



Math for the people, by the people.

index of properties of topological spaces

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Topological axioms

- topological structures on sets
- continuous maps
- categories, functors and natural transformations

Compactness Properties

- compact
- countably compact
- <http://planetmath.org/LindelofLindelöf>, <http://planetmath.org/Lindeloffinally> compact
- locally compact
- metacompact
- paracompact
- strongly locally compact
- sequentially compact
- <http://planetmath.org/SigmaCompact> σ -compact
- σ -locally compact
- <http://planetmath.org/LimitPointCompact> weakly countably compact, limit point compact

Countability Properties

- <http://planetmath.org/FirstCountable> first countable
- <http://planetmath.org/SecondCountable> second countable
- separable

Connectedness Properties

- biconnected
- arc connected
- <http://planetmath.org/ConnectedSpace>connected
- connected im kleinen
- extremally disconnected
- hyperconnected
- locally arc connected
- locally connected
- locally path connected
- path-connected
- punctiform
- scattered
- totally disconnected
- totally path disconnected
- totally separated
- ultraconnected

Contractibility Properties

- absolute retract
- absolute neighborhood retract
- contractible to a point
- locally simply connected

- semi-locally simply connected
- simply connected
- locally homeomorphic and covering spaces
- fibrations
- homotopy groups
- homotopy as a functor
- homotopy type
- lifting properties of fibrations

<http://planetmath.org/SeparationAxioms> **Separation Properties**

- completely normal
- completely regular, Tychonoff
- fully normal
- <http://planetmath.org/FullyT4> fully T_4
- normal
- perfectly T_4
- perfectly normal
- regular
- semiregular
- <http://planetmath.org/T0SpaceT0>, <http://planetmath.org/T0SpaceKolmogorov>
- <http://planetmath.org/T1SpaceT1>, <http://planetmath.org/T1SpaceFrchet>
- <http://planetmath.org/T2SpaceT2>, <http://planetmath.org/T2SpaceHausdorff>
- http://planetmath.org/CompletelyHausdorffT2_1_2, completely Hausdorff

- [http://planetmath.org/SeparationAxioms \$T_3\$](http://planetmath.org/SeparationAxiomsT3)
- [http://planetmath.org/SeparationAxioms \$T_{3\frac{1}{2}}\$](http://planetmath.org/SeparationAxiomsT3\frac{1}{2})
- [http://planetmath.org/SeparationAxioms \$T_4\$](http://planetmath.org/SeparationAxiomsT4)
- [http://planetmath.org/SeparationAxioms \$T_5\$](http://planetmath.org/SeparationAxiomsT5)
- Urysohn, functionally Hausdorff

Subset Properties

- open
- closed
- clopen
- regular open
- <http://planetmath.org/RegularOpenSetregular> closed
- locally closed
- dense
- nowhere dense
- meager
- residual
- <http://planetmath.org/Separatedseparated> sets
- <http://planetmath.org/CompletelySeparatedcompletely> separated sets

Topological groups

- full subgroup

Homology