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congruence

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Let Σ be a fixed signature, and \mathfrak{A} a structure for Σ . A *congruence* \sim on \mathfrak{A} is an equivalence relation such that for every natural number n and n -ary function symbol F of Σ , if $a_i \sim a'_i$ then $F^{\mathfrak{A}}(a_1, \dots, a_n) \sim F^{\mathfrak{A}}(a'_1, \dots, a'_n)$.