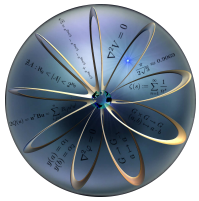

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transitive relation

Canonical name	TransitiveRelation
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Defines	transitive

A relation $\mathcal{R}$ on a set A is *transitive* if and only if $\forall x, y, z \in A$, $(x\mathcal{R}y \wedge y\mathcal{R}z) \rightarrow (x\mathcal{R}z)$.

For example, the "is a subset of" relation $\subseteq$ on any set of sets is transitive. The "less than" relation $<$ on the set of real numbers is also transitive.

The "is not equal to" relation $\neq$ on the set of integers is not transitive, because $1 \neq 2$ and $2 \neq 1$ does not imply $1 \neq 1$.