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subobjects of and functions on $\mathbb{R}^n, S^n, \mathbb{C}^n$ and its quotients $\Gamma \backslash \mathbb{R}^n, \Gamma \backslash \mathbb{C}^n$

Current note has 39 direct children and 180 total descendants.

- [stem](#)
 - [subobjects of and functions on \$\mathbb{R}^n, S^n, \mathbb{C}^n\$ and its quotients \$\Gamma \backslash \mathbb{R}^n, \Gamma \backslash \mathbb{C}^n\$](#)
 - [Holomorphic functions on spaces over \$\mathbb{C}\$ of dimension 1](#)
 - [Approximation of holomorphic functions on \$\mathbb{C}\$ by rational functions](#)
 - [Embedding unit disk \$D\$ into \$\mathbb{C}^3\$](#)
 - [Factorization of holomorphic functions on \$\mathbb{C}\$](#)
 - [Global holomorphic functions](#)
 - [Equivalent descriptions of holomorphic functions](#)
 - [Cauchy integral formula for holomorphic functions](#)
 - [Derivative of holomorphic functions](#)
 - [Integral of holomorphic differential forms](#)
 - [Convergent power series](#)
 - [mapping](#)
 - [Bounding derivative of holomorphic mappings](#)
 - [Bounding holomorphic functions linearly](#)
 - [Branch points and ramification index of holomorphic functions](#)
 - [Disk in holomorphic image of disk](#)
 - [Size of holomorphic image of disks](#)
 - [Maximum and minimum of holomorphic functions](#)
 - [Fibers of holomorphic mappings](#)
 - [Non-constant holomorphic functions locally look like \$w^k\$ and are open mappings](#)
 - [Biholomorphic mapping onto disk](#)
 - [Conformal radius of pointed simply connected open subsets of \$\mathbb{C}\$](#)
 - [Holomorphic functions on punched disk](#)
 - [Holomorphic function whose singularities are not isolated](#)
 - [A holomorphic map branched over \$\mathbb{Q}\$](#)
 - [Meromorphic functions on the complex plane](#)
 - [Holomorphic functions meromorphic at infinity](#)
 - [Modular forms](#)
 - [Reconstructing meromorphic functions from stalks](#)
 - [Extending holomorphic functions by reflections](#)
 - [Rotational symmetrization of holomorphic functions](#)
 - [Sheaf of holomorphic functions on \$\mathbb{C}\$](#)
 - [\$\mathcal{O}\(U\)\$](#)
 - [Pre-compact subsets of \$\mathcal{O}\(U\)\$](#)
 - [Sequences of holomorphic functions](#)
 - [\$\mathcal{O}\(\mathbb{C}\)\$](#)
 - [\$\mathcal{O}\(D\)\$](#)
 - [Boundary values of \$\mathcal{O}\(D\)\$](#)
 - [\$\mathcal{O}\(\overline{D}\)\$](#)
 - [\$\mathcal{O}\(D\) \cap \mathcal{C}\(\overline{D}\)\$](#)
 - [\$\mathcal{O} \cap L^2\(D\)\$](#)
 - [Reconstructing \$\mathcal{O}\(D\)\$ from its boundary values](#)
 - [\$\mathcal{O}^p\(H^2_U\)\$](#)
 - [\$\mathcal{O} \cap L^p\$](#)
 - [\$\mathcal{O}\(S^1\)\$](#)
 - [Zeros and singularities of holomorphic functions](#)
 - [An](#)
 - [Analytic functions on the circle](#)
 - [Open subsets of \$\mathbb{R}^n\$ with \$\mathcal{C}^2\$ boundary](#)
 - [Complex ODEs in \$\mathbb{C}\$](#)
 - [Complex ODEs of order 2 in \$\mathbb{C}\$](#)
 - [Circle packing on \$\mathbb{R}^2\$](#)
 - [Circle packing converges to the Riemann biholomorphism](#)
 - [Bounded connected open subsets of \$\mathbb{C}^n\$](#)
 - [Connected circular open subsets of \$\mathbb{C}^n\$](#)
 - [Continuous functions on \$\mathbb{R}^d\$](#)
 - [\$\mathcal{C}_0\[0, 1\]\$](#)
 - [Continuous functions on \$\mathbb{R}\$ with infinite limit are uniformly continuous](#)
 - [Intermedia value property of continuous functions on intervals](#)
 - [\$\mathcal{C}\(U, X\)\$](#)
 - [\$\mathcal{C}\[0, 1\]\$](#)
 - [Dual space of \$\mathcal{C}\[0, 1\]\$](#)
 - [Riemann integral functional \$\int_{\[a, b\]} : \mathcal{C}\[a, b\] \rightarrow \mathbb{R}\$](#)
 - [Dyadic cubes](#)

- Curves
 - Arc length
 - Congruent curves
 - Curvature of a curve
 - Reparameterization of a parameterized curve
 - Tangent of a curve
 - Unit speed parameterization of a curve
- dense
 - Nowhere differentiable functions are dense in $\mathcal{C}[0, 1]$
 - Basis of functions on $[0, 1], S^1$
- Differentiable functions
 - Functions $(a, b) \rightarrow \mathbb{R}$ differentiable at a point
 - Comparing a function and its derivative
 - Absolutely continuous functions on $[a, b]$ $\leftrightarrow \int_{[a, \cdot]} (L^1[a, b])$
 - Distributional derivatives
 - Fractional Sobolev spaces
 - $H^1(U)$
 - H^1_{loc}
 - $H^1_{\text{loc}}(U)$ for $U \subseteq \mathbb{R}^2$
 - Double derivative/Laplace operator on the circle
 - Fractional derivative
 - Infinite limit of derivatives
 - Space of continuous and continuously differentiable functions on $\mathbb{R}$
 - $\mathcal{C}^1([a, b], \mathbb{R})$
 - Derivative operator on $\mathcal{C}^1[a, b]$
 - $(\mathcal{C}^1([a, b], \mathbb{R}), \|\cdot\|_\infty)$
 - $\mathcal{C}^k_c((a, b), \mathbb{R})$
 - Derivative of maps $\mathbb{R}^n \rightarrow \mathbb{R}^m$
 - Zooming of a map $\mathbb{R}^n \rightarrow \mathbb{R}^m$
- equations
 - Equations for functions on $\mathbb{R}^2$
 - Quasi-linear PDEs on $\mathbb{R}^2$
 - $$\partial_t^2 + \sum_{i=1}^n v_i^2 \partial_{x_i}^2 + m^2$$
 - First order PDEs in $\mathbb{R}^n$
 - $$\partial_t^2 + \sum_{i=1}^n v_i^2 \partial_{x_i}^2$$
- Differential forms on $\mathbb{R}^n$
 - de Rham cohomology in $\mathbb{R}^n$
- Fourier-Wigner transform
- Fourier
 - Fourier transform on $L^2(-A, A) \leq L^2(\mathbb{R})$
 - $\frown : L^2(0, \infty) \cong_{\text{Hilb}} \mathcal{O}^2(H^2_{\text{U}})$
 - Fourier transform on $\mathbb{R}^n$
 - Fourier transform on S^1 , Fourier series on $[0, 1]$
 - Functions on S^1 with absolutely converging Fourier series, $\check{l}^1(S^1)$
 - Fourier transform of distributions on S^1
 - $\frown : L^1[0, 1] \rightarrow \mathcal{C}_0(\mathbb{Z}, \mathbb{C})$
 - $\frown : L^2[0, 1] \cong_{\text{Hilb}} l^2(\mathbb{Z}, \mathbb{C})$
 - Fourier transform of measurable subsets
 - Unsharpness principles
- Harmonic functions composed with conformal maps
- Hilbert transform
- Fourier-Cauchy-Poisson correspondence of holomorphic and harmonic functions on the unit disk and their boundary values
- Holomorphic subsets of $\mathbb{C}^n$
- Regular hypersurfaces in $\mathbb{R}^{2n}$
- Orientable hypersurfaces in $\mathbb{R}^n$
- int
 - Integration by parts
 - Laplace's method for approximating integral of e^{Mf} for large M
 - Integral on bounded open subsets of $\mathbb{R}^n$ with $\mathcal{C}^1$ boundary
 - Riemann-Darboux and Riemann-Stieltjes integrals
- Laplace operator on $\mathbb{R}^n$
 - Laplace operator on (flat) upper half space
- $l^\infty(\mathbb{R})$
- Lebesgue measurable subsets of and functions on $\mathbb{R}^n, T^n, S^n$
 - Functions with uniformly bounded mean oscillations on cubes
 - Decomposition of $f \in L^p$ into bounded and unbounded parts
 - Calderon-Zygmund decomposition
 - Lebesgue density of measurable sets
 - Functions with uniformly bounded mean oscillations on dyadic cubes
 - Volterra operator $\int_{[0, \cdot]} : L^1_{\text{loc}}[0, 1] \rightarrow \mathcal{C}[0, 1]$
 - Volterra operator $\int_{[0, \cdot]} : L^p[a, b] \rightarrow L^p[a, b]$
 - Measurable functions on $\mathbb{R}^n$
 - (ϵ, n) -measurable function
 - Integrability and integral of measurable functions on $\mathbb{R}^n$
 - Hardy-Littlewood maximal functions of $L^1_{\text{loc}}(\mathbb{R}^n)$
 - Lebesgue averaging and differentiation

		• Integrals of a monotonically converging sequence of functions • Lebesgue integral from measure of undergraph • L^{p,q} • $E([0,1]) = E(0,1), E([- \pi, \pi]) = E(S^1)$
		• Lebesgue measure of boundary of open sets in $\mathbb{R}^n$ • Local $\mathbb{R}$-algebras • l^p(\mathbb{R}) • mapping • Image of balls under differentiable maps • Inverse of differentiable maps • Mean value property of functions • Taylor's theorem • Operator norm of linear maps between $\mathbb{R}^n$ • Sequence of functions on $\mathbb{R}^d$ • Metric density of subsets of $\mathbb{R}^n$ • Monotone functions on $\mathbb{R}$ • Asymptotics of monotonically increasing functions $[0, \infty] \rightarrow [0, \infty]$ • Cauchy integral of periodic functions • Polygons with integer vertices • quasiconformal • Quasiconformal maps on $\mathbb{C}$ • Quasiconformal maps on S^n • Open smooth maps $U \subseteq \mathbb{R}^2 \rightarrow \mathbb{C}$ • Discrete subgroups of $\mathbb{R}^n$ • Power series sum of a discrete subgroup of $\mathbb{R}^2$ • Discrete cocompact subgroups of $\mathbb{R}^n$, flat tori • R1 • Types of discontinuities of functions on $\mathbb{R}$ • Extremum of functions $\mathbb{R} \rightarrow \mathbb{R}$ • Fixed points of functions $U \subseteq \mathbb{R} \rightarrow U$ • $\lim_{x \rightarrow a} \frac{f(x)}{g(x)}$ of functions $f, g : U \subseteq \mathbb{R} \rightarrow \mathbb{R}$ • Total variation and sequence of continuous functions • Ramified germs of smooth and holomorphic functions • Simple singularities of holomorphic functions • Open subsets of $\mathbb{R}^n$ • Open subsets of $\mathbb{R}^n$ equipped with the flat metric • Closed subsets of $\mathbb{R}^n$ equipped with smooth functions • Quasi-analytic smooth functions on $\mathbb{R}$ • Star-shaped subsets of $\mathbb{R}^n$ • ODEs in $\mathbb{R}^n \leftrightarrow$ Vector fields in $\mathbb{R}^n$ • Constant of a flow in $\mathbb{R}^n$ • Euler's iterative solution method for first order ODEs • Existence of integral curves of vector fields in $\mathbb{R}^n$ • Fixed points • Flow of a vector field in $\mathbb{R}^n$ • Graph $\rightarrow$ polynomial ODE • Gradient flows on $\mathbb{R}^n$ • Hamiltonian vector fields in $\mathbb{R}^{2n}$ with standard symplectic form • Probability distribution of flow • Volume change by flows on $\mathbb{R}^n$

And it has 13 siblings.

• stem • GL(n) • GL(n)(\mathbb{C}) • GL(n)(\mathbb{R}) • Knots • Objects stemming from spaces over $\mathbb{Q}$ • Objects stemming from $\mathbb{R}$-spaces of dimension 2 • Objects stemming from $\mathbb{R}$-spaces of dimension 3 • Objects stemming from $\mathbb{R}$-spaces of dimension 4 • subobjects of and functions on $\mathbb{R}^n, S^n, \mathbb{C}^n$ and its quotients $\Gamma \backslash \mathbb{R}^n, \Gamma \backslash \mathbb{C}^n$ • Convex sets in $\mathbb{R}^n, \mathbb{R}H^n$ or S^n • Objects stemming from $\mathbb{R}$-semi-simple/reductive Lie groups • Objects stemming from $PSL(2)(\mathbb{C})$ • Objects stemming from $PSL(2)(\mathbb{R})$
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