

Theorema 2.0: A First Tour

NB reached List of cells reached CellGroupData reached List of cells reached
NullCell reached

We consider “proving”, “computing”, and “solving” as the three basic mathematical activities.

CellGroupData reached List of cells reached

1 Proving

We want to prove

$$(\forall_x (P[x] \vee Q[x])) \wedge (\forall_y (P[y] \Rightarrow Q[y])) \Leftrightarrow (\forall_x Q[x]).$$

To prove a formula like the above, we need to enter it in the context of a Theorema environment.

1.1 Proposition (First Test, 2014)

$$((\forall x (P[x] \vee Q[x]) \wedge \forall y (P[y] \rightarrow Q[y])) \iff \forall x Q[x])$$

Cell reached CellGroupData reached List of cells reached Cell reached Cell
reached Cell reached Cell reached Cell reached Cell reached Cell reached Cell
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cells reached

2 Computing

CellGroupData reached List of cells reached Cell reached Cell reached

2.1 [?]

$$\forall ab \ (LessTM_{lex}(a)b : \iff \exists (a_i < b_i \wedge \forall a_j = b_j))$$

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2.2 [?]

$$\forall Km2 \ (Mon[K]_{TimesTM}(m1, m2) := (K_{TimesTM}(m1_1, m2_1), [PlusTM](m1_{2i}, m2_{2i})))$$

2.3 [?]

$$\forall Km2 \ (Mon[K]_{LessTM}(m1, m2) : \iff LessTM_{lex}(m1_2) m2_2)$$

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3 Set Theory

CellGroupData reached List of cells reached Cell reached Cell reached

3.1 [?]

$$\forall xy \ (x \subseteq y := \forall z \ (zx \rightarrow zy))$$

■Cell reached

3.2 Proposition (transitivity of \subseteq)

$$\forall ac \ ((a \subseteq b \wedge b \subseteq c) \rightarrow a \subseteq c)$$

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