

int.1 Introduction

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The interpolation theorem is the following result: Suppose $\models \varphi \rightarrow \psi$. Then there is a **sentence** χ such that $\models \varphi \rightarrow \chi$ and $\models \chi \rightarrow \psi$. Moreover, every **constant symbol**, **function symbol**, and **predicate symbol** (other than $=$) in χ occurs both in φ and ψ . The **sentence** χ is called an *interpolant* of φ and ψ .

The interpolation theorem is interesting in its own right, but its main importance lies in the fact that it can be used to prove results about definability in a theory, and the conditions under which combining two consistent theories results in a consistent theory. The first result is known as the Beth definability theorem; the second, Robinson's joint consistency theorem.

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Bibliography