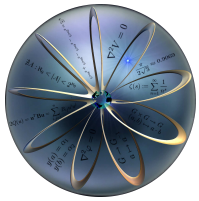

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invariant

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Let A be a set, and $T : A \to A$ a transformation of that set. We say that $x \in A$ is *an invariant* of T whenever x is fixed by T:

$$T(x) = x.$$

We say that a subset $B \subset A$ is *invariant with respect to* T whenever

$$T(B) \subset B.$$

If this is so, the restriction of T is a well-defined transformation of the invariant subset:

$$T\Big|_B : B \to B.$$

The definition generalizes readily to a family of transformations with common domain

$$T_i : A \to A, \quad i \in I$$

In this case we say that a subset is invariant, if it is invariant with respect to all elements of the family.