Mathematics in Asia

Abacus calculations
Magic square construction
3x3 equations
Chinese numeration
Binomial theorem
Brahmagupta
    Notation
    Quadratic equations
Arithmetic methods
Mayan symbols (Mexico)

European Mathematics until 1630

Finger reckoning
Arithmetic methods
Fibonacci number properties

The Origin and Development
Of Analytic Geometry and Calculus

Mathematics as Free Creation

- Complex numbers and geometry
- Gauss
    - Construction of pentagon
    - Construction of 17-sided polygon
    - Congruence computations
        - Applied to perfect numbers
    - Periods of decimal fractions
- Irreducible cubics
- Projective duality
- Fourier series
- Quaternion calculations
- Matrix products
- Cantor set has length 0
- Cantor set corresponds to [0,1]
- [0,1] is not enumerable
- Infinite ordinals
- Metric space examples
- Ring examples

27. We can divide a circle of radius R and its enclosed spiral into n parts (fig. 2.65). Consider the circular sectors around each section of the spiral.

$$\underline{(1^2 + 2^2 + 3^2 + \cdots + n^2)\pi R^2}$$

[redacted]

23. Following Briggs, find a

a one-place approximation to log 3 by finding the number of decimal places in 3^{10}

[redacted]