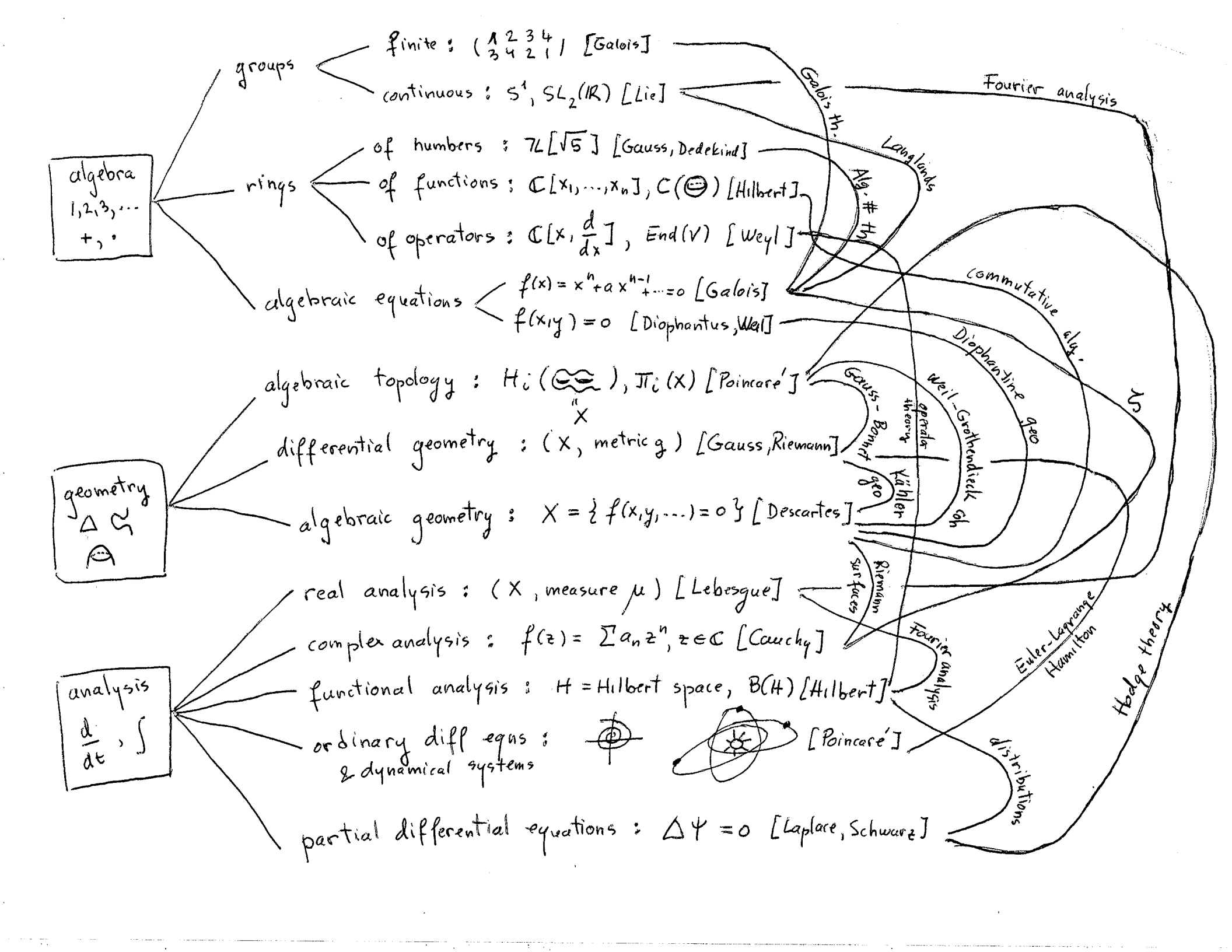
algebra
1, 2, 3, ...
+, ·
groups
finite : $\begin{pmatrix}1&2&3&4\\3&4&2&1\end{pmatrix}$ [Galois]
continuous : S^1, $SL_2(\mathbb{R})$ [Lie]
rings
of numbers : $\mathbb{Z}[\sqrt{5}]$ [Gauss, Dedekind]
of functions : $\mathbb{C}[x_1,\dots,x_n]$, $C(\bigcirc)$ [Hilbert]
of operators : $\mathbb{C}[x, \frac{d}{dx}]$, End(V) [Weyl]
algebraic equations
$f(x) = x^n + a x^{n-1} + \dots = 0$ [Galois]
$f(x,y) = 0$ [Diophantus, Weil]
geometry
Δ ∿
algebraic topology : $H_i(\bigcirc)$, $\pi_i(X)$ [Poincaré]
"X"
differential geometry : (X, metric g) [Gauss, Riemann]
algebraic geometry : $X = \{ f(x,y,\dots) = 0 \}$ [Descartes]
analysis
$\frac{d}{dt}$, $\int$
real analysis : (X, measure μ) [Lebesgue]
complex analysis : $f(z) = \sum a_n z^n$, $z \in \mathbb{C}$ [Cauchy]
functional analysis : H = Hilbert space, B(H) [Hilbert]
ordinary diff eqns & dynamical systems
[Poincaré]
partial differential equations : $\Delta \psi = 0$ [Laplace, Schwarz]
Galois th.
Langlands
Alg. # th.
Fourier analysis
commutative alg.
Diophantine geo
Gauss-Bonnet
operads
theorem
Weil-Grothendieck
Gh
Kähler geo
Riemann surfaces
Fourier analysis
Euler-Lagrange
Hamilton
distributions
Hodge theory
IT