



planetmath.org

Math for the people, by the people.

normal

Canonical name	Normal
Date of creation	2013-03-22 12:12:39
Last modified on	2013-03-22 12:12:39
Owner	Koro (127)
Last modified by	Koro (127)
Numerical id	14
Author	Koro (127)
Entry type	Definition
Classification	msc 54D15
Synonym	normality
Synonym	normal
Related topic	SeparationAxioms
Related topic	Tychonoff
Related topic	Hausdorff
Related topic	CompletelyNormal
Related topic	T2Space
Related topic	AConnectedNormalSpaceWithMoreThanOnePointIsUncountable2
Related topic	AConnectedNormalSpaceWithMoreThanOnePointIsUncountable
Related topic	ApplicationsOfUrysohnsLemmaToLocallyCompactHausdorffSpaces

A topological space X is said to be *normal* if X is T_1 (i.e. singletons are closed), and for all disjoint closed sets $D, F \subseteq X$ there exist disjoint open sets U and V such that $D \subseteq U$ and $F \subseteq V$ (i.e. X is also T_4).

Some authors do not require the T_1 axiom as part of this definition.