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list of common topologies

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The aim of this entry is to give an overview of topologies commonly used in mathematics with links to the entries at Planetmath where these are discussed in greater detail.

Topologies on arbitrary sets

The below topologies show that any set can be endowed with a topology.

1. discrete topology

2. indiscrete topology

3. cofinite topology

4. cocountable topology

New topologies from old ones

1. subspace topology

2. quotient topology

3. box topology

4. product topology

5. inductive limit topology

Topologies on sets with more structure

1. order topology (standard topologies on $\mathbb{Z}, \mathbb{N}, \mathbb{R}$)

2. metric topology

3. seminorm topology (topological vector spaces)

4. graph topology (graph theory)

5. Zariski topology (algebraic geometry)

Topologies for functions spaces and mappings

An extensive list of can be found `http://planetmath.org/FunctionSpaces`here.

1. Whitney topology (differential geometry)

2. Compact-open topology