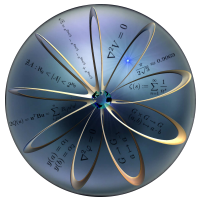

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Banach-Mazur compactum

Canonical name	BanachMazurCompactum
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Classification	msc 52A21
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Defines	Banach-Mazur metric
Defines	Banach-Mazur distance

The *Banach-Mazur metric* is a distance on the space of all http://planetmath.org/node/Isomo Banach spaces. If B_1, B_2 are n-dimensional Banach spaces, the distance between them is

$$d(B_1, B_2) = \ln \inf\{\, \|T\| \cdot \|T^{-1}\| : T \in GL(B_1, B_2)\,\}.$$

Then d satisfies the triangle inequality, and $d(B_1, B_2) = 0$ if and only if B_1 and B_2 are isometric. The space of isometry http://planetmath.org/node/EquivalenceRelation of n-dimensional Banach spaces under this metric is a compact metric space, known as a *Banach-Mazur compactum*.