# 09

2025

THURSDAY

JANUARY 2025

| M | T | W | T | F | S | S |
|---|---|---|---|---|---|---|
|   |   | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 | 31 |   |   |

JANUARY
2nd Week • 009-356

• Numbers were defined axiomatically (Peano axioms for natural numbers, constructions for rationals, reals, etc.), independent of "unit."

• [Hilbert :] Declared mathematics a creation of the human mind (formalism). Exactness comes from rules, not reality.

• [Platonists (Godel, Hardy, Penrose) :] Still believed mathematics reveals eternal truths.

• [Constructivists / Pragmatists :] Said it's a tool, not an absolute truth.

Euler's defn that number = proportion to a unit. This ties back to Greek Eudoxus theory of ratios (Euclid, Book V), which defined quantities by comparing them.