine function) into Islamic astronomy.

Kitab Surat al-Ard (Book of the Description of the Earth)

- Corrected Ptolemy's geographical works, providing updated map coordinates for 2,402 cities and landmarks across the known world.

TECHNICAL SKILLS

Mathematics	Algebra (Founding Father), Algorithms, Arithmetic, Hindu-Arabic Numerals, Trigonometry
Sciences	Observational Astronomy, Geography, Cartography, Horology
Languages	Arabic (Fluent/Scholarly), Persian (Native), Greek (Translation), Sanskrit (Translation)

INTERESTS

Navigational Instruments (Astrolabes, Sundials) | Cross-cultural Knowledge Exchange | Earth Circumference Measurement Expeditions