(*** MAKROER BEGYNDER ***)

$[\mathrm{ph}_1 \doteqdot \mathsf{a}_{\mathrm{Ph}}]$
$[\mathrm{ph}_2 \doteqdot \mathsf{b}_{\mathrm{Ph}}]$
$[\mathrm{ph}_3 \doteqdot \mathsf{c}_{\mathrm{Ph}}]$
$[\mathrm{ph}_4 \doteqdot \mathsf{d}_{\mathrm{Ph}}]$
$[\mathrm{ph}_5 \doteqdot \mathsf{e}_{\mathrm{Ph}}]$
$[\mathrm{ph}_6 \doteqdot \mathsf{f}_{\mathrm{Ph}}]$
$[\mathsf{x} \dot{\wedge} \mathsf{y} \doteqdot \dot{\neg}((\mathsf{x} \Rightarrow \dot{\neg}(\mathsf{y})\mathrm{n}))\mathrm{n}]$
$[\mathsf{x} \dot{\vee} \mathsf{y} \doteqdot \dot{\neg}(\mathsf{x})\mathrm{n} \Rightarrow \mathsf{y}]$
$[\mathsf{x} \dot{\Leftrightarrow} \mathsf{y} \doteqdot (\mathsf{x} \Rightarrow \mathsf{y}) \dot{\wedge} (\mathsf{y} \Rightarrow \mathsf{x})]$
$[\mathsf{x} \neq \mathsf{y} \doteqdot \dot{\neg}(\mathsf{x}{=}{=}\mathsf{y})\mathrm{n}]$
$[\mathsf{x} \notin \mathsf{y} \doteqdot \dot{\neg}(\mathsf{x} \in \mathsf{y})\mathrm{n}]$
$[\mathsf{x} \subseteq \mathsf{y} \doteqdot \forall(\mathrm{S1ob})\colon((\mathrm{S1ob}) \in \mathsf{x} \Rightarrow (\mathrm{S1ob}) \in \mathsf{y})]$
$[\{\mathsf{x}\} \doteqdot \{\mathsf{x},\mathsf{x}\}]$
$[\mathsf{x} \cup \mathsf{y} \doteqdot \cup\{\{\mathsf{x}\},\{\mathsf{y}\}\}]$
$[\mathsf{x} \cap \mathsf{y} \doteqdot \{\mathrm{ph} \in \mathsf{x} \cup \mathsf{y} \mid \mathrm{ph}_3 \in \mathsf{x} \dot{\wedge} \mathrm{ph}_3 \in \mathsf{y}\}]$
$[\langle \mathsf{x},\mathsf{y}\rangle \doteqdot \{\{\mathsf{x}\},\{\mathsf{x},\mathsf{y}\}\}]$
$[\mathsf{r}(\mathsf{x},\mathsf{y}) \doteqdot \langle \mathsf{x},\mathsf{y}\rangle \in \mathsf{r}]$
$[\mathrm{ReflRel}(\mathsf{r},\mathsf{x}) \doteqdot \forall s\colon(s \in \mathsf{x} \Rightarrow \mathsf{r}(s,s))]$
$[\mathrm{SymRel}(\mathsf{r},\mathsf{x}) \doteqdot \forall s,t\colon(s \in \mathsf{x} \Rightarrow t \in \mathsf{x} \Rightarrow \mathsf{r}(s,t) \Rightarrow \mathsf{r}(t,s))]$
$[\mathrm{TransRel}(\mathsf{r},\mathsf{x}) \doteqdot$
$\forall s,t,u\colon(s \in \mathsf{x} \Rightarrow t \in \mathsf{x} \Rightarrow u \in \mathsf{x} \Rightarrow \mathsf{r}(s,t) \Rightarrow \mathsf{r}(t,u) \Rightarrow \mathsf{r}(s,u))]$

$[\mathrm{EqRel}(\mathsf{r},\mathsf{x}) \doteqdot \mathrm{ReflRel}(\mathsf{r},\mathsf{x}) \dot{\wedge} \mathrm{SymRel}(\mathsf{r},\mathsf{x}) \dot{\wedge} \mathrm{TransRel}(\mathsf{r},\mathsf{x})]$

$[\mathcal{BS} \doteqdot \underline{\mathsf{bs}}]$
$[\mathsf{OBS} \doteqdot \overline{\mathsf{bs}}]$
$[[\mathsf{x} \in \mathsf{bs}]_{\mathsf{r}} \doteqdot \{\mathrm{ph} \in \mathsf{bs} \mid \mathsf{r}(\mathrm{ph}_1,\mathsf{x})\}]$

$[\mathsf{bs}/\mathsf{r} \doteqdot \{\mathrm{ph} \in \mathrm{P}(\mathsf{bs}) \mid \mathrm{Ex}_{20} \in \mathsf{bs} \dot{\wedge} [\mathrm{Ex}_{20} \in \mathsf{bs}]_{\mathsf{r}}{=}{=}\mathrm{ph}_2\}]$

$[\mathrm{Partition}(\mathsf{p},\mathsf{bs}) \doteqdot (\forall s\colon(s \in \mathsf{p} \Rightarrow s \neq \emptyset)) \dot{\wedge}$
$(\forall s,t\colon(s \in \mathsf{p} \Rightarrow t \in \mathsf{p} \Rightarrow s \neq t \Rightarrow s \cap t{=}{=}\emptyset)) \dot{\wedge}$
$\cup\,\mathsf{p}{=}{=}\mathsf{bs}]$

(*** EKSISTENS-VARIABLE ***)

$[\mathsf{x}^{\mathrm{Ex}} \doteq \mathsf{x} \overset{\mathrm{r}}{\doteq} \lceil \mathsf{x}_{\mathrm{Ex}} \rceil]$

$[\mathrm{Ex}_1 \doteqdot \mathsf{a}_{\mathrm{Ex}}]$

$[\mathrm{Ex}_2 \doteqdot \mathsf{b}_{\mathrm{Ex}}]$
$[\mathrm{Ex}_{10} \doteqdot \mathsf{j}_{\mathrm{Ex}}]$
$[\mathrm{Ex}_{20} \doteqdot \mathsf{t}_{\mathrm{Ex}}]$
$[\langle \mathsf{a}{\equiv}\mathsf{b}|\mathsf{x}{:}{=}{=}\mathsf{t}\rangle_{\mathrm{Ex}} \doteqdot \langle \lceil \mathsf{a} \rceil {\equiv}^0 \lceil \mathsf{b} \rceil | \lceil \mathsf{x} \rceil {:}{=}{=} \lceil \mathsf{t} \rceil \rangle_{\mathrm{Ex}}]$

$[\langle \mathsf{a}{\equiv}^0\mathsf{b}|\mathsf{x}{:}{=}{=}\mathsf{t}\rangle_{\mathrm{Ex}} \doteq \lambda \mathsf{c}.\mathsf{x}^{\mathrm{Ex}} \wedge \langle \mathsf{a}{\equiv}^1\mathsf{b}|\mathsf{x}{:}{=}{=}\mathsf{t}\rangle_{\mathrm{Ex}}]$

$[\langle \mathsf{a}{\equiv}^1\mathsf{b}|\mathsf{x}{:}{=}{=}\mathsf{t}\rangle_{\mathrm{Ex}} \doteq \mathsf{a!x!t!}$
if $\mathsf{b} \overset{\mathrm{r}}{=} \lceil\forall \mathsf{u}{:}\, \mathsf{v}\rceil$ **then** F **else**
if $\mathsf{b}^{\mathrm{Ex}} \wedge \mathsf{b} \overset{\mathrm{t}}{=} \mathsf{x}$ **then** $\mathsf{a} \overset{\mathrm{t}}{=} \mathsf{t}$ **else**
$\mathsf{a} \overset{\mathrm{r}}{=} \mathsf{b} \ddot{\wedge} \langle \mathsf{a}^{\mathrm{t}}{\equiv}^*\mathsf{b}^{\mathrm{t}}|\mathsf{x}{:}{=}{=}\mathsf{t}\rangle_{\mathrm{Ex}}]$

$[\langle \mathsf{a}{\equiv}^*\mathsf{b}|\mathsf{x}{:}{=}{=}\mathsf{t}\rangle_{\mathrm{Ex}} \doteq \mathsf{b!x!t!}\mathrm{If}(\mathsf{a}, \mathsf{T}, \langle \mathsf{a}^{\mathrm{h}}{\equiv}^1\mathsf{b}^{\mathrm{h}}|\mathsf{x}{:}{=}{=}\mathsf{t}\rangle_{\mathrm{Ex}} \ddot{\wedge} \langle \mathsf{a}^{\mathrm{t}}{\equiv}^*\mathsf{b}^{\mathrm{t}}|\mathsf{x}{:}{=}{=}\mathsf{t}\rangle_{\mathrm{Ex}})]$

(*** AKSIOMATISK SYSTEM ***)
[**Theory** SystemQ]

[SystemQ **rule** MP: $\Pi\mathcal{A},\mathcal{B}{:}\, \mathcal{A} \Rightarrow \mathcal{B} \vdash \mathcal{A} \vdash \mathcal{B}$]

[SystemQ **rule** Gen: $\Pi\mathcal{X},\mathcal{A}{:}\, \mathcal{A} \vdash \forall\mathcal{X}{:}\, \mathcal{A}$]

[SystemQ **rule** Repetition: $\Pi\mathcal{A}{:}\, \mathcal{A} \vdash \mathcal{A}$]

[SystemQ **rule** Neg: $\Pi\mathcal{A},\mathcal{B}{:}\, \dot{\neg}\,(\mathcal{B})\mathrm{n} \Rightarrow \mathcal{A} \vdash \dot{\neg}\,(\mathcal{B})\mathrm{n} \Rightarrow \dot{\neg}\,(\mathcal{A})\mathrm{n} \vdash \mathcal{B}$]

[SystemQ **rule** Ded: $\Pi\mathcal{A},\mathcal{B}{:}\, \mathcal{A} \vdash \mathcal{B}$]

[SystemQ **rule** ExistIntro: $\Pi\mathcal{X},\mathcal{T},\mathcal{A},\mathcal{B}{:}\, \langle\mathcal{A}{\equiv}\mathcal{B}|\mathcal{X}{:}{=}{=}\mathcal{T}\rangle_{\mathrm{Ex}} \Vdash \mathcal{A} \vdash \mathcal{B}$]

[SystemQ **rule** Extensionality: $\Pi\mathcal{X},\mathcal{Y}{:}\, \mathcal{X}{=}{=}\mathcal{Y} \dot{\Leftrightarrow} \forall s{:}\,(s \in \mathcal{X} \dot{\Leftrightarrow} s \in \mathcal{Y})$]

[SystemQ **rule** Ødef: $\Pi\mathcal{S}{:}\, \dot{\neg}\,(\mathcal{S} \in \emptyset)\mathrm{n}$]

[SystemQ **rule** PairDef: $\Pi\mathcal{S},\mathcal{X},\mathcal{Y}{:}\, \mathcal{S} \in \{\mathcal{X},\mathcal{Y}\} \dot{\Leftrightarrow} \mathcal{S}{=}{=}\mathcal{X} \dot{\vee} \mathcal{S}{=}{=}\mathcal{Y}$]

[SystemQ **rule** UnionDef: $\Pi\mathcal{S},\mathcal{X}{:}\, \mathcal{S} \in \cup\mathcal{X} \dot{\Leftrightarrow} (\mathcal{S} \in \mathrm{Ex}_{10} \dot{\wedge} \mathrm{Ex}_{10} \in \mathcal{X})$]

[SystemQ **rule** PowerDef: $\Pi\mathcal{S},\mathcal{X}{:}\, \mathcal{S} \in \mathrm{P}(\mathcal{X}) \dot{\Leftrightarrow} \forall s{:}\,(s \in \mathcal{S} \Rightarrow s \in \mathcal{X})$]

[SystemQ **rule** SeparationDef: $\Pi\mathcal{A},\mathcal{B},\mathcal{P},\mathcal{X},\mathcal{Z}{:}\, \mathcal{P}^{\mathrm{Ph}} \wedge \langle\mathcal{B}{\equiv}\mathcal{A}|\mathcal{P}{:}{=}{=}\mathcal{Z}\rangle_{\mathrm{Ph}} \Vdash$
$\mathcal{Z} \in \{\mathrm{ph} \in \mathcal{X} \mid \mathcal{A}\} \dot{\Leftrightarrow} \mathcal{Z} \in \mathcal{X} \dot{\wedge} \mathcal{B}$]

———————- RRRRRRRRRRRRRR ———————-
(*** import fra A.M. ***)
[SystemQ **rule** TimesCommutativity(R): $\Pi\mathrm{FX},\mathrm{FY}{:}\, \mathrm{R}(\mathrm{FX}){*}{*}\mathrm{R}(\mathrm{FY}) == \mathrm{R}(\mathrm{FY})$
$*\mathrm{R}(\mathrm{FX})$]
(*** aksiomer ***)
[SystemQ **rule** leqReflexivity: $\Pi\mathcal{X}{:}\, \mathcal{X} <= \mathcal{X}$]
[SystemQ **rule** leqAntisymmetryAxiom: $\Pi\mathcal{X},\mathcal{Y}{:}\, \mathcal{X} <= \mathcal{Y} \Rightarrow \mathcal{Y} <= \mathcal{X} \Rightarrow \mathcal{X} = \mathcal{Y}$]
[SystemQ **rule** leqTransitivityAxiom: $\Pi\mathcal{X},\mathcal{Y},\mathcal{Z}{:}\, \mathcal{X} <= \mathcal{Y} \Rightarrow \mathcal{Y} <= \mathcal{Z} \Rightarrow \mathcal{X} <= \mathcal{Z}$]
[SystemQ **rule** leqTotality: $\Pi\mathcal{X},\mathcal{Y}{:}\, \mathcal{X} <= \mathcal{Y} \dot{\vee} \mathcal{Y} <= \mathcal{X}$]
[SystemQ **rule** leqAdditionAxiom: $\Pi\mathcal{X},\mathcal{Y},\mathcal{Z}{:}\, \mathcal{X} <= \mathcal{Y} \Rightarrow (\mathcal{X} + \mathcal{Z}) <= (\mathcal{Y} + \mathcal{Z})$]
[SystemQ **rule** leqMultiplicationAxiom: $\Pi\mathcal{X},\mathcal{Y},\mathcal{Z}{:}\, 0 <= \mathcal{Z} \Rightarrow \mathcal{X} <= \mathcal{Y} \Rightarrow (\mathcal{X} * \mathcal{Z}) <= (\mathcal{Y} * \mathcal{Z})$]

[SystemQ **rule** plusAssociativity: $\Pi\mathcal{X},\mathcal{Y},\mathcal{Z}\colon (((\mathcal{X}+\mathcal{Y}))+\mathcal{Z}) = (\mathcal{X}+((\mathcal{Y}+\mathcal{Z})))$]

[SystemQ **rule** plusCommutativity: $\Pi\mathcal{X},\mathcal{Y}\colon (\mathcal{X}+\mathcal{Y}) = (\mathcal{Y}+\mathcal{X})$]

[SystemQ **rule** Negative: $\Pi\mathcal{X}\colon (\mathcal{X}+((-\mathrm{u}\mathcal{X}))) = 0$]

[SystemQ **rule** plus0: $\Pi\mathcal{X}\colon (\mathcal{X}+0) = \mathcal{X}$]

[SystemQ **rule** timesAssociativity: $\Pi\mathcal{X},\mathcal{Y},\mathcal{Z}\colon (((\mathcal{X}*\mathcal{Y}))*\mathcal{Z}) = (\mathcal{X}*((\mathcal{Y}*\mathcal{Z})))$]

[SystemQ **rule** timesCommutativity: $\Pi\mathcal{X},\mathcal{Y}\colon (\mathcal{X}*\mathcal{Y}) = (\mathcal{Y}*\mathcal{X})$]

[SystemQ **rule** ReciprocalAxiom: $\Pi\mathcal{X}\colon \mathcal{X}\neq 0 \Rightarrow (\mathcal{X}*\mathrm{rec}\mathcal{X}) = 1$]

[SystemQ **rule** times1: $\Pi\mathcal{X}\colon (\mathcal{X}*1) = \mathcal{X}$]

[SystemQ **rule** Distribution: $\Pi\mathcal{X},\mathcal{Y},\mathcal{Z}\colon (\mathcal{X}*((\mathcal{Y}+\mathcal{Z}))) = (((\mathcal{X}*\mathcal{Y}))+((\mathcal{X}*\mathcal{Z})))$]

[SystemQ **rule** 0not1: $0\neq 1$]

[SystemQ **rule** EqualityAxiom: $\Pi\mathcal{X},\mathcal{Y},\mathcal{Z}\colon \mathcal{X}=\mathcal{Y}\Rightarrow\mathcal{X}=\mathcal{Z}\Rightarrow\mathcal{Y}=\mathcal{Z}$]

[SystemQ **rule** EqLeqAxiom: $\Pi\mathcal{X},\mathcal{Y}\colon \mathcal{X}=\mathcal{Y}\Rightarrow\mathcal{X} <= \mathcal{Y}$]

[SystemQ **rule** EqAdditionAxiom: $\Pi\mathcal{X},\mathcal{Y},\mathcal{Z}\colon \mathcal{X}=\mathcal{Y}\Rightarrow(\mathcal{X}+\mathcal{Z}) = (\mathcal{Y}+\mathcal{Z})$]

[SystemQ **rule** EqMultiplicationAxiom: $\Pi\mathcal{X},\mathcal{Y},\mathcal{Z}\colon \mathcal{X}=\mathcal{Y}\Rightarrow(\mathcal{X}*\mathcal{Z}) = (\mathcal{Y}*\mathcal{Z})$]

[SystemQ **rule** A4(Axiom): $\Pi\mathcal{X},\mathrm{V}_1,\mathcal{A},\mathcal{B}\colon \langle\mathcal{A}{\equiv}\mathcal{B}|\mathrm{V}_1{:==}\mathcal{X}\rangle_{\mathrm{Me}} \Vdash \forall\mathrm{V}_1\colon\mathcal{B}\Rightarrow\mathcal{A}$]

(*** XX snydeaksiomer ***)

[SystemQ **rule** ==Reflexivity: $\Pi\mathrm{RX}\colon \mathrm{RX}==\mathrm{RX}$]

[SystemQ **rule** ==Symmetry: $\Pi\mathrm{RX},\mathrm{RY}\colon \mathrm{RX}==\mathrm{RY}\vdash\mathrm{RY}==\mathrm{RX}$]

[SystemQ **rule** == Transitivity: $\Pi\mathrm{RX},\mathrm{RY},\mathrm{RZ}\colon \mathrm{RX}==\mathrm{RY}\vdash\mathrm{RY}==\mathrm{RZ}\vdash\mathrm{RX}==\mathrm{RZ}$]

XX ikke 100procent identisk med originalen fra equivalence-relations [SystemQ r
$\mathrm{RX},\mathrm{RY}\colon \mathrm{RX}==\mathrm{RY}\vdash\mathrm{FX}\in\mathrm{RX}\vdash\mathrm{FX}\in\mathrm{RY}$]

XX boer bevises ud fra nummer 1 [SystemQ **rule** SENC2: $\Pi\mathrm{FX},\mathrm{RX},\mathrm{RY}\colon \mathrm{RX}==$
$\mathrm{RY}\vdash\mathrm{FX}\in\mathrm{RY}\vdash\mathrm{FX}\in\mathrm{RX}$]

[SystemQ **rule** PlusF: $\Pi\mathcal{M},\mathrm{FX},\mathrm{FY}\colon \mathrm{FX}+_{\mathrm{f}}\mathrm{FY}[\mathcal{M}] = (\mathrm{FX}[\mathcal{M}]+\mathrm{FY}[\mathcal{M}])$]

[SystemQ **rule** From ==: $\Pi\mathrm{FX},\mathrm{FY}\colon \mathrm{R}(\mathrm{FX})==\mathrm{R}(\mathrm{FY})\vdash\mathrm{SF}(\mathrm{FX},\mathrm{FY})$]

[SystemQ **rule** To ==: $\Pi\mathrm{FX},\mathrm{FY}\colon \mathrm{SF}(\mathrm{FX},\mathrm{FY})\vdash\mathrm{R}(\mathrm{FX})==\mathrm{R}(\mathrm{FY})$]

[SystemQ **rule** FromInR: $\Pi\mathrm{FX},\mathrm{FY}\colon \mathrm{FX}\in\mathrm{R}(\mathrm{FY})\vdash\mathrm{SF}(\mathrm{FX},\mathrm{FY})$]

(*** makroer ***)

KVANTI

[$\mathrm{M}_1 \doteq \overline{(\mathrm{m1})}$] [$\mathrm{M}_2 \doteq \overline{(\mathrm{m2})}$] [$\mathrm{N}_1 \doteq \overline{(\mathrm{n1})}$] [$\mathrm{N}_2 \doteq \overline{(\mathrm{n2})}$] [$\mathrm{N}_3 \doteq \overline{(\mathrm{n3})}$] [$\epsilon \doteq \overline{(\epsilon)}$] [$\epsilon 1 \doteq \overline{(\epsilon)_1}$] [$\epsilon 2 \doteq \overline{(\epsilon 2)}$] [$\mathrm{X}_1 \doteq \overline{(\mathrm{x1})}$] [$\mathrm{X}_2 \doteq \overline{(\mathrm{x2})}$] [$\mathrm{Y}_1 \doteq \overline{(\mathrm{y1})}$] [$\mathrm{Y}_2 \doteq \overline{(\mathrm{y2})}$] [$\mathrm{V}_1 \doteq \overline{(\mathrm{v1})}$] [$\mathrm{V}_2 \doteq \overline{(\mathrm{v2})}$] [$\mathrm{V}_3 \doteq \overline{(\mathrm{v3})}$] [$\mathrm{V}_4 \doteq \overline{(\mathrm{v4})}$] [$\mathrm{V}_{2\mathrm{n}} \doteq \overline{(\mathrm{v2n})}$] [$\mathrm{FX} \doteq \overline{(\mathrm{fx})}$] [$\mathrm{FY} \doteq \overline{(\mathrm{fy})}$] [$\mathrm{FZ} \doteq \overline{(\mathrm{fz})}$] [$\mathrm{FU} \doteq \overline{(\mathrm{fu})}$] [$\mathrm{FV} \doteq \overline{(\mathrm{fv})}$] [$\mathrm{FW} \doteq \overline{(\mathrm{fw})}$] [$\mathrm{FEP} \doteq \overline{(\mathrm{fep})}$] [$\mathrm{RX} \doteq \overline{(\mathrm{rx})}$] [$\mathrm{RY} \doteq \overline{(\mathrm{ry})}$] [$\mathrm{RZ} \doteq \overline{(\mathrm{rz})}$] [$\mathrm{RU} \doteq \overline{(\mathrm{ru})}$] [$(\mathrm{SX}) \doteq \overline{(\mathrm{sx})}$] [$(\mathrm{SX1}) \doteq \overline{(\mathrm{sx1})}$] [$(\mathrm{SY}) \doteq \overline{(\mathrm{sy})}$] [$(\mathrm{SY1}) \doteq \overline{(\mathrm{sy1})}$] [$(\mathrm{SZ}) \doteq \overline{(\mathrm{sz})}$] [$(\mathrm{SZ1}) \doteq \overline{(\mathrm{sz1})}$] [$(\mathrm{SU}) \doteq \overline{(\mathrm{su})}$] [$(\mathrm{SU1}) \doteq \overline{(\mathrm{su1})}$] [$\mathrm{FXS} \doteq \overline{(\mathrm{fxs})}$] [$\mathrm{FYS} \doteq \overline{(\mathrm{fys})}$] [$(\mathrm{F1}) \doteq \overline{(\mathrm{f1})}$] [$(\mathrm{F2}) \doteq \overline{(\mathrm{f2})}$] [$(\mathrm{F3}) \doteq \overline{(\mathrm{f3})}$] [$(\mathrm{F4}) \doteq \overline{(\mathrm{f4})}$] [$(\mathrm{OP1}) \doteq \overline{(\mathrm{op1})}$] [$(\mathrm{OP2}) \doteq \overline{(\mathrm{op2})}$] [$(\mathrm{R1}) \doteq \overline{(\mathrm{r1})}$] [$(\mathrm{S1}) \doteq \overline{(\mathrm{s1})}$] [$(\mathrm{S2}) \doteq \overline{(\mathrm{s2})}$]

[$(\mathrm{EPob}) \doteq \overline{(\epsilon)}$] [$(\mathrm{CRS1ob}) \doteq \overline{(\mathrm{crs1})}$] [$(\mathrm{F1ob}) \doteq \overline{(\mathrm{f1})}$] [$(\mathrm{F2ob}) \doteq \overline{(\mathrm{f2})}$] [$(\mathrm{F3ob}) \doteq \overline{(\mathrm{f3})}$] [$(\mathrm{F4ob}) \doteq \overline{(\mathrm{f4})}$] [$(\mathrm{N1ob}) \doteq \overline{(\mathrm{n1})}$] [$(\mathrm{N2ob}) \doteq \overline{(\mathrm{n2})}$] [$(\mathrm{OP1ob}) \doteq \overline{(\mathrm{op1})}$] [$(\mathrm{OP2ob}) \doteq \overline{(\mathrm{op2})}$] [$(\mathrm{R1ob}) \doteq \overline{(\mathrm{r1})}$] [$(\mathrm{S1ob}) \doteq \overline{(\mathrm{s1})}$] [$(\mathrm{S2ob}) \doteq \overline{(\mathrm{s2})}$]

$[(\mathrm{fx}) \leq_{\mathrm{f}} (\mathrm{fy}) \ddot{=} (\mathrm{fx}) <_{\mathrm{f}} (\mathrm{fy}) \dot{\vee} \mathrm{SF}((\mathrm{fx}), (\mathrm{fy}))]$

$[\mathrm{Ex3} \ddot{=} \mathsf{c}_{\mathrm{Ex}}]$

$[\exists(\mathrm{v1}){:}\, \mathsf{a} \ddot{=} \dot{\neg}\,(\forall(\mathrm{v1}){:}\, \dot{\neg}\,(\mathsf{a})\mathrm{n})\mathrm{n}]$

$[\mathsf{x} <<== \mathsf{y} \ddot{=} \mathsf{x} << \mathsf{y} \dot{\vee} \mathsf{x} == \mathsf{y}]$

$[(-1) \ddot{=} (-\mathrm{u}1)]$

$[2 \ddot{=} (1+1)]$

$[3 \ddot{=} (2+1)]$

$[1/2 \ddot{=} \mathrm{rec2}]$

$[1/3 \ddot{=} \mathrm{rec3}]$

$[2/3 \ddot{=} (2 * 1/3)]$

$[\mathsf{x} < \mathsf{y} \ddot{=} \mathsf{x} <= \mathsf{y} \dot{\wedge} \mathsf{x} \neq \mathsf{y}]$

$[\mathsf{x} \neq \mathsf{y} \ddot{=} \dot{\neg}\,(\mathsf{x} = \mathsf{y})\mathrm{n}]$

$[(\mathsf{x} - \mathsf{y}) \ddot{=} (\mathsf{x} + (-\mathrm{u}\mathsf{y}))]$

$[00 \ddot{=} \mathrm{R}(0\mathrm{f})]$

$[01 \ddot{=} \mathrm{R}(1\mathrm{f})]$

$[\mathsf{x}!! == \mathsf{y} \ddot{=} \dot{\neg}\,(\mathsf{x} == \mathsf{y})\mathrm{n}]$

(*** REGELLEMMAER ***)

(*** UDSAGNSLOGIK ***)

[SystemQ **lemma** ToNegatedImply: $\Pi\mathcal{A},\mathcal{B}{:}\, \mathcal{A} \vdash \dot{\neg}\,(\mathcal{B})\mathrm{n} \vdash \dot{\neg}\,((\mathcal{A} \Rightarrow \mathcal{B}))\mathrm{n}$]

SystemQ **proof of** ToNegatedImply:

L01:	Block $\gg$	Begin	;
L02:	Arbitrary $\gg$	$\mathcal{A},\mathcal{B}$	;
L03:	Premise $\gg$	$\mathcal{A}$	;
L04:	Premise $\gg$	$\dot{\neg}\,(\mathcal{B})\mathrm{n}$	;
L05:	Premise $\gg$	$\dot{\neg}\,(\dot{\neg}\,((\mathcal{A} \Rightarrow \mathcal{B}))\mathrm{n})\mathrm{n}$	;
L06:	RemoveDoubleNeg $\rhd$ L05 $\gg$	$\mathcal{A} \Rightarrow \mathcal{B}$	;
L07:	MP $\rhd$ L06 $\rhd$ L03 $\gg$	$\mathcal{B}$	;
L08:	FromContradiction $\rhd$ L07 $\rhd$ L04 $\gg$	$\dot{\neg}\,((\mathcal{A} \Rightarrow \mathcal{B}))\mathrm{n}$	;
L09:	Block $\gg$	End	;
L10:	Arbitrary $\gg$	$\mathcal{A},\mathcal{B}$	;
L11:	Ded $\rhd$ L09 $\gg$	$\mathcal{A} \Rightarrow \dot{\neg}\,(\mathcal{B})\mathrm{n} \Rightarrow \dot{\neg}\,(\dot{\neg}\,((\mathcal{A} \Rightarrow \mathcal{B}))\mathrm{n})\mathrm{n} \Rightarrow \dot{\neg}\,((\mathcal{A} \Rightarrow \mathcal{B}))\mathrm{n}$	;
L12:	Premise $\gg$	$\mathcal{A}$	;
L13:	Premise $\gg$	$\dot{\neg}\,(\mathcal{B})\mathrm{n}$	;
L14:	MP2 $\rhd$ L11 $\rhd$ L12 $\rhd$ L13 $\gg$	$\dot{\neg}\,(\dot{\neg}\,((\mathcal{A} \Rightarrow \mathcal{B}))\mathrm{n})\mathrm{n} \Rightarrow \dot{\neg}\,((\mathcal{A} \Rightarrow \mathcal{B}))\mathrm{n}$	;
L15:	AutoImply $\gg$	$\dot{\neg}\,(\dot{\neg}\,((\mathcal{A} \Rightarrow \mathcal{B}))\mathrm{n})\mathrm{n} \Rightarrow \dot{\neg}\,(\dot{\neg}\,((\mathcal{A} \Rightarrow \mathcal{B}))\mathrm{n})\mathrm{n}$	;
L16:	Neg $\rhd$ L14 $\rhd$ L15 $\gg$	$\dot{\neg}\,((\mathcal{A} \Rightarrow \mathcal{B}))\mathrm{n}$	$\square$

[SystemQ **lemma** TND: $\Pi\mathcal{A}{:}\, \mathcal{A} \dot{\vee} \dot{\neg}\,(\mathcal{A})\mathrm{n}$]

SystemQ **proof of** TND:

L01:	Arbitrary $\gg$	$\mathcal{A}$	;
L02:	AutoImply $\gg$	$\dot{\neg}\,(\mathcal{A})\mathrm{n} \Rightarrow \dot{\neg}\,(\mathcal{A})\mathrm{n}$	;
L03:	Repetition $\rhd$ L02 $\gg$	$\mathcal{A} \dot{\vee} \dot{\neg}\,(\mathcal{A})\mathrm{n}$	$\square$

[SystemQ **lemma** FromNegations: $\Pi\mathcal{A},\mathcal{B}{:}\, \mathcal{A} \Rightarrow \mathcal{B} \vdash \dot{\neg}\,(\mathcal{A})\mathrm{n} \Rightarrow \mathcal{B} \vdash \mathcal{B}$]

SystemQ **proof of** FromNegations:

L01:	Arbitrary $\gg$	$\mathcal{A}, \mathcal{B}$	;
L02:	Premise $\gg$	$\mathcal{A} \Rightarrow \mathcal{B}$	;
L03:	Premise $\gg$	$\dot{\neg}\,(\mathcal{A})\mathrm{n} \Rightarrow \mathcal{B}$	;
L04:	TND $\gg$	$\mathcal{A} \dot{\vee} \dot{\neg}\,(\mathcal{A})\mathrm{n}$	;
L05:	FromDisjuncts $\rhd$ L04 $\rhd$ L02 $\rhd$ L03 $\gg$	$\mathcal{B}$	$\Box$

[SystemQ **lemma** prop lemma imply negation: $\Pi\mathcal{A}\colon \mathcal{A} \Rightarrow \dot{\neg}\,(\mathcal{A})\mathrm{n} \vdash \dot{\neg}\,(\mathcal{A})\mathrm{n}$]

SystemQ **proof of** prop lemma imply negation:

L01:	Arbitrary $\gg$	$\mathcal{A}$	;
L02:	Premise $\gg$	$\mathcal{A} \Rightarrow \dot{\neg}\,(\mathcal{A})\mathrm{n}$	;
L03:	AutoImply $\gg$	$\dot{\neg}\,(\mathcal{A})\mathrm{n} \Rightarrow \dot{\neg}\,(\mathcal{A})\mathrm{n}$	;
L04:	TND $\gg$	$\mathcal{A} \dot{\vee} \dot{\neg}\,(\mathcal{A})\mathrm{n}$	;
L05:	FromDisjuncts $\rhd$ L04 $\rhd$ L02 $\rhd$ L03 $\gg$	$\dot{\neg}\,(\mathcal{A})\mathrm{n}$	$\Box$

[SystemQ **lemma** From3Disjuncts: $\Pi\mathcal{A}, \mathcal{B}, \mathcal{C}, \mathcal{D}\colon \mathcal{A} \dot{\vee} \mathcal{B} \dot{\vee} \mathcal{C} \vdash \mathcal{A} \Rightarrow \mathcal{D} \vdash \mathcal{B} \Rightarrow \mathcal{D} \vdash \mathcal{C} \Rightarrow \mathcal{D} \vdash \mathcal{D}$]

SystemQ **proof of** From3Disjuncts:

L01:	Block $\gg$	Begin	;
L02:	Arbitrary $\gg$	$\mathcal{A}, \mathcal{B}, \mathcal{C}, \mathcal{D}$	;
L03:	Premise $\gg$	$\mathcal{A} \dot{\vee} \mathcal{B} \dot{\vee} \mathcal{C}$	;
L04:	Premise $\gg$	$\mathcal{B} \Rightarrow \mathcal{D}$	;
L05:	Premise $\gg$	$\mathcal{C} \Rightarrow \mathcal{D}$	;
L06:	Premise $\gg$	$\dot{\neg}\,(\mathcal{A})\mathrm{n}$	;
L07:	Repetition $\rhd$ L03 $\gg$	$\dot{\neg}\,(\mathcal{A})\mathrm{n} \Rightarrow (\mathcal{B} \dot{\vee} \mathcal{C})$	;
L08:	MP $\rhd$ L07 $\rhd$ L06 $\gg$	$\mathcal{B} \dot{\vee} \mathcal{C}$	;
L09:	FromDisjuncts $\rhd$ L08 $\rhd$ L04 $\rhd$ L05 $\gg$	$\mathcal{D}$	;
L10:	Block $\gg$	End	;
L11:	Arbitrary $\gg$	$\mathcal{A}, \mathcal{B}, \mathcal{C}, \mathcal{D}$	;
L12:	Ded $\rhd$ L10 $\gg$	$\mathcal{A} \dot{\vee} \mathcal{B} \dot{\vee} \mathcal{C} \Rightarrow (\mathcal{B} \Rightarrow \mathcal{D}) \Rightarrow (\mathcal{C} \Rightarrow \mathcal{D}) \Rightarrow \dot{\neg}\,(\mathcal{A})\mathrm{n} \Rightarrow \mathcal{D}$	;
L13:	AutoImply $\gg$	$(\mathcal{A} \Rightarrow \mathcal{D}) \Rightarrow \mathcal{A} \Rightarrow \mathcal{D}$	;
L14:	Premise $\gg$	$\mathcal{A} \dot{\vee} \mathcal{B} \dot{\vee} \mathcal{C}$	;
L15:	Premise $\gg$	$\mathcal{A} \Rightarrow \mathcal{D}$	;
L16:	Premise $\gg$	$\mathcal{B} \Rightarrow \mathcal{D}$	;
L17:	Premise $\gg$	$\mathcal{C} \Rightarrow \mathcal{D}$	;
L18:	MP3 $\rhd$ L12 $\rhd$ L14 $\rhd$ L16 $\rhd$ L17 $\gg$	$\dot{\neg}\,(\mathcal{A})\mathrm{n} \Rightarrow \mathcal{D}$	;
L19:	MP $\rhd$ L13 $\rhd$ L15 $\gg$	$\mathcal{A} \Rightarrow \mathcal{D}$	;
L20:	FromNegations $\rhd$ L19 $\rhd$ L18 $\gg$	$\mathcal{D}$	$\Box$

[SystemQ **lemma** NegateDisjunct1: $\Pi\mathcal{A}, \mathcal{B}\colon \mathcal{A} \dot{\vee} \mathcal{B} \vdash \dot{\neg}\,(\mathcal{A})\mathrm{n} \vdash \mathcal{B}$]

SystemQ **proof of** NegateDisjunct1:

L01:	Arbitrary $\gg$	$\mathcal{A}, \mathcal{B}$	;
L02:	Premise $\gg$	$\mathcal{A} \dot{\vee} \mathcal{B}$	;
L03:	Premise $\gg$	$\dot{\neg}\,(\mathcal{A})\mathrm{n}$	;
L04:	Repetition $\rhd$ L02 $\gg$	$\dot{\neg}\,(\mathcal{A})\mathrm{n} \Rightarrow \mathcal{B}$	;

L05:	MP $\rhd$ L04 $\rhd$ L03 $\gg$	$\mathcal{B}$	$\Box$

[SystemQ **lemma** NegateDisjunct2: $\Pi\mathcal{A},\mathcal{B}\colon \mathcal{A} \dot\vee \mathcal{B} \vdash \dot\neg\,(\mathcal{B})\mathrm{n} \vdash \mathcal{A}$]

SystemQ **proof of** NegateDisjunct2:

L01:	Arbitrary $\gg$	$\mathcal{A},\mathcal{B}$	;
L02:	Premise $\gg$	$\mathcal{A} \dot\vee \mathcal{B}$	;
L03:	Premise $\gg$	$\dot\neg\,(\mathcal{B})\mathrm{n}$	;
L04:	Repetition $\rhd$ L02 $\gg$	$\dot\neg\,(\mathcal{A})\mathrm{n} \Rightarrow \mathcal{B}$	;
L05:	NegativeMT $\rhd$ L04 $\rhd$ L03 $\gg$	$\mathcal{A}$	$\Box$

(***)

[SystemQ **lemma** ExpandDisjuncts: $\Pi\mathcal{A},\mathcal{B},\mathcal{C},\mathcal{D}\colon \mathcal{A} \dot\vee \mathcal{B} \vdash \mathcal{C} \dot\vee \mathcal{D} \vdash \mathcal{B} \dot\vee \mathcal{D} \dot\vee (\mathcal{A} \dot\wedge \mathcal{C})$]

SystemQ **proof of** ExpandDisjuncts:

L01:	Block $\gg$	Begin	;
L02:	Arbitrary $\gg$	$\mathcal{A},\mathcal{B},\mathcal{C},\mathcal{D}$	;
L03:	Premise $\gg$	$\mathcal{A} \dot\vee \mathcal{B}$	;
L04:	Premise $\gg$	$\mathcal{C} \dot\vee \mathcal{D}$	;
L05:	Premise $\gg$	$\dot\neg\,(\mathcal{B})\mathrm{n}$	;
L06:	Premise $\gg$	$\dot\neg\,(\mathcal{D})\mathrm{n}$	;
L07:	NegateDisjunct2 $\rhd$ L03 $\rhd$ L05 $\gg$	$\mathcal{A}$	;
L08:	NegateDisjunct2 $\rhd$ L04 $\rhd$ L06 $\gg$	$\mathcal{C}$	;
L09:	JoinConjuncts $\rhd$ L07 $\rhd$ L08 $\gg$	$\mathcal{A} \dot\wedge \mathcal{C}$	;
L10:	Block $\gg$	End	;
L11:	Arbitrary $\gg$	$\mathcal{A},\mathcal{B},\mathcal{C},\mathcal{D}$	;
L12:	Ded $\rhd$ L10 $\gg$	$\mathcal{A} \dot\vee \mathcal{B} \Rightarrow \mathcal{C} \dot\vee \mathcal{D} \Rightarrow \dot\neg\,(\mathcal{B})\mathrm{n} \Rightarrow \dot\neg\,(\mathcal{D})\mathrm{n} \Rightarrow \mathcal{A} \dot\wedge \mathcal{C}$	;
L13:	Premise $\gg$	$\mathcal{A} \dot\vee \mathcal{B}$	;
L14:	Premise $\gg$	$\mathcal{C} \dot\vee \mathcal{D}$	;
L15:	MP2 $\rhd$ L12 $\rhd$ L13 $\rhd$ L14 $\gg$	$\dot\neg\,(\mathcal{B})\mathrm{n} \Rightarrow \dot\neg\,(\mathcal{D})\mathrm{n} \Rightarrow \mathcal{A} \dot\wedge \mathcal{C}$	;
L16:	Repetition $\rhd$ L15 $\gg$	$\mathcal{B} \dot\vee \mathcal{D} \dot\vee (\mathcal{A} \dot\wedge \mathcal{C})$	$\Box$

[SystemQ **lemma** From2 $*$ 2Disjuncts: $\Pi\mathcal{A},\mathcal{B},\mathcal{C},\mathcal{D},\mathcal{E}\colon \mathcal{A} \dot\vee \mathcal{B} \vdash \mathcal{C} \dot\vee \mathcal{D} \vdash \mathcal{A} \Rightarrow \mathcal{C} \Rightarrow \mathcal{E} \vdash \mathcal{A} \Rightarrow \mathcal{D} \Rightarrow \mathcal{E} \vdash \mathcal{B} \Rightarrow \mathcal{C} \Rightarrow \mathcal{E} \vdash \mathcal{B} \Rightarrow \mathcal{D} \Rightarrow \mathcal{E} \vdash \mathcal{E}$]

SystemQ **proof of** From2 $*$ 2Disjuncts:

L01:	Block $\gg$	Begin	;
L02:	Arbitrary $\gg$	$\mathcal{A},\mathcal{B},\mathcal{C},\mathcal{D},\mathcal{E}$	;
L03:	Premise $\gg$	$\mathcal{C} \dot\vee \mathcal{D}$	;
L04:	Premise $\gg$	$\mathcal{A} \Rightarrow \mathcal{C} \Rightarrow \mathcal{E}$	;
L05:	Premise $\gg$	$\mathcal{A} \Rightarrow \mathcal{D} \Rightarrow \mathcal{E}$	;
L06:	Premise $\gg$	$\mathcal{A}$	;
L07:	MP $\rhd$ L04 $\rhd$ L06 $\gg$	$\mathcal{C} \Rightarrow \mathcal{E}$	;
L08:	MP $\rhd$ L05 $\rhd$ L06 $\gg$	$\mathcal{D} \Rightarrow \mathcal{E}$	;
L09:	FromDisjuncts $\rhd$ L03 $\rhd$ L07 $\rhd$ L08 $\gg$	$\mathcal{E}$	;
L10:	Block $\gg$	End	;
L11:	Block $\gg$	Begin	;
L12:	Arbitrary $\gg$	$\mathcal{A},\mathcal{B},\mathcal{C},\mathcal{D},\mathcal{E}$	;
L13:	Premise $\gg$	$\mathcal{A} \dot\vee \mathcal{B}$	;

L14: Premise $\gg$ $\mathcal{C} \dot{\vee} \mathcal{D}$;
L15: Premise $\gg$ $\mathcal{B} \Rightarrow \mathcal{C} \Rightarrow \mathcal{E}$;
L16: Premise $\gg$ $\mathcal{B} \Rightarrow \mathcal{D} \Rightarrow \mathcal{E}$;
L17: Premise $\gg$ $\dot{\neg}(\mathcal{A})\mathrm{n}$;
L18: NegateDisjunct1 $\rhd$ L13 $\rhd$ L17 $\gg$ $\mathcal{B}$;
L19: MP $\rhd$ L15 $\rhd$ L18 $\gg$ $\mathcal{C} \Rightarrow \mathcal{E}$;
L20: MP $\rhd$ L16 $\rhd$ L18 $\gg$ $\mathcal{D} \Rightarrow \mathcal{E}$;
L21: FromDisjuncts $\rhd$ L14 $\rhd$ L19 $\rhd$ L20 $\gg$ $\mathcal{E}$;
L22: Block $\gg$ End ;
L23: Arbitrary $\gg$ $\mathcal{A}, \mathcal{B}, \mathcal{C}, \mathcal{D}, \mathcal{E}$;
L24: Ded $\rhd$ L10 $\gg$ $\mathcal{C} \dot{\vee} \mathcal{D} \Rightarrow (\mathcal{A} \Rightarrow \mathcal{C} \Rightarrow \mathcal{E}) \Rightarrow (\mathcal{A} \Rightarrow \mathcal{D} \Rightarrow \mathcal{E}) \Rightarrow \mathcal{A} \Rightarrow \mathcal{E}$;
L25: Ded $\rhd$ L22 $\gg$ $\mathcal{A} \dot{\vee} \mathcal{B} \Rightarrow \mathcal{C} \dot{\vee} \mathcal{D} \Rightarrow (\mathcal{B} \Rightarrow \mathcal{C} \Rightarrow \mathcal{E}) \Rightarrow (\mathcal{B} \Rightarrow \mathcal{D} \Rightarrow \mathcal{E}) \Rightarrow \dot{\neg}(\mathcal{A})\mathrm{n} \Rightarrow \mathcal{E}$;
L26: Premise $\gg$ $\mathcal{A} \dot{\vee} \mathcal{B}$;
L27: Premise $\gg$ $\mathcal{C} \dot{\vee} \mathcal{D}$;
L28: Premise $\gg$ $\mathcal{A} \Rightarrow \mathcal{C} \Rightarrow \mathcal{E}$;
L29: Premise $\gg$ $\mathcal{A} \Rightarrow \mathcal{D} \Rightarrow \mathcal{E}$;
L30: Premise $\gg$ $\mathcal{B} \Rightarrow \mathcal{C} \Rightarrow \mathcal{E}$;
L31: Premise $\gg$ $\mathcal{B} \Rightarrow \mathcal{D} \Rightarrow \mathcal{E}$;
L32: MP3 $\rhd$ L24 $\rhd$ L27 $\rhd$ L28 $\rhd$ L29 $\gg$ $\mathcal{A} \Rightarrow \mathcal{E}$;
L33: MP4 $\rhd$ L25 $\rhd$ L26 $\rhd$ L27 $\rhd$ L30 $\rhd$ L31 $\gg$ $\dot{\neg}(\mathcal{A})\mathrm{n} \Rightarrow \mathcal{E}$;
L34: FromNegations $\rhd$ L32 $\rhd$ L33 $\gg$ $\mathcal{E}$ □

(*** SAME-F ***) XX-am
(*** R-AFDELINGEN ***) XX-am
(******************)
[SystemQ **lemma** FromNegatedImply: $\Pi \mathcal{A}, \mathcal{B}$: $\dot{\neg}((\mathcal{A} \Rightarrow \mathcal{B}))\mathrm{n} \vdash \mathcal{A} \dot{\wedge} \dot{\neg}(\mathcal{B})\mathrm{n}$]
SystemQ **proof of** FromNegatedImply:

L01: Block $\gg$ Begin ;
L02: Arbitrary $\gg$ $\mathcal{A}, \mathcal{B}$;
L03: Premise $\gg$ $\mathcal{A} \Rightarrow \dot{\neg}(\dot{\neg}(\mathcal{B})\mathrm{n})\mathrm{n}$;
L04: Premise $\gg$ $\mathcal{A}$;
L05: MP $\rhd$ L03 $\rhd$ L04 $\gg$ $\dot{\neg}(\dot{\neg}(\mathcal{B})\mathrm{n})\mathrm{n}$;
L06: RemoveDoubleNeg $\rhd$ L05 $\gg$ $\mathcal{B}$;
L07: Block $\gg$ End ;
L08: Arbitrary $\gg$ $\mathcal{A}, \mathcal{B}$;
L03: Ded $\rhd$ L07 $\gg$ $(\mathcal{A} \Rightarrow \dot{\neg}(\dot{\neg}(\mathcal{B})\mathrm{n})\mathrm{n}) \Rightarrow (\mathcal{A} \Rightarrow \mathcal{B})$;
L04: Premise $\gg$ $\dot{\neg}((\mathcal{A} \Rightarrow \mathcal{B}))\mathrm{n}$;
L05: MT $\rhd$ L03 $\rhd$ L04 $\gg$ $\dot{\neg}((\mathcal{A} \Rightarrow \dot{\neg}(\dot{\neg}(\mathcal{B})\mathrm{n})\mathrm{n}))\mathrm{n}$;
L09: Repetition $\rhd$ L05 $\gg$ $\mathcal{A} \dot{\wedge} \dot{\neg}(\mathcal{B})\mathrm{n}$ □

(***)
[SystemQ **lemma** FromNegated(2 $*$ Imply): $\Pi \mathcal{A}, \mathcal{B}, \mathcal{C}$: $\dot{\neg}((\mathcal{A} \Rightarrow \mathcal{B} \Rightarrow \mathcal{C}))\mathrm{n} \vdash \mathcal{A} \dot{\wedge} \mathcal{B} \dot{\wedge} \dot{\neg}(\mathcal{C})\mathrm{n}$]

SystemQ **proof of** FromNegated(2 ∗ Imply):

L01: Arbitrary $\gg$ $\mathcal{A}, \mathcal{B}, \mathcal{C}$;
L02: Premise $\gg$ $\dot\neg((\mathcal{A} \Rightarrow \mathcal{B} \Rightarrow \mathcal{C}))\mathrm{n}$;
L03: FromNegatedImply $\rhd$ L02 $\gg$ $\mathcal{A} \dot\wedge \dot\neg((\mathcal{B} \Rightarrow \mathcal{C}))\mathrm{n}$;
L04: FirstConjunct $\rhd$ L03 $\gg$ $\mathcal{A}$;
L05: SecondConjunct $\rhd$ L03 $\gg$ $\dot\neg((\mathcal{B} \Rightarrow \mathcal{C}))\mathrm{n}$;
L06: FromNegatedImply $\rhd$ L05 $\gg$ $\mathcal{B} \dot\wedge \dot\neg(\mathcal{C})\mathrm{n}$;
L07: FirstConjunct $\rhd$ L06 $\gg$ $\mathcal{B}$;
L08: SecondConjunct $\rhd$ L06 $\gg$ $\dot\neg(\mathcal{C})\mathrm{n}$;
L09: JoinConjuncts $\rhd$ L04 $\rhd$ L07 $\gg$ $\mathcal{A} \dot\wedge \mathcal{B}$;
L10: JoinConjuncts $\rhd$ L09 $\rhd$ L08 $\gg$ $\mathcal{A} \dot\wedge \mathcal{B} \dot\wedge \dot\neg(\mathcal{C})\mathrm{n}$ □

[SystemQ **lemma** FromNegatedOr: $\Pi\mathcal{A}, \mathcal{B}$: $\dot\neg((\mathcal{A} \dot\vee \mathcal{B}))\mathrm{n} \vdash \dot\neg(\mathcal{A})\mathrm{n} \dot\wedge \dot\neg(\mathcal{B})\mathrm{n}$]

SystemQ **proof of** FromNegatedOr:

L01: Arbitrary $\gg$ $\mathcal{A}, \mathcal{B}$;
L02: Premise $\gg$ $\dot\neg((\mathcal{A} \dot\vee \mathcal{B}))\mathrm{n}$;
L03: Repetition $\rhd$ L02 $\gg$ $\dot\neg((\dot\neg(\mathcal{A})\mathrm{n} \Rightarrow \mathcal{B}))\mathrm{n}$;
L04: FromNegatedImply $\rhd$ L03 $\gg$ $\dot\neg(\mathcal{A})\mathrm{n} \dot\wedge \dot\neg(\mathcal{B})\mathrm{n}$ □

[SystemQ **rule** InductionAxiom: $\Pi\mathrm{V}_1, \mathcal{A}, \mathcal{B}, \mathcal{C}$: $\langle\mathcal{B}{\equiv}\mathcal{A}|\mathrm{V}_1{:=}{=}0\rangle_{\mathrm{Me}} \Vdash \langle\mathcal{C}{\equiv}\mathcal{A}|\mathrm{V}_1{:=}$
$1)\rangle_{\mathrm{Me}} \Vdash \mathcal{B} \Rightarrow \forall\mathrm{V}_1\colon(\mathcal{A} \Rightarrow \mathcal{C}) \Rightarrow \forall\mathrm{V}_1\colon\mathcal{A}$]

[SystemQ **rule** LessMinus1(N): $\Pi\mathcal{M}, \mathcal{N}$: $\mathrm{Nat}(\mathcal{M}) \Vdash \mathrm{Nat}(\mathcal{N}) \Vdash \mathcal{M} < (\mathcal{N} + 1) \vdash \mathcal{M} <= \mathcal{N}$]

[SystemQ **rule** Nonnegative(N): $\Pi\mathcal{M}$: $\mathrm{Nat}(\mathcal{M}) \Vdash 0 <= \mathcal{M}$]

[SystemQ **rule** Cauchy: $\Pi\mathrm{V}_1, \mathrm{V}_2, \mathcal{N}, \epsilon, \mathrm{FX}$: $\forall\epsilon\colon\exists\mathcal{N}\colon\forall\mathrm{V}_1, \mathrm{V}_2\colon(0 < \epsilon \Rightarrow \mathcal{N} <= \mathrm{V}_1 \Rightarrow \mathcal{N} <= \mathrm{V}_2 \Rightarrow |(\mathrm{FX}[\mathrm{V}_1] - \mathrm{FX}[\mathrm{V}_2])| < \epsilon)$]

[SystemQ **lemma** JoinConjuncts(2conditions): $\Pi\mathcal{A}, \mathcal{B}, \mathcal{C}, \mathcal{D}$: $\mathcal{A} \Rightarrow \mathcal{B} \Rightarrow \mathcal{C} \vdash \mathcal{A} \Rightarrow \mathcal{B} \Rightarrow \mathcal{D} \vdash \mathcal{A} \Rightarrow \mathcal{B} \Rightarrow \mathcal{C} \dot\wedge \mathcal{D}$]

SystemQ **proof of** JoinConjuncts(2conditions):

L01: Block $\gg$ Begin ;
L02: Arbitrary $\gg$ $\mathcal{A}, \mathcal{B}, \mathcal{C}, \mathcal{D}$;
L03: Premise $\gg$ $\mathcal{A} \Rightarrow \mathcal{B} \Rightarrow \mathcal{C}$;
L04: Premise $\gg$ $\mathcal{A} \Rightarrow \mathcal{B} \Rightarrow \mathcal{D}$;
L05: Premise $\gg$ $\mathcal{A}$;
L06: Premise $\gg$ $\mathcal{B}$;
L07: MP2 $\rhd$ L03 $\rhd$ L05 $\rhd$ L06 $\gg$ $\mathcal{C}$;
L08: MP2 $\rhd$ L04 $\rhd$ L05 $\rhd$ L06 $\gg$ $\mathcal{D}$;
L09: JoinConjuncts $\rhd$ L07 $\rhd$ L08 $\gg$ $\mathcal{C} \dot\wedge \mathcal{D}$;
L10: Block $\gg$ End ;
L11: Arbitrary $\gg$ $\mathcal{A}, \mathcal{B}, \mathcal{C}, \mathcal{D}$;
L03: Ded $\rhd$ L10 $\gg$ $(\mathcal{A} \Rightarrow \mathcal{B} \Rightarrow \mathcal{C}) \Rightarrow (\mathcal{A} \Rightarrow \mathcal{B} \Rightarrow \mathcal{D}) \Rightarrow \mathcal{A} \Rightarrow \mathcal{B} \Rightarrow \mathcal{C} \dot\wedge \mathcal{D}$;
L04: Premise $\gg$ $\mathcal{A} \Rightarrow \mathcal{B} \Rightarrow \mathcal{C}$;
L05: Premise $\gg$ $\mathcal{A} \Rightarrow \mathcal{B} \Rightarrow \mathcal{D}$;
L12: MP2 $\rhd$ L03 $\rhd$ L04 $\rhd$ L05 $\gg$ $\mathcal{A} \Rightarrow \mathcal{B} \Rightarrow \mathcal{C} \dot\wedge \mathcal{D}$ □

[SystemQ **lemma** FromNegatedAnd: $\Pi \mathcal{A}, \mathcal{B}\colon \dot{\neg}((\mathcal{A} \dot{\wedge} \mathcal{B}))\text{n} \vdash \mathcal{A} \vdash \dot{\neg}(\mathcal{B})\text{n}$]

SystemQ **proof of** FromNegatedAnd:

L01:	Arbitrary $\gg$	$\mathcal{A}, \mathcal{B}$	;
L02:	Premise $\gg$	$\dot{\neg}((\mathcal{A} \dot{\wedge} \mathcal{B}))\text{n}$	;
L03:	Premise $\gg$	$\mathcal{A}$	;
L04:	Repetition $\rhd$ L02 $\gg$	$\dot{\neg}(\dot{\neg}((\mathcal{A} \Rightarrow \dot{\neg}(\mathcal{B})\text{n}))\text{n})\text{n}$	;
L05:	RemoveDoubleNeg $\rhd$ L04 $\gg$	$\mathcal{A} \Rightarrow \dot{\neg}(\mathcal{B})\text{n}$	;
L06:	MP $\rhd$ L05 $\rhd$ L03 $\gg$	$\dot{\neg}(\mathcal{B})\text{n}$	□

[SystemQ **lemma** ToNegatedOr: $\Pi \mathcal{A}, \mathcal{B}\colon \dot{\neg}(\mathcal{A})\text{n} \dot{\wedge} \dot{\neg}(\mathcal{B})\text{n} \vdash \dot{\neg}((\mathcal{A} \dot{\vee} \mathcal{B}))\text{n}$]

SystemQ **proof of** ToNegatedOr:

L01:	Block $\gg$	Begin	;
L02:	Arbitrary $\gg$	$\mathcal{A}, \mathcal{B}$	;
L03:	Premise $\gg$	$\dot{\neg}(\mathcal{A})\text{n} \dot{\wedge} \dot{\neg}(\mathcal{B})\text{n}$	;
L04:	Premise $\gg$	$\mathcal{A} \dot{\vee} \mathcal{B}$	;
L05:	FirstConjunct $\rhd$ L03 $\gg$	$\dot{\neg}(\mathcal{A})\text{n}$	;
L06:	SecondConjunct $\rhd$ L03 $\gg$	$\dot{\neg}(\mathcal{B})\text{n}$	;
L07:	NegateDisjunct1 $\rhd$ L04 $\rhd$ L05 $\gg$	$\mathcal{B}$	;
L08:	FromContradiction $\rhd$ L07 $\rhd$ L06 $\gg$	$\dot{\neg}((\mathcal{A} \dot{\vee} \mathcal{B}))\text{n}$	;
L09:	Block $\gg$	End	;
L10:	Arbitrary $\gg$	$\mathcal{A}, \mathcal{B}$	;
L03:	Ded $\rhd$ L09 $\gg$	$\dot{\neg}(\mathcal{A})\text{n} \dot{\wedge} \dot{\neg}(\mathcal{B})\text{n} \Rightarrow \mathcal{A} \dot{\vee} \mathcal{B} \Rightarrow \dot{\neg}((\mathcal{A} \dot{\vee} \mathcal{B}))\text{n}$	;
L04:	Premise $\gg$	$\dot{\neg}(\mathcal{A})\text{n} \dot{\wedge} \dot{\neg}(\mathcal{B})\text{n}$	;
L05:	MP $\rhd$ L03 $\rhd$ L04 $\gg$	$\mathcal{A} \dot{\vee} \mathcal{B} \Rightarrow \dot{\neg}((\mathcal{A} \dot{\vee} \mathcal{B}))\text{n}$	;
L11:	prop lemma imply negation $\rhd$ L05 $\gg$	$\dot{\neg}((\mathcal{A} \dot{\vee} \mathcal{B}))\text{n}$	□

[SystemQ **rule** NextXS(UpperBound): $\Pi \mathcal{M}\colon$ UB(01//02∗∗(xs[$\mathcal{M}$]++us[$\mathcal{M}$]), Se
xs[$(\mathcal{M}+1)$] == xs[$\mathcal{M}$]]

[SystemQ **rule** NextXS(NoUpperBound): $\Pi \mathcal{M}\colon \dot{\neg}$(UB(01//02∗∗(xs[$\mathcal{M}$]++us[$\mathcal{M}$
xs[$(\mathcal{M}+1)$] == 01//02 ∗ ∗(xs[$\mathcal{M}$] + +us[$\mathcal{M}$])]

[SystemQ **rule** NextUS(UpperBound): $\Pi \mathcal{M}\colon$ UB(01//02∗∗(xs[$\mathcal{M}$]++us[$\mathcal{M}$]), Se
us[$(\mathcal{M}+1)$] == 01//02 ∗ ∗(xs[$\mathcal{M}$] + +us[$\mathcal{M}$])]

[SystemQ **rule** NextUS(NoUpperBound): $\Pi \mathcal{M}\colon \dot{\neg}$(UB(01//02∗∗(xs[$\mathcal{M}$]++us[$\mathcal{M}$
us[$(\mathcal{M}+1)$] == us[$\mathcal{M}$]]

[SystemQ **rule** US0: us[0] == xs[0] + +01]

[SystemQ **rule** ExpZero: $\Pi \mathcal{M}, \mathcal{X}\colon \mathcal{M} = 0 \vdash \mathcal{X}(\text{exp})\mathcal{M} = 1$]

[SystemQ **rule** ExpPositive: $\Pi \mathcal{M}, \mathcal{X}\colon 0 < \mathcal{M} \vdash \mathcal{X}(\text{exp})\mathcal{M} = (\mathcal{X} * \mathcal{X}(\text{exp})((\mathcal{M} - 1)))$]

[SystemQ **rule** BSzero: $\Pi \mathcal{M}, \mathcal{N}\colon \mathcal{N} = 0 \vdash \text{BS}(\mathcal{M}, \mathcal{N}) = 1/2(\text{exp})\mathcal{M}$]

[SystemQ **rule** BSpositive: $\Pi\mathcal{M},\mathcal{N}\colon 0 < \mathcal{N} \vdash \mathrm{BS}(\mathcal{M},\mathcal{N}) = (1/2(\exp)((\mathcal{M} + \mathcal{N})) + \mathrm{BS}(\mathcal{M},(\mathcal{N}-1)))$]

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[SystemQ **rule** UStelescope(Zero): $\Pi\mathcal{M},\mathcal{N}\colon \mathcal{N} = 0 \vdash \mathrm{UStelescope}(\mathcal{M},\mathcal{N}) = |(\mathrm{us}[\mathcal{M}] - \mathrm{us}[(\mathcal{M}+1)])|$]

[SystemQ **rule** UStelescope(Positive): $\Pi\mathcal{M},\mathcal{N}\colon 0 < \mathcal{N} \vdash \mathrm{UStelescope}(\mathcal{M},\mathcal{N}) = (|(\mathrm{us}[(\mathcal{M}+\mathcal{N})] - \mathrm{us}[(\mathcal{M} + ((\mathcal{N}+1)))])| + \mathrm{UStelescope}(\mathcal{M},(\mathcal{N}-1)))$]

[(x) $\ddot{=}$ (x)]

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[SystemQ **rule** EqAddition(R): $\Pi\mathrm{FX},\mathrm{FY},\mathrm{FZ}\colon \mathrm{R(FX)} = \mathrm{R(FY)} \vdash \mathrm{R(FX)} + +\mathrm{R(FZ)} = \mathrm{R(FY)} + +\mathrm{R(FZ)}$]

[SystemQ **rule** PlusCommutativity(R): $\Pi\mathrm{FX},\mathrm{FY}\colon \mathrm{R(FX)}{+}{+}\mathrm{R(FY)} == \mathrm{R(FY)} +\mathrm{R(FX)}$]

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[SystemQ **rule** PlusAssociativity(R): $\Pi\mathrm{FX},\mathrm{FY},\mathrm{FZ}\colon \mathrm{R(FX)}{+}{+}\mathrm{R(FY)}{+}{+}\mathrm{R(FZ)}$ $\mathrm{R(FX)} + +(\mathrm{R(FY)} + +\mathrm{R(FZ)})$]

[SystemQ **rule** PlusAssociativity(R)XX: $\Pi\mathrm{FX},\mathrm{FY},\mathrm{FZ}\colon \mathrm{R}(\mathrm{FX}{+_\mathrm{f}}\mathrm{FY}{+_\mathrm{f}}\mathrm{FZ}) == \mathrm{R}(\mathrm{FX} +_\mathrm{f} (\mathrm{FY} +_\mathrm{f} \mathrm{FZ}))$]

[SystemQ **rule** Plus0(R): $\Pi\mathrm{FX}\colon \mathrm{R(FX)} + +00 == \mathrm{R(FX)}$]

[SystemQ **rule** Negative(R): $\Pi\mathcal{M},\mathrm{FX}\colon \mathrm{R(FX)} + +(- - \mathrm{R(FX)}) == 00$]

[SystemQ **rule** TimesAssociativity(R): $\Pi\mathrm{FX},\mathrm{FY},\mathrm{FZ}\colon \mathrm{R(FX)}{*}{*}\mathrm{R(FY)}{*}{*}\mathrm{R(FZ)}$ $\mathrm{R(FX)} * *(\mathrm{R(FY)} * *\mathrm{R(FZ)})$]

[SystemQ **rule** Times1(R): $\Pi\mathrm{FX}\colon \mathrm{R(FX)} * *01 == \mathrm{R(FX)}$]

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Priority table

Preassociative

[kvanti], [base], [bracket $*$ end bracket], [big bracket $*$ end bracket], [\$ $*$ \$], [**flush left** [$*$]], [x], [y], [z], [[$* \bowtie *$]], [[$* \stackrel{*}{\to} *$]], [pyk], [tex], [name], [prio], [$*$], [T], [if($*,*,*$)], [[$* \stackrel{*}{\Rightarrow} *$]], [val], [claim], [$\bot$], [f($*$)], [$(*)^{\mathrm{I}}$], [F], [$\underline{0}$], [$\underline{1}$], [$\underline{2}$], [$\underline{3}$], [$\underline{4}$], [$\underline{5}$], [$\underline{6}$], [$\underline{7}$], [$\underline{8}$], [$\underline{9}$], [0], [1], [2], [3], [4], [5], [6], [7], [8], [9], [a], [b], [c], [d], [e], [f], [g], [h], [i], [j], [k], [l], [m], [n], [o], [p], [q], [r], [s], [t], [u], [v], [w], [$(*)^{\mathrm{M}}$], [If($*,*,*$)], [array{$*$} $*$ end array], [l], [c], [r], [empty], [$\langle * \mid * := * \rangle$], [$\mathcal{M}(*)$], [$\tilde{\mathcal{U}}(*)$], [$\mathcal{U}(*)$], [$\mathcal{U}^{\mathrm{M}}(*)$], [**apply**($*,*$)], [$\mathbf{apply}_1(*,*)$], [identifier($*$)], [$\mathrm{identifier}_1(*,*)$], [array-plus($*,*$)], [array-remove($*,*,*$)], [array-put($*,*,*,*$)], [array-add($*,*,*,*,*$)], [bit($*,*$)], [$\mathrm{bit}_1(*,*)$], [rack], ["vector"], ["bibliography"], ["dictionary"], ["body"], ["codex"], ["expansion"], ["code"], ["cache"], ["diagnose"], ["pyk"], ["tex"], ["texname"], ["value"], ["message"], ["macro"], ["definition"], ["unpack"], ["claim"], ["priority"], ["lambda"], ["apply"], ["true"], ["if"], ["quote"], ["proclaim"], ["define"], ["introduce"], ["hide"], ["pre"], ["post"], [$\mathcal{E}(*,*,*)$], [$\mathcal{E}_2(*,*,*,*,*)$], [$\mathcal{E}_3(*,*,*,*)$], [$\mathcal{E}_4(*,*,*,*)$], [**lookup**($*,*,*$)], [**abstract**($*,*,*,*$)], [[$\lceil *$]], [$\mathcal{M}(*,*,*)$], [$\mathcal{M}_2(*,*,*,*)$], [$\mathcal{M}^*(*,*,*)$], [macro], [s_0], [**zip**($*,*$)], [$\mathbf{assoc}_1(*,*,*)$], [$(*)^{\mathrm{P}}$], [self], [[$* \ddot{=} *$]], [[$* \doteq *$]], [[$* \stackrel{.}{=} *$]], [[$* \stackrel{\mathrm{pyk}}{=} *$]], [[$* \stackrel{\mathrm{tex}}{=} *$]], [[$* \stackrel{\mathrm{name}}{=} *$]], [**Priority table**[$*$]], [$\tilde{\mathcal{M}}_1$], [$\tilde{\mathcal{M}}_2(*)$], [$\tilde{\mathcal{M}}_3(*)$],

$[\tilde{\mathcal{M}}_4(*,*,*,*)]$, $[\tilde{\mathcal{M}}(*,*,*)]$, $[\tilde{\mathcal{Q}}(*,*,*)]$, $[\tilde{\mathcal{Q}}_2(*,*,*)]$, $[\tilde{\mathcal{Q}}_3(*,*,*,*)]$, $[\tilde{\mathcal{Q}}^*(*,*,*)]$, $[(*)]$, $[(*)]$, $[\text{display}(*)]$, $[\text{statement}(*)]$, $[[*]^\cdot]$, $[[*]^-]$, $[\textbf{aspect}(*,*)]$, $[\textbf{aspect}(*,*,*)]$, $[\langle * \rangle]$, $[\textbf{tuple}_1(*)]$, $[\textbf{tuple}_2(*)]$, $[\text{let}_2(*,*)]$, $[\text{let}_1(*,*)]$, $[[* \stackrel{\text{claim}}{=} *]]$, $[\text{checker}]$, $[\textbf{check}(*,*)]$, $[\textbf{check}_2(*,*,*)]$, $[\textbf{check}_3(*,*,*)]$, $[\textbf{check}^*(*,*)]$, $[\textbf{check}_2^*(*,*,*)]$, $[[*]^\cdot]$, $[[*]^-]$, $[[*]^\circ]$, $[\text{msg}]$, $[[* \stackrel{\text{msg}}{=} *]]$, $[<\text{stmt}>]$, $[\text{stmt}]$, $[[* \stackrel{\text{stmt}}{=} *]]$, $[\text{HeadNil}']$, $[\text{HeadPair}']$, $[\text{Transitivity}']$, $[\perp\!\!\!\perp]$, $[\text{Contra}']$, $[\text{T}'_{\text{E}}]$, $[\text{L}_1]$, $[\underline{*}]$, $[\mathcal{A}]$, $[\mathcal{B}]$, $[\mathcal{C}]$, $[\mathcal{D}]$, $[\mathcal{E}]$, $[\mathcal{F}]$, $[\mathcal{G}]$, $[\mathcal{H}]$, $[\mathcal{I}]$, $[\mathcal{J}]$, $[\mathcal{K}]$, $[\mathcal{L}]$, $[\mathcal{M}]$, $[\mathcal{N}]$, $[\mathcal{O}]$, $[\mathcal{P}]$, $[\mathcal{Q}]$, $[\mathcal{R}]$, $[\mathcal{S}]$, $[\mathcal{T}]$, $[\mathcal{U}]$, $[\mathcal{V}]$, $[\mathcal{W}]$, $[\mathcal{X}]$, $[\mathcal{Y}]$, $[\mathcal{Z}]$, $[\langle * \mid * := * \rangle]$, $[\langle^* * \mid * := * \rangle]$, $[\emptyset]$, $[\text{Remainder}]$, $[(*)^{\mathbf{v}}]$, $[\text{intro}(*,*,*,*)]$, $[\text{intro}(*,*,*)]$, $[\text{error}(*,*)]$, $[\text{error}_2(*,*)]$, $[\text{proof}(*,*,*)]$, $[\text{proof}_2(*,*)]$, $[\mathcal{S}(*,*)]$, $[\mathcal{S}^{\text{I}}(*,*)]$, $[\mathcal{S}^{\rhd}(*,*)]$, $[\mathcal{S}_1^{\rhd}(*,*,*)]$, $[\mathcal{S}^{\text{E}}(*,*)]$, $[\mathcal{S}_1^{\text{E}}(*,*,*)]$, $[\mathcal{S}^+(*,*)]$, $[\mathcal{S}_1^+(*,*,*)]$, $[\mathcal{S}^-(*,*)]$, $[\mathcal{S}_1^-(*,*,*)]$, $[\mathcal{S}^*(*,*)]$, $[\mathcal{S}_1^*(*,*,*)]$, $[\mathcal{S}_2^*(*,*,*,*)]$, $[\mathcal{S}^{@}(*,*)]$, $[\mathcal{S}_1^{@}(*,*,*)]$, $[\mathcal{S}^{\vdash}(*,*)]$, $[\mathcal{S}_1^{\vdash}(*,*,*,*)]$, $[\mathcal{S}^{\Vdash}(*,*)]$, $[\mathcal{S}_1^{\Vdash}(*,*,*,*)]$, $[\mathcal{S}^{\text{i.e.}}(*,*)]$, $[\mathcal{S}_1^{\text{i.e.}}(*,*,*,*)]$, $[\mathcal{S}_2^{\text{i.e.}}(*,*,*,*,*)]$, $[\mathcal{S}^{\forall}(*,*)]$, $[\mathcal{S}_1^{\forall}(*,*,*,*)]$, $[\mathcal{S}^{;}(*,*)]$, $[\mathcal{S}_1^{;}(*,*,*)]$, $[\mathcal{S}_2^{;}(*,*,*,*)]$, $[\mathcal{T}(*)]$, $[\text{claims}(*,*,*)]$, $[\text{claims}_2(*,*,*)]$, $[<\text{proof}>]$, $[\text{proof}]$, $[[\textbf{Lemma } * \colon *]]$, $[[\textbf{Proof of } * \colon *]]$, $[[* \textbf{ lemma } * \colon *]]$, $[[* \textbf{ antilemma } * \colon *]]$, $[[* \textbf{ rule } * \colon *]]$, $[[* \textbf{ antirule } * \colon *]]$, $[\text{verifier}]$, $[\mathcal{V}_1(*)]$, $[\mathcal{V}_2(*,*)]$, $[\mathcal{V}_3(*,*,*,*)]$, $[\mathcal{V}_4(*,*)]$, $[\mathcal{V}_5(*,*,*,*)]$, $[\mathcal{V}_6(*,*,*,*)]$, $[\mathcal{V}_7(*,*,*,*)]$, $[\text{Cut}(*,*)]$, $[\text{Head}_{\oplus}(*)]$, $[\text{Tail}_{\oplus}(*)]$, $[\text{rule}_1(*,*)]$, $[\text{rule}(*,*)]$, $[\text{Rule tactic}]$, $[\text{Plus}(*,*)]$, $[[\textbf{Theory } *]]$, $[\text{theory}_2(*,*)]$, $[\text{theory}_3(*,*)]$, $[\text{theory}_4(*,*,*)]$, $[\text{HeadNil}'']$, $[\text{HeadPair}'']$, $[\text{Transitivity}'']$, $[\text{Contra}'']$, $[\text{HeadNil}]$, $[\text{HeadPair}]$, $[\text{Transitivity}]$, $[\text{Contra}]$, $[\text{T}_{\text{E}}]$, $[\text{ragged right}]$, $[\text{ragged right expansion }]$, $[\text{parm}(*,*,*)]$, $[\text{parm}^*(*,*,*)]$, $[\text{inst}(*,*)]$, $[\text{inst}^*(*,*)]$, $[\text{occur}(*,*,*)]$, $[\text{occur}^*(*,*,*)]$, $[\text{unify}(* = *,*)]$, $[\text{unify}^*(* = *,*)]$, $[\text{unify}_2(* = *,*)]$, $[\text{L}_{\text{a}}]$, $[\text{L}_{\text{b}}]$, $[\text{L}_{\text{c}}]$, $[\text{L}_{\text{d}}]$, $[\text{L}_{\text{e}}]$, $[\text{L}_{\text{f}}]$, $[\text{L}_{\text{g}}]$, $[\text{L}_{\text{h}}]$, $[\text{L}_{\text{i}}]$, $[\text{L}_{\text{j}}]$, $[\text{L}_{\text{k}}]$, $[\text{L}_{\text{l}}]$, $[\text{L}_{\text{m}}]$, $[\text{L}_{\text{n}}]$, $[\text{L}_{\text{o}}]$, $[\text{L}_{\text{p}}]$, $[\text{L}_{\text{q}}]$, $[\text{L}_{\text{r}}]$, $[\text{L}_{\text{s}}]$, $[\text{L}_{\text{t}}]$, $[\text{L}_{\text{u}}]$, $[\text{L}_{\text{v}}]$, $[\text{L}_{\text{w}}]$, $[\text{L}_{\text{x}}]$, $[\text{L}_{\text{y}}]$, $[\text{L}_{\text{z}}]$, $[\text{L}_{\text{A}}]$, $[\text{L}_{\text{B}}]$, $[\text{L}_{\text{C}}]$, $[\text{L}_{\text{D}}]$, $[\text{L}_{\text{E}}]$, $[\text{L}_{\text{F}}]$, $[\text{L}_{\text{G}}]$, $[\text{L}_{\text{H}}]$, $[\text{L}_{\text{I}}]$, $[\text{L}_{\text{J}}]$, $[\text{L}_{\text{K}}]$, $[\text{L}_{\text{L}}]$, $[\text{L}_{\text{M}}]$, $[\text{L}_{\text{N}}]$, $[\text{L}_{\text{O}}]$, $[\text{L}_{\text{P}}]$, $[\text{L}_{\text{Q}}]$, $[\text{L}_{\text{R}}]$, $[\text{L}_{\text{S}}]$, $[\text{L}_{\text{T}}]$, $[\text{L}_{\text{U}}]$, $[\text{L}_{\text{V}}]$, $[\text{L}_{\text{W}}]$, $[\text{L}_{\text{X}}]$, $[\text{L}_{\text{Y}}]$, $[\text{L}_{\text{Z}}]$, $[\text{L}_{?}]$, $[\text{Reflexivity}]$, $[\text{Reflexivity}_1]$, $[\text{Commutativity}]$, $[\text{Commutativity}_1]$, $[<\text{tactic}>]$, $[\text{tactic}]$, $[[* \stackrel{\text{tactic}}{=} *]]$, $[\mathcal{P}(*,*,*)]$, $[\mathcal{P}^*(*,*,*)]$, $[\text{p}_0]$, $[\text{conclude}_1(*,*)]$, $[\text{conclude}_2(*,*,*)]$, $[\text{conclude}_3(*,*,*,*)]$, $[\text{conclude}_4(*,*)]$, $[\text{check}]$, $[[* \stackrel{\circ}{=} *]]$, $[\text{RootVisible}(*)]$, $[\text{A}]$, $[\text{R}]$, $[\text{C}]$, $[\text{T}]$, $[\text{L}]$, $[\{*\}]$, $[\overline{*}]$, $[a]$, $[b]$, $[c]$, $[d]$, $[e]$, $[f]$, $[g]$, $[h]$, $[i]$, $[j]$, $[k]$, $[l]$, $[m]$, $[n]$, $[o]$, $[p]$, $[q]$, $[r]$, $[s]$, $[t]$, $[u]$, $[v]$, $[w]$, $[x]$, $[y]$, $[z]$, $[\langle * \equiv * \mid * := * \rangle]$, $[\langle * \equiv^0 * \mid * := * \rangle]$, $[\langle * \equiv^1 * \mid * := * \rangle]$, $[\langle * \equiv^* * \mid * := * \rangle]$, $[\text{Ded}(*,*)]$, $[\text{Ded}_0(*,*)]$, $[\text{Ded}_1(*,*,*)]$, $[\text{Ded}_2(*,*,*)]$, $[\text{Ded}_3(*,*,*,*)]$, $[\text{Ded}_4(*,*,*,*)]$, $[\text{Ded}_4^*(*,*,*,*)]$, $[\text{Ded}_5(*,*,*)]$, $[\text{Ded}_6(*,*,*,*)]$, $[\text{Ded}_6^*(*,*,*,*)]$, $[\text{Ded}_7(*)]$, $[\text{Ded}_8(*,*)]$, $[\text{Ded}_8^*(*,*)]$, [S], [Neg], [MP], [Gen], [Ded], [S1], [S2], [S3], [S4], [S5], [S6], [S7], [S8], [S9], [Repetition], $[\text{A1}']$, $[\text{A2}']$, $[\text{A4}']$, $[\text{A5}']$, [Prop 3.2a], [Prop 3.2b], [Prop 3.2c], [Prop 3.2d], $[\text{Prop 3.2e}_1]$, $[\text{Prop 3.2e}_2]$, [Prop 3.2e], $[\text{Prop 3.2f}_1]$, $[\text{Prop 3.2f}_2]$, [Prop 3.2f], $[\text{Prop 3.2g}_1]$, $[\text{Prop 3.2g}_2]$, [Prop 3.2g], $[\text{Prop 3.2h}_1]$, $[\text{Prop 3.2h}_2]$, [Prop 3.2h], $[\text{Block}_1(*,*,*)]$, $[\text{Block}_2(*)]$, [UniqueMember], [UniqueMember(Type)], [SameSeries], [A4], [SameMember], [Qclosed(Addition)], [Qclosed(Multiplication)], [FromCartProd(1)], [1rule fromCartProd(2)], $[\text{constantRationalSeries}(*)]$, $[\text{cartProd}(*)]$, $[\text{Power}(*)]$, $[\text{binaryUnion}(*,*)]$, [SetOfRationalSeries], $[\text{IsSubset}(*,*)]$, $[(\text{p}*,*)]$, $[(\text{s}*)]$, $[(\cdots)]$, [`Objekt-var`], [`Ex-var`], [`Ph-var`], [`Værdi`], [`Variabel`], $[\text{Op}(*)]$, $[\text{Op}(*,*)]$, $[* \mathrel{=\!\!:\!=} *]$, $[\text{ContainsEmpty}(*)]$, $[\text{Nat}(*)]$, $[\text{Dedu}(*,*)]$, $[\text{Dedu}_0(*,*)]$,

[$\mathrm{Dedu_s}(*,*,*)$], [$\mathrm{Dedu_1}(*,*,*)$], [$\mathrm{Dedu_2}(*,*,*)$], [$\mathrm{Dedu_3}(*,*,*,*)$], [$\mathrm{Dedu_4}(*,*,*,*)$], [$\mathrm{Dedu_4^*}(*,*,*,*)$], [$\mathrm{Dedu_5}(*,*,*)$], [$\mathrm{Dedu_6}(*,*,*,*)$], [$\mathrm{Dedu_6^*}(*,*,*,*)$], [$\mathrm{Dedu_7}(*)$], [$\mathrm{Dedu_8}(*,*)$], [$\mathrm{Dedu_8^*}(*,*)$], [$\mathrm{Ex_1}$], [$\mathrm{Ex_2}$], [Ex3], [$\mathrm{Ex_{10}}$], [$\mathrm{Ex_{20}}$], [$*_{\mathrm{Ex}}$], [$*^{\mathrm{Ex}}$], [$\langle * \equiv * \mid * :== * \rangle_{\mathrm{Ex}}$], [$\langle * \equiv^0 * \mid * :== * \rangle_{\mathrm{Ex}}$], [$\langle * \equiv^1 * \mid * :== * \rangle_{\mathrm{Ex}}$], [$\langle * \equiv^* * \mid * :== * \rangle_{\mathrm{Ex}}$], [$\mathrm{ph_1}$], [$\mathrm{ph_2}$], [$\mathrm{ph_3}$], [$*_{\mathrm{Ph}}$], [$*^{\mathrm{Ph}}$], [$\langle * \equiv * \mid * :== * \rangle_{\mathrm{Ph}}$], [$\langle * \equiv^0 * \mid * :== * \rangle_{\mathrm{Ph}}$], [$\langle * \equiv^1 * \mid * :== * \rangle_{\mathrm{Ph}}$], [$\langle * \equiv^* * \mid * :== * \rangle_{\mathrm{Ph}}$], [$\langle * \equiv * \mid * :== * \rangle_{\mathrm{Me}}$], [$\langle * \equiv^1 * \mid * :== * \rangle_{\mathrm{Me}}$], [$\langle * \equiv^* * \mid * :== * \rangle_{\mathrm{Me}}$], [bs], [OBS], [$\mathcal{BS}$], [Ø], [SystemQ], [MP], [Gen], [Repetition], [Neg], [Ded], [ExistIntro], [Extensionality], [Ødef], [PairDef], [UnionDef], [PowerDef], [SeparationDef], [AddDoubleNeg], [RemoveDoubleNeg], [AndCommutativity], [AutoImply], [Contrapositive], [FirstConjunct], [SecondConjunct], [FromContradiction], [FromDisjuncts], [IffCommutativity], [IffFirst], [IffSecond], [ImplyTransitivity], [JoinConjuncts], [MP2], [MP3], [MP4], [MP5], [MT], [NegativeMT], [Technicality], [Weakening], [WeakenOr1], [WeakenOr2], [Formula2Pair], [Pair2Formula], [Formula2Union], [Union2Formula], [Formula2Sep], [Sep2Formula], [Formula2Power], [SubsetInPower], [HelperPowerIsSub], [PowerIsSub], [(Switch)HelperPowerIsSub], [(Switch)PowerIsSub], [ToSetEquality], [HelperToSetEquality(t)], [ToSetEquality(t)], [HelperFromSetEquality], [FromSetEquality], [HelperReflexivity], [Reflexivity], [HelperSymmetry], [Symmetry], [HelperTransitivity], [Transitivity], [ERisReflexive], [ERisSymmetric], [ERisTransitive], [ØisSubset], [HelperMemberNotØ], [MemberNotØ], [HelperUniqueØ], [UniqueØ], [==Reflexivity], [==Symmetry], [Helper==Transitivity], [==Transitivity], [HelperTransferNotEq], [TransferNotEq], [HelperPairSubset], [Helper(2)PairSubset], [PairSubset], [SamePair], [SameSingleton], [UnionSubset], [SameUnion], [SeparationSubset], [SameSeparation], [SameBinaryUnion], [IntersectionSubset], [SameIntersection], [AutoMember], [HelperEqSysNotØ], [EqSysNotØ], [HelperEqSubset], [EqSubset], [HelperEqNecessary], [EqNecessary], [HelperNoneEqNecessary], [Helper(2)NoneEqNecessary], [NoneEqNecessary], [EqClassIsSubset], [EqClassesAreDisjoint], [AllDisjoint], [AllDisjointImply], [BSsubset], [Union(BS/R)subset], [UnionIdentity], [EqSysIsPartition], [(x1)], [(x2)], [(y1)], [(y2)], [(v1)], [(v2)], [(v3)], [(v4)], [(v2n)], [(m1)], [(m2)], [(n1)], [(n2)], [(n3)], [(ϵ)], [($\epsilon)_1$], [(ϵ2)], [(fep)], [(fx)], [(fy)], [(fz)], [(fu)], [(fv)], [(fw)], [(rx)], [(ry)], [(rz)], [(ru)], [(sx)], [(sx1)], [(sy)], [(sy1)], [(sz)], [(sz1)], [(su)], [(su1)], [(fxs)], [(fys)], [(crs1)], [(f1)], [(f2)], [(f3)], [(f4)], [(op1)], [(op2)], [(r1)], [(s1)], [(s2)], [$\mathrm{X_1}$], [$\mathrm{X_2}$], [$\mathrm{Y_1}$], [$\mathrm{Y_2}$], [$\mathrm{V_1}$], [$\mathrm{V_2}$], [$\mathrm{V_3}$], [$\mathrm{V_4}$], [$\mathrm{V_{2n}}$], [$\mathrm{M_1}$], [$\mathrm{M_2}$], [$\mathrm{N_1}$], [$\mathrm{N_2}$], [$\mathrm{N_3}$], [ϵ], [ϵ1], [ϵ2], [FX], [FY], [FZ], [FU], [FV], [FW], [FEP], [RX], [RY], [RZ], [RU], [(SX)], [(SX1)], [(SY)], [(SY1)], [(SZ)], [(SZ1)], [(SU)], [(SU1)], [FXS], [FYS], [(F1)], [(F2)], [(F3)], [(F4)], [(OP1)], [(OP2)], [(R1)], [(S1)], [(S2)], [(EPob)], [(CRS1ob)], [(F1ob)], [(F2ob)], [(F3ob)], [(F4ob)], [(N1ob)], [(N2ob)], [(OP1ob)], [(OP2ob)], [(R1ob)], [(S1ob)], [(S2ob)], [$\mathrm{ph_4}$], [$\mathrm{ph_5}$], [$\mathrm{ph_6}$], [NAT], [$\mathrm{RATIONAL_SERIES}$], [SERIES], [SetOfReals], [SetOfFxs], [N], [Q], [X], [xs], [xaF], [ysF], [us], [usFoelge], [0], [1], [(−1)], [2], [3], [1/2], [1/3], [2/3], [0f], [1f], [00], [01], [(− − 01)], [02], [01//02], [PlusAssociativity(R)], [PlusAssociativity(R)XX], [Plus0(R)], [Negative(R)], [Times1(R)], [lessAddition(R)], [PlusCommutativity(R)], [LeqAntisymmetry(R)], [LeqTransitivity(R)], [leqAddition(R)], [Distribution(R)], [A4(Axiom)], [InductionAxiom], [EqualityAxiom], [EqLeqAxiom], [EqAdditionAxiom], [EqMultiplicationAxiom], [QisClosed(Reciprocal)(Imply)], [QisClosed(Reciprocal)], [QisClosed(Negative)(Imply)], [QisClosed(Negative)], [leqReflexivity], [leqAntisymmetryAxiom], [leqTransitivityAxiom], [leqTotality], [leqAdditionAxiom], [leqMultiplicationAxiom], [plusAssociativity], [plusCommutativity], [Negative], [plus0], [timesAssociativity], [timesCommutativity], [ReciprocalAxiom], [times1], [Distribution], [0not1], [lemma eqLeq(R)], [TimesAssociativity(R)], [TimesCommutativity(R)], [(Adgic)SameR], [Separation2formula(1)], [Separation2formula(2)], [Cauchy], [PlusF], [ReciprocalF], [From ==], [To ==], [FromInR], [PlusR(Sym)], [ReciprocalR(Axiom)], [LessMinus1(N)], [Nonnegative(N)], [US0], [NextXS(UpperBound)], [NextXS(NoUpperBound)], [NextUS(UpperBound)], [NextUS(NoUpperBound)], [ExpZero], [ExpPositive], [ExpZero(R)], [ExpPositive(R)], [BSzero], [BSpositive], [UStelescope(Zero)], [UStelescope(Positive)], [EqAddition(R)], [FromLimit], [ToUpperBound], [FromUpperBound], [USisUpperBound], [0not1(R)], [ExpUnbounded(R)], [FromLeq(Advanced)(N)], [FromLeastUpperBound], [ToLeastUpperBound], [XSisNotUpperBound], [ysFGreater], [ysFLess], [SmallInverse], [NatType], [RationalType], [SeriesType], [Max], [Numerical], [NumericalF], [MemberOfSeries(Imply)], [JoinConjuncts(2conditions)], [prop lemma imply negation], [TND], [FromNegatedImply], [ToNegatedImply], [FromNegated(2 ∗ Imply)], [FromNegatedAnd], [FromNegatedOr], [ToNegatedOr], [FromNegations], [From3Disjuncts], [From2 ∗ 2Disjuncts], [NegateDisjunct1], [NegateDisjunct2], [ExpandDisjuncts], [SENC1], [SENC2], [LessLeq(R)], [MemberOfSeries], [memberOfSeries(Type)];

Preassociative

[∗_{∗}], [∗/indexintro(∗, ∗, ∗, ∗)], [∗/intro(∗, ∗, ∗)], [∗/bothintro(∗, ∗, ∗, ∗, ∗)], [∗/nameintro(∗, ∗, ∗, ∗)], [∗′], [∗[∗]], [∗[∗→∗]], [∗[∗⇒∗]], [∗0], [∗1], [0b], [∗-color(∗)], [∗-color*(∗)], [$*^{\mathrm{H}}$], [$*^{\mathrm{T}}$], [$*^{\mathrm{U}}$], [$*^{\mathrm{h}}$], [$*^{\mathrm{t}}$], [$*^{\mathrm{s}}$], [$*^{\mathrm{c}}$], [$*^{\mathrm{d}}$], [$*^{\mathrm{a}}$], [$*^{\mathrm{C}}$], [$*^{\mathrm{M}}$], [$*^{\mathrm{B}}$], [$*^{\mathrm{r}}$], [$*^{\mathrm{i}}$], [$*^{\mathrm{d}}$], [$*^{\mathrm{R}}$], [$*^{0}$], [$*^{1}$], [$*^{2}$], [$*^{3}$], [$*^{4}$], [$*^{5}$], [$*^{6}$], [$*^{7}$], [$*^{8}$], [$*^{9}$], [$*^{\mathrm{E}}$], [$*^{\mathcal{V}}$], [$*^{\mathcal{C}}$], [$*^{\mathcal{C}^*}$], [$*^{\mathrm{hide}}$];

Preassociative

[“ ∗ ”], [], [(∗)$^{\mathbf{t}}$], [string(∗) + ∗], [string(∗) ++ ∗], [
∗], [∗], [!∗], ["∗], [#∗], [$∗], [%∗], [&∗], [’∗], [(∗], [)∗], [∗∗], [+∗], [, ∗], [-∗], [.∗], [/∗], [0∗], [1∗], [2∗], [3∗], [4∗], [5∗], [6∗], [7∗], [8∗], [9∗], [:∗], [; ∗], [<∗], [=∗], [>∗], [?∗], [@∗], [A∗], [B∗], [C∗], [D∗], [E∗], [F∗], [G∗], [H∗], [I∗], [J∗], [K∗], [L∗], [M∗], [N∗], [O∗], [P∗], [Q∗], [R∗], [S∗], [T∗], [U∗], [V∗], [W∗], [X∗], [Y∗], [Z∗], [[∗], [\∗], []∗], [ˆ∗], [_∗], [‘∗], [a∗], [b∗], [c∗], [d∗], [e∗], [f∗], [g∗], [h∗], [i∗], [j∗], [k∗], [l∗], [m∗], [n∗], [o∗], [p∗], [q∗], [r∗], [s∗], [t∗], [u∗], [v∗], [w∗], [x∗], [y∗], [z∗], [{∗], [|∗], [}∗], [˜∗], [**Preassociative** ∗; ∗], [**Postassociative** ∗; ∗], [[∗], ∗], [priority ∗ end], [newline ∗], [macro newline ∗], [MacroIndent(∗)];

Preassociative

[∗ ’ ∗], [∗ ‘ ∗];

Preassociative

$[*(\mathrm{exp})*]$;

Preassociative

$[*'], [\mathrm{R}(*)], [--\mathrm{R}(*)], [\mathrm{rec}*]$;

Preassociative

$[*/*], [*\cap *], [*[*]]$;

Preassociative

$[\cup *], [*\cup *], [\mathrm{P}(*)]$;

Preassociative

$[\{*\}], [\mathrm{StateExpand}(*,*,*)], [\mathrm{extractSeries}(*)], [\mathrm{SetOfSeries}(*)], [--\mathrm{Macro}(*)],$
$[\mathrm{ExpandList}(*,*,*)], [**\mathrm{Macro}(*)], [++\mathrm{Macro}(*)], [<<\mathrm{Macro}(*)],$
$[||\mathrm{Macro}(*)], [01//\mathrm{Macro}(*)], [\mathrm{UB}(*,*)], [\mathrm{LUB}(*,*)], [\mathrm{BS}(*,*)],$
$[\mathrm{UStelescope}(*,*)], [(*)], [|\mathrm{f}*|], [|\mathrm{r}*|], [\mathrm{Limit}(*,*)], [\mathrm{Union}(*)],$
$[\mathrm{IsOrderedPair}(*,*,*)], [\mathrm{IsRelation}(*,*,*)], [\mathrm{isFunction}(*,*,*)], [\mathrm{IsSeries}(*,*)],$
$[\mathrm{IsNatural}(*,*)], [\mathrm{OrderedPair}(*,*)], [\mathrm{TypeNat}(*)], [\mathrm{TypeNat0}(*)],$
$[\mathrm{TypeRational}(*)], [\mathrm{TypeRational0}(*)], [\mathrm{TypeSeries}(*,*)], [\mathrm{Typeseries0}(*,*)]$;

Preassociative

$[\{*,*\}], [\langle *,*\rangle], [(-\mathrm{u}*)], [-_{\mathrm{f}}*], [(--*)], [1\mathrm{f}/*], [01//\mathrm{temp}*]$;

Preassociative

$[*(*,*)], [\mathrm{ReflRel}(*,*)], [\mathrm{SymRel}(*,*)], [\mathrm{TransRel}(*,*)], [\mathrm{EqRel}(*,*)], [[*\in *]_*],$
$[\mathrm{Partition}(*,*)]$;

Preassociative

$[*\cdot *], [*\cdot_0 *], [(***)], [**_{\mathrm{f}}*], [****]$;

Preassociative

$[*+*], [*+_0 *], [*+_1 *], [*-*], [*-_0 *], [*-_1 *], [(*+*)], [(*-*)], [*+_{\mathrm{f}}*],$
$[*-_{\mathrm{f}}*], [*++*], [\mathrm{R}(*)--\mathrm{R}(*)]$;

Preassociative

$[*\in *]$;

Preassociative

$[|*|], [\mathrm{if}(*,*,*)], [\mathrm{Max}(*,*)], [\mathrm{Max}(*,*)]$;

Preassociative

$[*=*], [*\neq *], [*<=*], [*<*], [*<_{\mathrm{f}}*], [*\leq_{\mathrm{f}}*], [\mathrm{SF}(*,*)], [*==*],$
$[*!!==*], [*<<*], [*<<==*]$;

Preassociative

$[*\cup\{*\}], [*\cup *], [*\backslash\{*\}]$;

Postassociative

$[*\therefore *], [*\underline{\therefore} *], [*\underline{::} *], [*\underline{+2*} *], [*::*], [*+2**]$;

Postassociative

$[*,*]$;

Preassociative

$[*\overset{\mathrm{B}}{\approx}*], [*\overset{\mathrm{D}}{\approx}*], [*\overset{\mathrm{C}}{\approx}*], [*\overset{\mathrm{P}}{\approx}*], [*\approx *], [*=*], [*\overset{+}{\to}*], [*\overset{\mathrm{t}}{=}*], [*\overset{\mathrm{t}^*}{=}*], [*\overset{\mathrm{r}}{=}*],$
$[*\in_{\mathrm{t}}*], [*\subseteq_{\mathrm{T}}*], [*\overset{\mathrm{T}}{=}*], [*\overset{\mathrm{s}}{=}*], [*\text{ free in }*], [*\text{ free in}^*\ *], [*\text{ free for }*\text{ in }*],$
$[*\text{ free for}^*\ *\text{ in }*], [*\in_{\mathrm{c}}*], [*<*], [*<'*], [*\leq' *], [*=*], [*\neq *], [*^{\mathrm{var}}],$
$[*\#^0*], [*\#^1*], [*\#^**], [*{=}{=}*], [*\subseteq *]$;

Preassociative

$[\neg *], [\dot{-}(*)\mathrm{n}], [*\notin *], [*\neq *]$;

Preassociative
$[* \wedge *], [* \ddot{\wedge} *], [* \tilde{\wedge} *], [* \wedge_{\mathrm{c}} *], [* \dot{\wedge} *];$
Preassociative
$[* \vee *], [* \parallel *], [* \ddot{\vee} *];$
Postassociative
$[* \dot{\vee} *];$
Preassociative
$[\exists *\colon *], [\forall *\colon *], [\forall_{\mathrm{obj}} *\colon *], [\exists *\colon *];$
Postassociative
$[* \ddot{\Rightarrow} *], [* \Rightarrow *], [* \Leftrightarrow *], [* \dot{\Leftrightarrow} *];$
Preassociative
$[\{\mathrm{ph} \in * \mid *\}];$
Postassociative
$[* : *], [* \text{ spy } *], [*!*];$
Preassociative
$[* \left\{ \begin{array}{c} * \\ * \end{array} \right.];$
Preassociative
$[\lambda * .*], [\Lambda * .*], [\Lambda *], [\textbf{if } * \textbf{ then } * \textbf{ else } *], [\textbf{let } * = * \textbf{ in } *], [\textbf{let } * \ddot{=} * \text{ in } *];$
Preassociative
$[*\#*];$
Preassociative
$[*^{\mathrm{I}}], [*^{\triangleright}], [*^{\mathrm{V}}], [*^{+}], [*^{-}], [*^{*}];$
Preassociative
$[* @ *], [* \triangleright *], [* \ntriangleright *], [* \gg *], [* \trianglerighteq *];$
Postassociative
$[* \vdash *], [* \Vdash *], [* \text{ i.e. } *];$
Preassociative
$[\forall *\colon *], [\Pi *\colon *];$
Postassociative
$[* \oplus *];$
Postassociative
$[*; *];$
Preassociative
$[* \text{ proves } *];$
Preassociative
$[* \textbf{ proof of } * : *], [\text{Line} * : * \gg *; *], [\text{Last line} * \gg * \square],$
$[\text{Line} * : \text{Premise} \gg *; *], [\text{Line} * : \text{Side-condition} \gg *; *], [\text{Arbitrary} \gg *; *],$
$[\text{Local} \gg * = *; *], [\text{Begin} *; * : \text{End}; *], [\text{Last block line} * \gg * ;],$
$[\text{Arbitrary} \gg *; *];$
Postassociative
$[* \mid *];$
Postassociative
$[* \,,\, *], [*[\, * \,]*];$
Preassociative
$[*\&*];$

Preassociative
[∗\\∗], [∗ linebreak[4] ∗], [∗\\∗]; **End table**

A Pyk definitioner

([UniqueMember $\stackrel{\text{pyk}}{\rightarrow}$ “lemma uniqueMember”]
[UniqueMember(Type) $\stackrel{\text{pyk}}{\rightarrow}$ “lemma uniqueMember(Type)”]
[SameSeries $\stackrel{\text{pyk}}{\rightarrow}$ “lemma sameSeries”]
[A4 $\stackrel{\text{pyk}}{\rightarrow}$ “lemma a4”]
[SameMember $\stackrel{\text{pyk}}{\rightarrow}$ “lemma sameMember”]
[Qclosed(Addition) $\stackrel{\text{pyk}}{\rightarrow}$ “1rule Qclosed(Addition)”]
[Qclosed(Multiplication) $\stackrel{\text{pyk}}{\rightarrow}$ “1rule Qclosed(Multiplication)”]
[FromCartProd(1) $\stackrel{\text{pyk}}{\rightarrow}$ “1rule fromCartProd(1)”]
[1rule fromCartProd(2) $\stackrel{\text{pyk}}{\rightarrow}$ “1rule fromCartProd(2)”]
[constantRationalSeries(∗) $\stackrel{\text{pyk}}{\rightarrow}$ “constantRationalSeries(")”]
[cartProd(∗) $\stackrel{\text{pyk}}{\rightarrow}$ “cartProd(" , ")”]
[Power(∗) $\stackrel{\text{pyk}}{\rightarrow}$ “P(")”]
[binaryUnion(∗, ∗) $\stackrel{\text{pyk}}{\rightarrow}$ “binaryUnion(" , ")”]
[SetOfRationalSeries $\stackrel{\text{pyk}}{\rightarrow}$ “setOfRationalSeries”]
[IsSubset(∗, ∗) $\stackrel{\text{pyk}}{\rightarrow}$ “isSubset(" , ")”]
[(p∗, ∗) $\stackrel{\text{pyk}}{\rightarrow}$ “(p " , ")”]
[(s∗) $\stackrel{\text{pyk}}{\rightarrow}$ “(s ")”]
[(· · ·) $\stackrel{\text{pyk}}{\rightarrow}$ “cdots”]
[`Objekt-var` $\stackrel{\text{pyk}}{\rightarrow}$ “object-var”]
[`Ex-var` $\stackrel{\text{pyk}}{\rightarrow}$ “ex-var”]
[`Ph-var` $\stackrel{\text{pyk}}{\rightarrow}$ “ph-var”]
[`Værdi` $\stackrel{\text{pyk}}{\rightarrow}$ “vaerdi”]
[`Variabel` $\stackrel{\text{pyk}}{\rightarrow}$ “variabel”]
[Op(∗) $\stackrel{\text{pyk}}{\rightarrow}$ “op " end op”]
[Op(∗, ∗) $\stackrel{\text{pyk}}{\rightarrow}$ “op2 " comma " end op2”]
[$* \stackrel{..}{==} *$ $\stackrel{\text{pyk}}{\rightarrow}$ “define-equal " comma " end equal”]
[ContainsEmpty(∗) $\stackrel{\text{pyk}}{\rightarrow}$ “contains-empty " end empty”]
[Nat(∗) $\stackrel{\text{pyk}}{\rightarrow}$ “Nat(")”]
[Dedu(∗, ∗) $\stackrel{\text{pyk}}{\rightarrow}$ “1deduction " conclude " end 1deduction”]
[Dedu$_0$(∗, ∗) $\stackrel{\text{pyk}}{\rightarrow}$ “1deduction zero " conclude " end 1deduction”]
[Dedu$_s$(∗, ∗, ∗) $\stackrel{\text{pyk}}{\rightarrow}$ “1deduction side " conclude " condition " end 1deduction”]

[$\mathrm{Dedu}_1(*,*,*) \stackrel{\mathrm{pyk}}{\rightarrow}$ “1deduction one " conclude " condition " end 1deduction”]

[$\mathrm{Dedu}_2(*,*,*) \stackrel{\mathrm{pyk}}{\rightarrow}$ “1deduction two " conclude " condition " end 1deduction”]

[$\mathrm{Dedu}_3(*,*,*,*) \stackrel{\mathrm{pyk}}{\rightarrow}$ “1deduction three " conclude " condition " bound " end 1deduction”]

[$\mathrm{Dedu}_4(*,*,*,*) \stackrel{\mathrm{pyk}}{\rightarrow}$ “1deduction four " conclude " condition " bound " end 1deduction”]

[$\mathrm{Dedu}_4^*(*,*,*,*) \stackrel{\mathrm{pyk}}{\rightarrow}$ “1deduction four star " conclude " condition " bound " end 1deduction”]

[$\mathrm{Dedu}_5(*,*,*) \stackrel{\mathrm{pyk}}{\rightarrow}$ “1deduction five " condition " bound " end 1deduction”]

[$\mathrm{Dedu}_6(*,*,*,*) \stackrel{\mathrm{pyk}}{\rightarrow}$ “1deduction six " conclude " exception " bound " end 1deduction”]

[$\mathrm{Dedu}_6^*(*,*,*,*) \stackrel{\mathrm{pyk}}{\rightarrow}$ “1deduction six star " conclude " exception " bound " end 1deduction”]

[$\mathrm{Dedu}_7(*) \stackrel{\mathrm{pyk}}{\rightarrow}$ “1deduction seven " end 1deduction”]

[$\mathrm{Dedu}_8(*,*) \stackrel{\mathrm{pyk}}{\rightarrow}$ “1deduction eight " bound " end 1deduction”]

[$\mathrm{Dedu}_8^*(*,*) \stackrel{\mathrm{pyk}}{\rightarrow}$ “1deduction eight star " bound " end 1deduction”]

[$\mathrm{Ex}_1 \stackrel{\mathrm{pyk}}{\rightarrow}$ “ex1”]

[$\mathrm{Ex}_2 \stackrel{\mathrm{pyk}}{\rightarrow}$ “ex2”]

[$\mathrm{Ex3} \stackrel{\mathrm{pyk}}{\rightarrow}$ “ex3”]

[$\mathrm{Ex}_{10} \stackrel{\mathrm{pyk}}{\rightarrow}$ “ex10”]

[$\mathrm{Ex}_{20} \stackrel{\mathrm{pyk}}{\rightarrow}$ “ex20”]

[$*_{\mathrm{Ex}} \stackrel{\mathrm{pyk}}{\rightarrow}$ “existential var " end var”]

[$*^{\mathrm{Ex}} \stackrel{\mathrm{pyk}}{\rightarrow}$ “" is existential var”]

[$\langle * \equiv * \,|\, * := = * \rangle_{\mathrm{Ex}} \stackrel{\mathrm{pyk}}{\rightarrow}$ “exist-sub " is " where " is " end sub”]

[$\langle * \equiv^0 * \,|\, * := = * \rangle_{\mathrm{Ex}} \stackrel{\mathrm{pyk}}{\rightarrow}$ “exist-sub0 " is " where " is " end sub”]

[$\langle * \equiv^1 * \,|\, * := = * \rangle_{\mathrm{Ex}} \stackrel{\mathrm{pyk}}{\rightarrow}$ “exist-sub1 " is " where " is " end sub”]

[$\langle * \equiv^* * \,|\, * := = * \rangle_{\mathrm{Ex}} \stackrel{\mathrm{pyk}}{\rightarrow}$ “exist-sub∗ " is " where " is " end sub”]

[$\mathrm{ph}_1 \stackrel{\mathrm{pyk}}{\rightarrow}$ “ph1”]

[$\mathrm{ph}_2 \stackrel{\mathrm{pyk}}{\rightarrow}$ “ph2”]

[$\mathrm{ph}_3 \stackrel{\mathrm{pyk}}{\rightarrow}$ “ph3”]

[$*_{\mathrm{Ph}} \stackrel{\mathrm{pyk}}{\rightarrow}$ “placeholder-var " end var”]

[$*^{\mathrm{Ph}} \stackrel{\mathrm{pyk}}{\rightarrow}$ “" is placeholder-var”]

[$\langle * \equiv * \,|\, * := = * \rangle_{\mathrm{Ph}} \stackrel{\mathrm{pyk}}{\rightarrow}$ “ph-sub " is " where " is " end sub”]

[$\langle * \equiv^0 * \,|\, * := = * \rangle_{\mathrm{Ph}} \stackrel{\mathrm{pyk}}{\rightarrow}$ “ph-sub0 " is " where " is " end sub”]

[$\langle * \equiv^1 * \,|\, * := = * \rangle_{\mathrm{Ph}} \stackrel{\mathrm{pyk}}{\rightarrow}$ “ph-sub1 " is " where " is " end sub”]

[$\langle * \equiv^* * \,|\, * := = * \rangle_{\mathrm{Ph}} \stackrel{\mathrm{pyk}}{\rightarrow}$ “ph-sub∗ " is " where " is " end sub”]

[$\langle * \equiv * \mid * := = * \rangle_{\mathrm{Me}} \stackrel{\mathrm{pyk}}{\to}$ "meta-sub " is " where " is " end sub"]
[$\langle * \equiv^1 * \mid * := = * \rangle_{\mathrm{Me}} \stackrel{\mathrm{pyk}}{\to}$ "meta-sub1 " is " where " is " end sub"]
[$\langle * \equiv^* * \mid * := = * \rangle_{\mathrm{Me}} \stackrel{\mathrm{pyk}}{\to}$ "meta-sub* " is " where " is " end sub"]
[$\mathsf{bs} \stackrel{\mathrm{pyk}}{\to}$ "var big set"]
[$\mathsf{OBS} \stackrel{\mathrm{pyk}}{\to}$ "object big set"]
[$\mathcal{BS} \stackrel{\mathrm{pyk}}{\to}$ "meta big set"]
[$\emptyset \stackrel{\mathrm{pyk}}{\to}$ "zermelo empty set"]
[SystemQ $\stackrel{\mathrm{pyk}}{\to}$ "system Q"]
[MP $\stackrel{\mathrm{pyk}}{\to}$ "1rule mp"]
[Gen $\stackrel{\mathrm{pyk}}{\to}$ "1rule gen"]
[Repetition $\stackrel{\mathrm{pyk}}{\to}$ "1rule repetition"]
[Neg $\stackrel{\mathrm{pyk}}{\to}$ "1rule ad absurdum"]
[Ded $\stackrel{\mathrm{pyk}}{\to}$ "1rule deduction"]
[ExistIntro $\stackrel{\mathrm{pyk}}{\to}$ "1rule exist intro"]
[Extensionality $\stackrel{\mathrm{pyk}}{\to}$ "axiom extensionality"]
[Ødef $\stackrel{\mathrm{pyk}}{\to}$ "axiom empty set"]
[PairDef $\stackrel{\mathrm{pyk}}{\to}$ "axiom pair definition"]
[UnionDef $\stackrel{\mathrm{pyk}}{\to}$ "axiom union definition"]
[PowerDef $\stackrel{\mathrm{pyk}}{\to}$ "axiom power definition"]
[SeparationDef $\stackrel{\mathrm{pyk}}{\to}$ "axiom separation definition"]
[AddDoubleNeg $\stackrel{\mathrm{pyk}}{\to}$ "prop lemma add double neg"]
[RemoveDoubleNeg $\stackrel{\mathrm{pyk}}{\to}$ "prop lemma remove double neg"]
[AndCommutativity $\stackrel{\mathrm{pyk}}{\to}$ "prop lemma and commutativity"]
[AutoImply $\stackrel{\mathrm{pyk}}{\to}$ "prop lemma auto imply"]
[Contrapositive $\stackrel{\mathrm{pyk}}{\to}$ "prop lemma contrapositive"]
[FirstConjunct $\stackrel{\mathrm{pyk}}{\to}$ "prop lemma first conjunct"]
[SecondConjunct $\stackrel{\mathrm{pyk}}{\to}$ "prop lemma second conjunct"]
[FromContradiction $\stackrel{\mathrm{pyk}}{\to}$ "prop lemma from contradiction"]
[FromDisjuncts $\stackrel{\mathrm{pyk}}{\to}$ "prop lemma from disjuncts"]
[IffCommutativity $\stackrel{\mathrm{pyk}}{\to}$ "prop lemma iff commutativity"]
[IffFirst $\stackrel{\mathrm{pyk}}{\to}$ "prop lemma iff first"]
[IffSecond $\stackrel{\mathrm{pyk}}{\to}$ "prop lemma iff second"]
[ImplyTransitivity $\stackrel{\mathrm{pyk}}{\to}$ "prop lemma imply transitivity"]
[JoinConjuncts $\stackrel{\mathrm{pyk}}{\to}$ "prop lemma join conjuncts"]
[MP2 $\stackrel{\mathrm{pyk}}{\to}$ "prop lemma mp2"]

[MP3 $\stackrel{\text{pyk}}{\rightarrow}$ "prop lemma mp3"]
[MP4 $\stackrel{\text{pyk}}{\rightarrow}$ "prop lemma mp4"]
[MP5 $\stackrel{\text{pyk}}{\rightarrow}$ "prop lemma mp5"]
[MT $\stackrel{\text{pyk}}{\rightarrow}$ "prop lemma mt"]
[NegativeMT $\stackrel{\text{pyk}}{\rightarrow}$ "prop lemma negative mt"]
[Technicality $\stackrel{\text{pyk}}{\rightarrow}$ "prop lemma technicality"]
[Weakening $\stackrel{\text{pyk}}{\rightarrow}$ "prop lemma weakening"]
[WeakenOr1 $\stackrel{\text{pyk}}{\rightarrow}$ "prop lemma weaken or first"]
[WeakenOr2 $\stackrel{\text{pyk}}{\rightarrow}$ "prop lemma weaken or second"]
[Formula2Pair $\stackrel{\text{pyk}}{\rightarrow}$ "lemma formula2pair"]
[Pair2Formula $\stackrel{\text{pyk}}{\rightarrow}$ "lemma pair2formula"]
[Formula2Union $\stackrel{\text{pyk}}{\rightarrow}$ "lemma formula2union"]
[Union2Formula $\stackrel{\text{pyk}}{\rightarrow}$ "lemma union2formula"]
[Formula2Sep $\stackrel{\text{pyk}}{\rightarrow}$ "lemma formula2separation"]
[Sep2Formula $\stackrel{\text{pyk}}{\rightarrow}$ "lemma separation2formula"]
[Formula2Power $\stackrel{\text{pyk}}{\rightarrow}$ "lemma formula2power"]
[SubsetInPower $\stackrel{\text{pyk}}{\rightarrow}$ "lemma subset in power set"]
[HelperPowerIsSub $\stackrel{\text{pyk}}{\rightarrow}$ "lemma power set is subset0"]
[PowerIsSub $\stackrel{\text{pyk}}{\rightarrow}$ "lemma power set is subset"]
[(Switch)HelperPowerIsSub $\stackrel{\text{pyk}}{\rightarrow}$ "lemma power set is subset0-switch"]
[(Switch)PowerIsSub $\stackrel{\text{pyk}}{\rightarrow}$ "lemma power set is subset-switch"]
[ToSetEquality $\stackrel{\text{pyk}}{\rightarrow}$ "lemma set equality suff condition"]
[HelperToSetEquality(t) $\stackrel{\text{pyk}}{\rightarrow}$ "lemma set equality suff condition(t)0"]
[ToSetEquality(t) $\stackrel{\text{pyk}}{\rightarrow}$ "lemma set equality suff condition(t)"]
[HelperFromSetEquality $\stackrel{\text{pyk}}{\rightarrow}$ "lemma set equality skip quantifier"]
[FromSetEquality $\stackrel{\text{pyk}}{\rightarrow}$ "lemma set equality nec condition"]
[HelperReflexivity $\stackrel{\text{pyk}}{\rightarrow}$ "lemma reflexivity0"]
[Reflexivity $\stackrel{\text{pyk}}{\rightarrow}$ "lemma reflexivity"]
[HelperSymmetry $\stackrel{\text{pyk}}{\rightarrow}$ "lemma symmetry0"]
[Symmetry $\stackrel{\text{pyk}}{\rightarrow}$ "lemma symmetry"]
[HelperTransitivity $\stackrel{\text{pyk}}{\rightarrow}$ "lemma transitivity0"]
[Transitivity $\stackrel{\text{pyk}}{\rightarrow}$ "lemma transitivity"]
[ERisReflexive $\stackrel{\text{pyk}}{\rightarrow}$ "lemma er is reflexive"]
[ERisSymmetric $\stackrel{\text{pyk}}{\rightarrow}$ "lemma er is symmetric"]
[ERisTransitive $\stackrel{\text{pyk}}{\rightarrow}$ "lemma er is transitive"]

[ØisSubset $\stackrel{\text{pyk}}{\to}$ “lemma empty set is subset”]

[HelperMemberNotØ $\stackrel{\text{pyk}}{\to}$ “lemma member not empty0”]

[MemberNotØ $\stackrel{\text{pyk}}{\to}$ “lemma member not empty”]

[HelperUniqueØ $\stackrel{\text{pyk}}{\to}$ “lemma unique empty set0”]

[UniqueØ $\stackrel{\text{pyk}}{\to}$ “lemma unique empty set”]

[==Reflexivity $\stackrel{\text{pyk}}{\to}$ “lemma ==Reflexivity”]

[==Symmetry $\stackrel{\text{pyk}}{\to}$ “lemma ==Symmetry”]

[Helper==Transitivity $\stackrel{\text{pyk}}{\to}$ “lemma ==Transitivity0”]

[==Transitivity $\stackrel{\text{pyk}}{\to}$ “lemma ==Transitivity”]

[HelperTransferNotEq $\stackrel{\text{pyk}}{\to}$ “lemma transfer ˜is0”]

[TransferNotEq $\stackrel{\text{pyk}}{\to}$ “lemma transfer ˜is”]

[HelperPairSubset $\stackrel{\text{pyk}}{\to}$ “lemma pair subset0”]

[Helper(2)PairSubset $\stackrel{\text{pyk}}{\to}$ “lemma pair subset1”]

[PairSubset $\stackrel{\text{pyk}}{\to}$ “lemma pair subset”]

[SamePair $\stackrel{\text{pyk}}{\to}$ “lemma same pair”]

[SameSingleton $\stackrel{\text{pyk}}{\to}$ “lemma same singleton”]

[UnionSubset $\stackrel{\text{pyk}}{\to}$ “lemma union subset”]

[SameUnion $\stackrel{\text{pyk}}{\to}$ “lemma same union”]

[SeparationSubset $\stackrel{\text{pyk}}{\to}$ “lemma separation subset”]

[SameSeparation $\stackrel{\text{pyk}}{\to}$ “lemma same separation”]

[SameBinaryUnion $\stackrel{\text{pyk}}{\to}$ “lemma same binary union”]

[IntersectionSubset $\stackrel{\text{pyk}}{\to}$ “lemma intersection subset”]

[SameIntersection $\stackrel{\text{pyk}}{\to}$ “lemma same intersection”]

[AutoMember $\stackrel{\text{pyk}}{\to}$ “lemma auto member”]

[HelperEqSysNotØ $\stackrel{\text{pyk}}{\to}$ “lemma eq-system not empty0”]

[EqSysNotØ $\stackrel{\text{pyk}}{\to}$ “lemma eq-system not empty”]

[HelperEqSubset $\stackrel{\text{pyk}}{\to}$ “lemma eq subset0”]

[EqSubset $\stackrel{\text{pyk}}{\to}$ “lemma eq subset”]

[HelperEqNecessary $\stackrel{\text{pyk}}{\to}$ “lemma equivalence nec condition0”]

[EqNecessary $\stackrel{\text{pyk}}{\to}$ “lemma equivalence nec condition”]

[HelperNoneEqNecessary $\stackrel{\text{pyk}}{\to}$ “lemma none-equivalence nec condition0”]

[Helper(2)NoneEqNecessary $\stackrel{\text{pyk}}{\to}$ “lemma none-equivalence nec condition1”]

[NoneEqNecessary $\stackrel{\text{pyk}}{\to}$ “lemma none-equivalence nec condition”]

[EqClassIsSubset $\stackrel{\text{pyk}}{\to}$ “lemma equivalence class is subset”]

[EqClassesAreDisjoint $\stackrel{\text{pyk}}{\to}$ “lemma equivalence classes are disjoint”]

[AllDisjoint $\stackrel{\text{pyk}}{\to}$ “lemma all disjoint”]

[AllDisjointImply $\stackrel{\text{pyk}}{\to}$ “lemma all disjoint-imply”]

[BSsubset $\stackrel{\text{pyk}}{\to}$ “lemma bs subset union(bs/r)”]

[Union(BS/R)subset $\stackrel{\text{pyk}}{\to}$ “lemma union(bs/r) subset bs”]

[UnionIdentity $\stackrel{\text{pyk}}{\to}$ “lemma union(bs/r) is bs”]

[EqSysIsPartition $\stackrel{\text{pyk}}{\to}$ “theorem eq-system is partition”]

[(x1) $\stackrel{\text{pyk}}{\to}$ “var x1”]

[(x2) $\stackrel{\text{pyk}}{\to}$ “var x2”]

[(y1) $\stackrel{\text{pyk}}{\to}$ “var y1”]

[(y2) $\stackrel{\text{pyk}}{\to}$ “var y2”]

[(v1) $\stackrel{\text{pyk}}{\to}$ “var v1”]

[(v2) $\stackrel{\text{pyk}}{\to}$ “var v2”]

[(v3) $\stackrel{\text{pyk}}{\to}$ “var v3”]

[(v4) $\stackrel{\text{pyk}}{\to}$ “var v4”]

[(v2n) $\stackrel{\text{pyk}}{\to}$ “var v2n”]

[(m1) $\stackrel{\text{pyk}}{\to}$ “var m1”]

[(m2) $\stackrel{\text{pyk}}{\to}$ “var m2”]

[(n1) $\stackrel{\text{pyk}}{\to}$ “var n1”]

[(n2) $\stackrel{\text{pyk}}{\to}$ “var n2”]

[(n3) $\stackrel{\text{pyk}}{\to}$ “var n3”]

[(ϵ) $\stackrel{\text{pyk}}{\to}$ “var ep”]

[$(\epsilon)_1$ $\stackrel{\text{pyk}}{\to}$ “var ep1”]

[$(\epsilon 2)$ $\stackrel{\text{pyk}}{\to}$ “var ep2”]

[(fep) $\stackrel{\text{pyk}}{\to}$ “var fep”]

[(fx) $\stackrel{\text{pyk}}{\to}$ “var fx”]

[(fy) $\stackrel{\text{pyk}}{\to}$ “var fy”]

[(fz) $\stackrel{\text{pyk}}{\to}$ “var fz”]

[(fu) $\stackrel{\text{pyk}}{\to}$ “var fu”]

[(fv) $\stackrel{\text{pyk}}{\to}$ “var fv”]

[(fw) $\stackrel{\text{pyk}}{\to}$ “var fw”]

[(rx) $\stackrel{\text{pyk}}{\to}$ “var rx”]

[(ry) $\stackrel{\text{pyk}}{\to}$ “var ry”]

[(rz) $\stackrel{\text{pyk}}{\to}$ “var rz”]

[(ru) $\stackrel{\text{pyk}}{\to}$ “var ru”]

[(sx) $\stackrel{\text{pyk}}{\to}$ “var sx”]

$[(\mathrm{sx1}) \stackrel{\mathrm{pyk}}{\rightarrow}$ "var sx1"]

$[(\mathrm{sy}) \stackrel{\mathrm{pyk}}{\rightarrow}$ "var sy"]

$[(\mathrm{sy1}) \stackrel{\mathrm{pyk}}{\rightarrow}$ "var sy1"]

$[(\mathrm{sz}) \stackrel{\mathrm{pyk}}{\rightarrow}$ "var sz"]

$[(\mathrm{sz1}) \stackrel{\mathrm{pyk}}{\rightarrow}$ "var sz1"]

$[(\mathrm{su}) \stackrel{\mathrm{pyk}}{\rightarrow}$ "var su"]

$[(\mathrm{su1}) \stackrel{\mathrm{pyk}}{\rightarrow}$ "var su1"]

$[(\mathrm{fxs}) \stackrel{\mathrm{pyk}}{\rightarrow}$ "var fxs"]

$[(\mathrm{fys}) \stackrel{\mathrm{pyk}}{\rightarrow}$ "var fys"]

$[(\mathrm{crs1}) \stackrel{\mathrm{pyk}}{\rightarrow}$ "var crs1"]

$[(\mathrm{f1}) \stackrel{\mathrm{pyk}}{\rightarrow}$ "var f1"]

$[(\mathrm{f2}) \stackrel{\mathrm{pyk}}{\rightarrow}$ "var f2"]

$[(\mathrm{f3}) \stackrel{\mathrm{pyk}}{\rightarrow}$ "var f3"]

$[(\mathrm{f4}) \stackrel{\mathrm{pyk}}{\rightarrow}$ "var f4"]

$[(\mathrm{op1}) \stackrel{\mathrm{pyk}}{\rightarrow}$ "var op1"]

$[(\mathrm{op2}) \stackrel{\mathrm{pyk}}{\rightarrow}$ "var op2"]

$[(\mathrm{r1}) \stackrel{\mathrm{pyk}}{\rightarrow}$ "var r1"]

$[(\mathrm{s1}) \stackrel{\mathrm{pyk}}{\rightarrow}$ "var s1"]

$[(\mathrm{s2}) \stackrel{\mathrm{pyk}}{\rightarrow}$ "var s2"]

$[\mathrm{X}_1 \stackrel{\mathrm{pyk}}{\rightarrow}$ "meta x1"]

$[\mathrm{X}_2 \stackrel{\mathrm{pyk}}{\rightarrow}$ "meta x2"]

$[\mathrm{Y}_1 \stackrel{\mathrm{pyk}}{\rightarrow}$ "meta y1"]

$[\mathrm{Y}_2 \stackrel{\mathrm{pyk}}{\rightarrow}$ "meta y2"]

$[\mathrm{V}_1 \stackrel{\mathrm{pyk}}{\rightarrow}$ "meta v1"]

$[\mathrm{V}_2 \stackrel{\mathrm{pyk}}{\rightarrow}$ "meta v2"]

$[\mathrm{V}_3 \stackrel{\mathrm{pyk}}{\rightarrow}$ "meta v3"]

$[\mathrm{V}_4 \stackrel{\mathrm{pyk}}{\rightarrow}$ "meta v4"]

$[\mathrm{V}_{2\mathrm{n}} \stackrel{\mathrm{pyk}}{\rightarrow}$ "meta v2n"]

$[\mathrm{M}_1 \stackrel{\mathrm{pyk}}{\rightarrow}$ "meta m1"]

$[\mathrm{M}_2 \stackrel{\mathrm{pyk}}{\rightarrow}$ "meta m2"]

$[\mathrm{N}_1 \stackrel{\mathrm{pyk}}{\rightarrow}$ "meta n1"]

$[\mathrm{N}_2 \stackrel{\mathrm{pyk}}{\rightarrow}$ "meta n2"]

$[\mathrm{N}_3 \stackrel{\mathrm{pyk}}{\rightarrow}$ "meta n3"]

$[\epsilon \stackrel{\mathrm{pyk}}{\rightarrow}$ "meta ep"]

$[\epsilon 1 \stackrel{\mathrm{pyk}}{\rightarrow}$ "meta ep1"]

[ϵ2 $\stackrel{\text{pyk}}{\rightarrow}$ "meta ep2"]

[FX $\stackrel{\text{pyk}}{\rightarrow}$ "meta fx"]

[FY $\stackrel{\text{pyk}}{\rightarrow}$ "meta fy"]

[FZ $\stackrel{\text{pyk}}{\rightarrow}$ "meta fz"]

[FU $\stackrel{\text{pyk}}{\rightarrow}$ "meta fu"]

[FV $\stackrel{\text{pyk}}{\rightarrow}$ "meta fv"]

[FW $\stackrel{\text{pyk}}{\rightarrow}$ "meta fw"]

[FEP $\stackrel{\text{pyk}}{\rightarrow}$ "meta fep"]

[RX $\stackrel{\text{pyk}}{\rightarrow}$ "meta rx"]

[RY $\stackrel{\text{pyk}}{\rightarrow}$ "meta ry"]

[RZ $\stackrel{\text{pyk}}{\rightarrow}$ "meta rz"]

[RU $\stackrel{\text{pyk}}{\rightarrow}$ "meta ru"]

[(SX) $\stackrel{\text{pyk}}{\rightarrow}$ "meta sx"]

[(SX1) $\stackrel{\text{pyk}}{\rightarrow}$ "meta sx1"]

[(SY) $\stackrel{\text{pyk}}{\rightarrow}$ "meta sy"]

[(SY1) $\stackrel{\text{pyk}}{\rightarrow}$ "meta sy1"]

[(SZ) $\stackrel{\text{pyk}}{\rightarrow}$ "meta sz"]

[(SZ1) $\stackrel{\text{pyk}}{\rightarrow}$ "meta sz1"]

[(SU) $\stackrel{\text{pyk}}{\rightarrow}$ "meta su"]

[(SU1) $\stackrel{\text{pyk}}{\rightarrow}$ "meta su1"]

[FXS $\stackrel{\text{pyk}}{\rightarrow}$ "meta fxs"]

[FYS $\stackrel{\text{pyk}}{\rightarrow}$ "meta fys"]

[(F1) $\stackrel{\text{pyk}}{\rightarrow}$ "meta f1"]

[(F2) $\stackrel{\text{pyk}}{\rightarrow}$ "meta f2"]

[(F3) $\stackrel{\text{pyk}}{\rightarrow}$ "meta f3"]

[(F4) $\stackrel{\text{pyk}}{\rightarrow}$ "meta f4"]

[(OP1) $\stackrel{\text{pyk}}{\rightarrow}$ "meta op1"]

[(OP2) $\stackrel{\text{pyk}}{\rightarrow}$ "meta op2"]

[(R1) $\stackrel{\text{pyk}}{\rightarrow}$ "meta r1"]

[(S1) $\stackrel{\text{pyk}}{\rightarrow}$ "meta s1"]

[(S2) $\stackrel{\text{pyk}}{\rightarrow}$ "meta s2"]

[(EPob) $\stackrel{\text{pyk}}{\rightarrow}$ "object ep"]

[(CRS1ob) $\stackrel{\text{pyk}}{\rightarrow}$ "object crs1"]

[(F1ob) $\stackrel{\text{pyk}}{\rightarrow}$ "object f1"]

[(F2ob) $\stackrel{\text{pyk}}{\rightarrow}$ "object f2"]

$[(F3ob) \stackrel{\text{pyk}}{\to}$ "object f3"$]$

$[(F4ob) \stackrel{\text{pyk}}{\to}$ "object f4"$]$

$[(N1ob) \stackrel{\text{pyk}}{\to}$ "object n1"$]$

$[(N2ob) \stackrel{\text{pyk}}{\to}$ "object n2"$]$

$[(OP1ob) \stackrel{\text{pyk}}{\to}$ "object op1"$]$

$[(OP2ob) \stackrel{\text{pyk}}{\to}$ "object op2"$]$

$[(R1ob) \stackrel{\text{pyk}}{\to}$ "object r1"$]$

$[(S1ob) \stackrel{\text{pyk}}{\to}$ "object s1"$]$

$[(S2ob) \stackrel{\text{pyk}}{\to}$ "object s2"$]$

$[ph_4 \stackrel{\text{pyk}}{\to}$ "ph4"$]$

$[ph_5 \stackrel{\text{pyk}}{\to}$ "ph5"$]$

$[ph_6 \stackrel{\text{pyk}}{\to}$ "ph6"$]$

$[NAT \stackrel{\text{pyk}}{\to}$ "NAT"$]$

$[RATIONAL_SERIES \stackrel{\text{pyk}}{\to}$ "RATIONAL_SERIES"$]$

$[SERIES \stackrel{\text{pyk}}{\to}$ "SERIES"$]$

$[SetOfReals \stackrel{\text{pyk}}{\to}$ "setOfReals"$]$

$[SetOfFxs \stackrel{\text{pyk}}{\to}$ "setOfFxs"$]$

$[N \stackrel{\text{pyk}}{\to}$ "N"$]$

$[Q \stackrel{\text{pyk}}{\to}$ "Q"$]$

$[X \stackrel{\text{pyk}}{\to}$ "X"$]$

$[xs \stackrel{\text{pyk}}{\to}$ "xs"$]$

$[xaF \stackrel{\text{pyk}}{\to}$ "xsF"$]$

$[ysF \stackrel{\text{pyk}}{\to}$ "ysF"$]$

$[us \stackrel{\text{pyk}}{\to}$ "us"$]$

$[usFoelge \stackrel{\text{pyk}}{\to}$ "usF"$]$

$[0 \stackrel{\text{pyk}}{\to}$ "0"$]$

$[1 \stackrel{\text{pyk}}{\to}$ "1"$]$

$[(-1) \stackrel{\text{pyk}}{\to}$ "(-1)"$]$

$[2 \stackrel{\text{pyk}}{\to}$ "2"$]$

$[3 \stackrel{\text{pyk}}{\to}$ "3"$]$

$[1/2 \stackrel{\text{pyk}}{\to}$ "1/2"$]$

$[1/3 \stackrel{\text{pyk}}{\to}$ "1/3"$]$

$[2/3 \stackrel{\text{pyk}}{\to}$ "2/3"$]$

$[0f \stackrel{\text{pyk}}{\to}$ "0f"$]$

$[1f \stackrel{\text{pyk}}{\to}$ "1f"$]$

[00 $\stackrel{\text{pyk}}{\rightarrow}$ "00"]
[01 $\stackrel{\text{pyk}}{\rightarrow}$ "01"]
[(− − 01) $\stackrel{\text{pyk}}{\rightarrow}$ "(--01)"]
[02 $\stackrel{\text{pyk}}{\rightarrow}$ "02"]
[01//02 $\stackrel{\text{pyk}}{\rightarrow}$ "01//02"]
[PlusAssociativity(R) $\stackrel{\text{pyk}}{\rightarrow}$ "lemma plusAssociativity(R)"]
[PlusAssociativity(R)XX $\stackrel{\text{pyk}}{\rightarrow}$ "lemma plusAssociativity(R)XX"]
[Plus0(R) $\stackrel{\text{pyk}}{\rightarrow}$ "lemma plus0(R)"]
[Negative(R) $\stackrel{\text{pyk}}{\rightarrow}$ "lemma negative(R)"]
[Times1(R) $\stackrel{\text{pyk}}{\rightarrow}$ "lemma times1(R)"]
[lessAddition(R) $\stackrel{\text{pyk}}{\rightarrow}$ "lemma lessAddition(R)"]
[PlusCommutativity(R) $\stackrel{\text{pyk}}{\rightarrow}$ "lemma plusCommutativity(R)"]
[LeqAntisymmetry(R) $\stackrel{\text{pyk}}{\rightarrow}$ "lemma leqAntisymmetry(R)"]
[LeqTransitivity(R) $\stackrel{\text{pyk}}{\rightarrow}$ "lemma leqTransitivity(R)"]
[leqAddition(R) $\stackrel{\text{pyk}}{\rightarrow}$ "lemma leqAddition(R)"]
[Distribution(R) $\stackrel{\text{pyk}}{\rightarrow}$ "lemma distribution(R)"]
[A4(Axiom) $\stackrel{\text{pyk}}{\rightarrow}$ "axiom a4"]
[InductionAxiom $\stackrel{\text{pyk}}{\rightarrow}$ "axiom induction"]
[EqualityAxiom $\stackrel{\text{pyk}}{\rightarrow}$ "axiom equality"]
[EqLeqAxiom $\stackrel{\text{pyk}}{\rightarrow}$ "axiom eqLeq"]
[EqAdditionAxiom $\stackrel{\text{pyk}}{\rightarrow}$ "axiom eqAddition"]
[EqMultiplicationAxiom $\stackrel{\text{pyk}}{\rightarrow}$ "axiom eqMultiplication"]
[QisClosed(Reciprocal)(Imply) $\stackrel{\text{pyk}}{\rightarrow}$ "axiom QisClosed(reciprocal)"]
[QisClosed(Reciprocal) $\stackrel{\text{pyk}}{\rightarrow}$ "lemma QisClosed(reciprocal)"]
[QisClosed(Negative)(Imply) $\stackrel{\text{pyk}}{\rightarrow}$ "axiom QisClosed(negative)"]
[QisClosed(Negative) $\stackrel{\text{pyk}}{\rightarrow}$ "lemma QisClosed(negative)"]
[leqReflexivity $\stackrel{\text{pyk}}{\rightarrow}$ "axiom leqReflexivity"]
[leqAntisymmetryAxiom $\stackrel{\text{pyk}}{\rightarrow}$ "axiom leqAntisymmetry"]
[leqTransitivityAxiom $\stackrel{\text{pyk}}{\rightarrow}$ "axiom leqTransitivity"]
[leqTotality $\stackrel{\text{pyk}}{\rightarrow}$ "axiom leqTotality"]
[leqAdditionAxiom $\stackrel{\text{pyk}}{\rightarrow}$ "axiom leqAddition"]
[leqMultiplicationAxiom $\stackrel{\text{pyk}}{\rightarrow}$ "axiom leqMultiplication"]
[plusAssociativity $\stackrel{\text{pyk}}{\rightarrow}$ "axiom plusAssociativity"]
[plusCommutativity $\stackrel{\text{pyk}}{\rightarrow}$ "axiom plusCommutativity"]
[Negative $\stackrel{\text{pyk}}{\rightarrow}$ "axiom negative"]

[plus0 $\stackrel{\text{pyk}}{\rightarrow}$ "axiom plus0"]

[timesAssociativity $\stackrel{\text{pyk}}{\rightarrow}$ "axiom timesAssociativity"]

[timesCommutativity $\stackrel{\text{pyk}}{\rightarrow}$ "axiom timesCommutativity"]

[ReciprocalAxiom $\stackrel{\text{pyk}}{\rightarrow}$ "axiom reciprocal"]

[times1 $\stackrel{\text{pyk}}{\rightarrow}$ "axiom times1"]

[Distribution $\stackrel{\text{pyk}}{\rightarrow}$ "axiom distribution"]

[0not1 $\stackrel{\text{pyk}}{\rightarrow}$ "axiom 0not1"]

[lemma eqLeq(R) $\stackrel{\text{pyk}}{\rightarrow}$ "lemma eqLeq(R)"]

[TimesAssociativity(R) $\stackrel{\text{pyk}}{\rightarrow}$ "lemma timesAssociativity(R)"]

[TimesCommutativity(R) $\stackrel{\text{pyk}}{\rightarrow}$ "lemma timesCommutativity(R)"]

[(Adgic)SameR $\stackrel{\text{pyk}}{\rightarrow}$ "1rule adhoc sameR"]

[Separation2formula(1) $\stackrel{\text{pyk}}{\rightarrow}$ "lemma separation2formula(1)"]

[Separation2formula(2) $\stackrel{\text{pyk}}{\rightarrow}$ "lemma separation2formula(2)"]

[Cauchy $\stackrel{\text{pyk}}{\rightarrow}$ "axiom cauchy"]

[PlusF $\stackrel{\text{pyk}}{\rightarrow}$ "axiom plusF"]

[ReciprocalF $\stackrel{\text{pyk}}{\rightarrow}$ "axiom reciprocalF"]

[From ==$\stackrel{\text{pyk}}{\rightarrow}$ "1rule from=="]

[To ==$\stackrel{\text{pyk}}{\rightarrow}$ "1rule to=="]

[FromInR $\stackrel{\text{pyk}}{\rightarrow}$ "1rule fromInR"]

[PlusR(Sym) $\stackrel{\text{pyk}}{\rightarrow}$ "lemma plusR(Sym)"]

[ReciprocalR(Axiom) $\stackrel{\text{pyk}}{\rightarrow}$ "axiom reciprocalR"]

[LessMinus1(N) $\stackrel{\text{pyk}}{\rightarrow}$ "1rule lessMinus1(N)"]

[Nonnegative(N) $\stackrel{\text{pyk}}{\rightarrow}$ "axiom nonnegative(N)"]

[US0 $\stackrel{\text{pyk}}{\rightarrow}$ "axiom US0"]

[NextXS(UpperBound) $\stackrel{\text{pyk}}{\rightarrow}$ "1rule nextXS(upperBound)"]

[NextXS(NoUpperBound) $\stackrel{\text{pyk}}{\rightarrow}$ "1rule nextXS(noUpperBound)"]

[NextUS(UpperBound) $\stackrel{\text{pyk}}{\rightarrow}$ "1rule nextUS(upperBound)"]

[NextUS(NoUpperBound) $\stackrel{\text{pyk}}{\rightarrow}$ "1rule nextUS(noUpperBound)"]

[ExpZero $\stackrel{\text{pyk}}{\rightarrow}$ "1rule expZero"]

[ExpPositive $\stackrel{\text{pyk}}{\rightarrow}$ "1rule expPositive"]

[ExpZero(R) $\stackrel{\text{pyk}}{\rightarrow}$ "1rule expZero(R)"]

[ExpPositive(R) $\stackrel{\text{pyk}}{\rightarrow}$ "1rule expPositive(R)"]

[BSzero $\stackrel{\text{pyk}}{\rightarrow}$ "1rule base(1/2)Sum zero"]

[BSpositive $\stackrel{\text{pyk}}{\rightarrow}$ "1rule base(1/2)Sum positive"]

[UStelescope(Zero) $\stackrel{\text{pyk}}{\rightarrow}$ "1rule UStelescope zero"]

[UStelescope(Positive) $\stackrel{\text{pyk}}{\rightarrow}$ "1rule UStelescope positive"]
[EqAddition(R) $\stackrel{\text{pyk}}{\rightarrow}$ "1rule adhoc eqAddition(R)"]
[FromLimit $\stackrel{\text{pyk}}{\rightarrow}$ "1rule fromLimit"]
[ToUpperBound $\stackrel{\text{pyk}}{\rightarrow}$ "1rule toUpperBound"]
[FromUpperBound $\stackrel{\text{pyk}}{\rightarrow}$ "1rule fromUpperBound"]
[USisUpperBound $\stackrel{\text{pyk}}{\rightarrow}$ "axiom USisUpperBound"]
[0not1(R) $\stackrel{\text{pyk}}{\rightarrow}$ "axiom 0not1(R)"]
[ExpUnbounded(R) $\stackrel{\text{pyk}}{\rightarrow}$ "1rule expUnbounded"]
[FromLeq(Advanced)(N) $\stackrel{\text{pyk}}{\rightarrow}$ "1rule fromLeq(Advanced)(N)"]
[FromLeastUpperBound $\stackrel{\text{pyk}}{\rightarrow}$ "1rule fromLeastUpperBound"]
[ToLeastUpperBound $\stackrel{\text{pyk}}{\rightarrow}$ "1rule toLeastUpperBound"]
[XSisNotUpperBound $\stackrel{\text{pyk}}{\rightarrow}$ "axiom XSisNotUpperBound"]
[ysFGreater $\stackrel{\text{pyk}}{\rightarrow}$ "axiom ysFGreater"]
[ysFLess $\stackrel{\text{pyk}}{\rightarrow}$ "axiom ysFLess"]
[SmallInverse $\stackrel{\text{pyk}}{\rightarrow}$ "1rule smallInverse"]
[NatType $\stackrel{\text{pyk}}{\rightarrow}$ "axiom natType"]
[RationalType $\stackrel{\text{pyk}}{\rightarrow}$ "axiom rationalType"]
[SeriesType $\stackrel{\text{pyk}}{\rightarrow}$ "axiom seriesType"]
[Max $\stackrel{\text{pyk}}{\rightarrow}$ "axiom max"]
[Numerical $\stackrel{\text{pyk}}{\rightarrow}$ "axiom numerical"]
[NumericalF $\stackrel{\text{pyk}}{\rightarrow}$ "axiom numericalF"]
[MemberOfSeries(Imply) $\stackrel{\text{pyk}}{\rightarrow}$ "axiom memberOfSeries"]
[JoinConjuncts(2conditions) $\stackrel{\text{pyk}}{\rightarrow}$ "prop lemma doubly conditioned join conjuncts"]
[prop lemma imply negation $\stackrel{\text{pyk}}{\rightarrow}$ "prop lemma imply negation"]
[TND $\stackrel{\text{pyk}}{\rightarrow}$ "prop lemma tertium non datur"]
[FromNegatedImply $\stackrel{\text{pyk}}{\rightarrow}$ "prop lemma from negated imply"]
[ToNegatedImply $\stackrel{\text{pyk}}{\rightarrow}$ "prop lemma to negated imply"]
[FromNegated(2 $*$ Imply) $\stackrel{\text{pyk}}{\rightarrow}$ "prop lemma from negated double imply"]
[FromNegatedAnd $\stackrel{\text{pyk}}{\rightarrow}$ "prop lemma from negated and"]
[FromNegatedOr $\stackrel{\text{pyk}}{\rightarrow}$ "prop lemma from negated or"]
[ToNegatedOr $\stackrel{\text{pyk}}{\rightarrow}$ "prop lemma to negated or"]
[FromNegations $\stackrel{\text{pyk}}{\rightarrow}$ "prop lemma from negations"]
[From3Disjuncts $\stackrel{\text{pyk}}{\rightarrow}$ "prop lemma from three disjuncts"]
[From2 $*$ 2Disjuncts $\stackrel{\text{pyk}}{\rightarrow}$ "prop lemma from two times two disjuncts"]

[NegateDisjunct1 $\stackrel{\text{pyk}}{\rightarrow}$ “prop lemma negate first disjunct”]

[NegateDisjunct2 $\stackrel{\text{pyk}}{\rightarrow}$ “prop lemma negate second disjunct”]

[ExpandDisjuncts $\stackrel{\text{pyk}}{\rightarrow}$ “prop lemma expand disjuncts”]

[SENC1 $\stackrel{\text{pyk}}{\rightarrow}$ “lemma set equality nec condition(1)”]

[SENC2 $\stackrel{\text{pyk}}{\rightarrow}$ “lemma set equality nec condition(2)”]

[LessLeq(R) $\stackrel{\text{pyk}}{\rightarrow}$ “lemma lessLeq(R)”]

[MemberOfSeries $\stackrel{\text{pyk}}{\rightarrow}$ “lemma memberOfSeries”]

[memberOfSeries(Type) $\stackrel{\text{pyk}}{\rightarrow}$ “lemma memberOfSeries(Type)”]

[$*$(exp)$*$ $\stackrel{\text{pyk}}{\rightarrow}$ “" ^ "”]

[R($*$) $\stackrel{\text{pyk}}{\rightarrow}$ “R(")”]

[$--$ R($*$) $\stackrel{\text{pyk}}{\rightarrow}$ “--R(")”]

[rec$*$ $\stackrel{\text{pyk}}{\rightarrow}$ “1/ "”]

[$*/*$ $\stackrel{\text{pyk}}{\rightarrow}$ “eq-system of " modulo "”]

[$* \cap *$ $\stackrel{\text{pyk}}{\rightarrow}$ “intersection " comma " end intersection”]

[$*[*]$ $\stackrel{\text{pyk}}{\rightarrow}$ “[" ; "]”]

[$\cup*$ $\stackrel{\text{pyk}}{\rightarrow}$ “union " end union”]

[$* \cup *$ $\stackrel{\text{pyk}}{\rightarrow}$ “binary-union " comma " end union”]

[P($*$) $\stackrel{\text{pyk}}{\rightarrow}$ “power " end power”]

[$\{*\}$ $\stackrel{\text{pyk}}{\rightarrow}$ “zermelo singleton " end singleton”]

[StateExpand($*, *, *$) $\stackrel{\text{pyk}}{\rightarrow}$ “stateExpand(" , " , ")”]

[extractSeries($*$) $\stackrel{\text{pyk}}{\rightarrow}$ “extractSeries(")”]

[SetOfSeries($*$) $\stackrel{\text{pyk}}{\rightarrow}$ “setOfSeries(")”]

[$--$ Macro($*$) $\stackrel{\text{pyk}}{\rightarrow}$ “--Macro(")”]

[ExpandList($*, *, *$) $\stackrel{\text{pyk}}{\rightarrow}$ “expandList(" , " , ")”]

[$**$ Macro($*$) $\stackrel{\text{pyk}}{\rightarrow}$ “**Macro(")”]

[$++$ Macro($*$) $\stackrel{\text{pyk}}{\rightarrow}$ “++Macro(")”]

[$<<$ Macro($*$) $\stackrel{\text{pyk}}{\rightarrow}$ “<<Macro(")”]

[||Macro($*$) $\stackrel{\text{pyk}}{\rightarrow}$ “||Macro(")”]

[01//Macro($*$) $\stackrel{\text{pyk}}{\rightarrow}$ “01//Macro(")”]

[UB($*, *$) $\stackrel{\text{pyk}}{\rightarrow}$ “upperBound(" , ")”]

[LUB($*, *$) $\stackrel{\text{pyk}}{\rightarrow}$ “leastUpperBound(" , ")”]

[BS($*, *$) $\stackrel{\text{pyk}}{\rightarrow}$ “base(1/2)Sum(" , ")”]

[UStelescope($*, *$) $\stackrel{\text{pyk}}{\rightarrow}$ “UStelescope(" , ")”]

[($*$) $\stackrel{\text{pyk}}{\rightarrow}$ “(")”]

[|f $*$ | $\stackrel{\text{pyk}}{\rightarrow}$ “|f " |”]

[|r ∗ | $\stackrel{\text{pyk}}{\rightarrow}$ “|r " |”]

[Limit(∗, ∗) $\stackrel{\text{pyk}}{\rightarrow}$ “limit(" , ")”]

[Union(∗) $\stackrel{\text{pyk}}{\rightarrow}$ “U(")”]

[IsOrderedPair(∗, ∗, ∗) $\stackrel{\text{pyk}}{\rightarrow}$ “isOrderedPair(" , " , ")”]

[IsRelation(∗, ∗, ∗) $\stackrel{\text{pyk}}{\rightarrow}$ “isRelation(" , " , ")”]

[isFunction(∗, ∗, ∗) $\stackrel{\text{pyk}}{\rightarrow}$ “isFunction(" , " , ")”]

[IsSeries(∗, ∗) $\stackrel{\text{pyk}}{\rightarrow}$ “isSeries(" , ")”]

[IsNatural(∗, ∗) $\stackrel{\text{pyk}}{\rightarrow}$ “isNatural(")”]

[OrderedPair(∗, ∗) $\stackrel{\text{pyk}}{\rightarrow}$ “(o " , ")”]

[TypeNat(∗) $\stackrel{\text{pyk}}{\rightarrow}$ “typeNat(")”]

[TypeNat0(∗) $\stackrel{\text{pyk}}{\rightarrow}$ “typeNat0(")”]

[TypeRational(∗) $\stackrel{\text{pyk}}{\rightarrow}$ “typeRational(")”]

[TypeRational0(∗) $\stackrel{\text{pyk}}{\rightarrow}$ “typeRational0(")”]

[TypeSeries(∗, ∗) $\stackrel{\text{pyk}}{\rightarrow}$ “typeSeries(" , ")”]

[Typeseries0(∗, ∗) $\stackrel{\text{pyk}}{\rightarrow}$ “typeSeries0(" , ")”]

[{∗, ∗} $\stackrel{\text{pyk}}{\rightarrow}$ “zermelo pair " comma " end pair”]

[⟨∗, ∗⟩ $\stackrel{\text{pyk}}{\rightarrow}$ “zermelo ordered pair " comma " end pair”]

[(−u∗) $\stackrel{\text{pyk}}{\rightarrow}$ “- "”]

[$-_{\mathrm{f}}*$ $\stackrel{\text{pyk}}{\rightarrow}$ “-f "”]

[(− − ∗) $\stackrel{\text{pyk}}{\rightarrow}$ “-- "”]

[1f/∗ $\stackrel{\text{pyk}}{\rightarrow}$ “1f/ "”]

[01//temp∗ $\stackrel{\text{pyk}}{\rightarrow}$ “01// "”]

[∗(∗, ∗) $\stackrel{\text{pyk}}{\rightarrow}$ “" is related to " under "”]

[ReflRel(∗, ∗) $\stackrel{\text{pyk}}{\rightarrow}$ “" is reflexive relation in "”]

[SymRel(∗, ∗) $\stackrel{\text{pyk}}{\rightarrow}$ “" is symmetric relation in "”]

[TransRel(∗, ∗) $\stackrel{\text{pyk}}{\rightarrow}$ “" is transitive relation in "”]

[EqRel(∗, ∗) $\stackrel{\text{pyk}}{\rightarrow}$ “" is equivalence relation in "”]

[$[* \in *]_*$ $\stackrel{\text{pyk}}{\rightarrow}$ “equivalence class of " in " modulo "”]

[Partition(∗, ∗) $\stackrel{\text{pyk}}{\rightarrow}$ “" is partition of "”]

[(∗ ∗ ∗) $\stackrel{\text{pyk}}{\rightarrow}$ “" ∗ "”]

[$* *_{\mathrm{f}} *$ $\stackrel{\text{pyk}}{\rightarrow}$ “" ∗f "”]

[∗ ∗ ∗∗ $\stackrel{\text{pyk}}{\rightarrow}$ “" ∗∗ "”]

[(∗ + ∗) $\stackrel{\text{pyk}}{\rightarrow}$ “" + "”]

[(∗ − ∗) $\stackrel{\text{pyk}}{\rightarrow}$ “" - "”]

[$* +_{\mathrm{f}} *$ $\stackrel{\text{pyk}}{\rightarrow}$ “" +f "”]

$[* -_{\mathrm{f}} * \stackrel{\mathrm{pyk}}{\rightarrow}$ “" -f "”]

$[* ++ * \stackrel{\mathrm{pyk}}{\rightarrow}$ “" ++ "”]

$[\mathrm{R}(*) - -\mathrm{R}(*) \stackrel{\mathrm{pyk}}{\rightarrow}$ “R(") -- R(")”]

$[* \in * \stackrel{\mathrm{pyk}}{\rightarrow}$ “" in0 "”]

$[| * | \stackrel{\mathrm{pyk}}{\rightarrow}$ “| " |”]

$[\mathrm{if}(*, *, *) \stackrel{\mathrm{pyk}}{\rightarrow}$ “if(" , " , ")”]

$[\mathrm{Max}(*, *) \stackrel{\mathrm{pyk}}{\rightarrow}$ “max(" , ")”]

$[\mathrm{Max}(*, *) \stackrel{\mathrm{pyk}}{\rightarrow}$ “maxR(" , ")”]

$[* = * \stackrel{\mathrm{pyk}}{\rightarrow}$ “" = "”]

$[* \neq * \stackrel{\mathrm{pyk}}{\rightarrow}$ “" != "”]

$[* <= * \stackrel{\mathrm{pyk}}{\rightarrow}$ “" <= "”]

$[* < * \stackrel{\mathrm{pyk}}{\rightarrow}$ “" < "”]

$[* <_{\mathrm{f}} * \stackrel{\mathrm{pyk}}{\rightarrow}$ “" <f "”]

$[* \leq_{\mathrm{f}} * \stackrel{\mathrm{pyk}}{\rightarrow}$ “" <=f "”]

$[\mathrm{SF}(*, *) \stackrel{\mathrm{pyk}}{\rightarrow}$ “" sameF "”]

$[* == * \stackrel{\mathrm{pyk}}{\rightarrow}$ “" == "”]

$[*!! == * \stackrel{\mathrm{pyk}}{\rightarrow}$ “" !!== "”]

$[* << * \stackrel{\mathrm{pyk}}{\rightarrow}$ “" << "”]

$[* <<== * \stackrel{\mathrm{pyk}}{\rightarrow}$ “" <<== "”]

$[* {=}{=} * \stackrel{\mathrm{pyk}}{\rightarrow}$ “" zermelo is "”]

$[* \subseteq * \stackrel{\mathrm{pyk}}{\rightarrow}$ “" is subset of "”]

$[\dot{\neg}\,(*)\mathrm{n} \stackrel{\mathrm{pyk}}{\rightarrow}$ “not0 "”]

$[* \notin * \stackrel{\mathrm{pyk}}{\rightarrow}$ “" zermelo ~in "”]

$[* \neq * \stackrel{\mathrm{pyk}}{\rightarrow}$ “" zermelo ~is "”]

$[* \dot{\wedge} * \stackrel{\mathrm{pyk}}{\rightarrow}$ “" and0 "”]

$[* \dot{\vee} * \stackrel{\mathrm{pyk}}{\rightarrow}$ “" or0 "”]

$[\exists * \colon * \stackrel{\mathrm{pyk}}{\rightarrow}$ “exist0 " indeed "”]

$[* \dot{\Leftrightarrow} * \stackrel{\mathrm{pyk}}{\rightarrow}$ “" iff "”]

$[\{\mathrm{ph} \in * \mid *\} \stackrel{\mathrm{pyk}}{\rightarrow}$ “the set of ph in " such that " end set”]

$[\mathrm{kvanti} \stackrel{\mathrm{pyk}}{\rightarrow}$ “kvanti”]

$)^{\mathbf{P}}$

B TeX definitioner

[kvanti $\stackrel{\text{tex}}{=}$ "kvanti"]

[$(\cdots)$ $\stackrel{\text{tex}}{=}$ "(\cdots{})"]

[`Objekt-var` $\stackrel{\text{tex}}{=}$ "\texttt{Objekt-var}"]

[`Ex-var` $\stackrel{\text{tex}}{=}$ "\texttt{Ex-var}"]

[`Ph-var` $\stackrel{\text{tex}}{=}$ "\texttt{Ph-var}"]

[`Værdi` $\stackrel{\text{tex}}{=}$ "\texttt{V\ae{}rdi}"]

[`Variabel` $\stackrel{\text{tex}}{=}$ "\texttt{Variabel}"]

[Op(x) $\stackrel{\text{tex}}{=}$ "Op(#1.
)"]

[Op(x, y) $\stackrel{\text{tex}}{=}$ "Op(#1.
, #2.
)"]

[$\mathsf{x} \mathrel{\ddot{==}} \mathsf{y}$ $\stackrel{\text{tex}}{=}$ "#1.
\mathrel {\ddot {==}} #2."]

[ContainsEmpty(x) $\stackrel{\text{tex}}{=}$ "ContainsEmpty(#1.
)"]

[Dedu(x, y) $\stackrel{\text{tex}}{=}$ "
Dedu(#1.
, #2.
)"]

[$\text{Dedu}_0(\mathsf{x}, \mathsf{y})$ $\stackrel{\text{tex}}{=}$ "
Dedu_0(#1.
, #2.
)"]

[$\text{Dedu}_\text{s}(\mathsf{x}, \mathsf{y}, \mathsf{z})$ $\stackrel{\text{tex}}{=}$ "Dedu_{s}(#1.
, #2.
, #3.
)"]

[$\text{Dedu}_1(\mathsf{x}, \mathsf{y}, \mathsf{z})$ $\stackrel{\text{tex}}{=}$ "
Dedu_1(#1.
, #2.

, #3.
)"]

[$\text{Dedu}_2(\mathsf{x}, \mathsf{y}, \mathsf{z}) \stackrel{\text{tex}}{=}$ "
Dedu_2(#1.
, #2.
, #3.
)"]

[$\text{Dedu}_3(\mathsf{x}, \mathsf{y}, \mathsf{z}, \mathsf{u}) \stackrel{\text{tex}}{=}$ "
Dedu_3(#1.
, #2.
, #3.
, #4.
)"]

[$\text{Dedu}_4(\mathsf{x}, \mathsf{y}, \mathsf{z}, \mathsf{u}) \stackrel{\text{tex}}{=}$ "
Dedu_4(#1.
, #2.
, #3.
, #4.
)"]

[$\text{Dedu}^*_4(\mathsf{x}, \mathsf{y}, \mathsf{z}, \mathsf{u}) \stackrel{\text{tex}}{=}$ "
Dedu_4^∗(#1.
, #2.
, #3.
, #4.
)"]

[$\text{Dedu}_5(\mathsf{x}, \mathsf{y}, \mathsf{z}) \stackrel{\text{tex}}{=}$ "
Dedu_5(#1.
, #2.
, #3.
)"]

[$\text{Dedu}_6(\mathsf{p}, \mathsf{c}, \mathsf{e}, \mathsf{b}) \stackrel{\text{tex}}{=}$ "
Dedu_6(#1.
, #2.
, #3.
, #4.
)"]

[$\text{Dedu}^*_6(\mathsf{p}, \mathsf{c}, \mathsf{e}, \mathsf{b}) \stackrel{\text{tex}}{=}$ "
Dedu_6^∗(#1.
, #2.
, #3.

, #4.
)”]

[$\mathrm{Dedu}_7(\mathsf{p}) \stackrel{\text{tex}}{=}$ “
Dedu_7(#1.
)”]

[$\mathrm{Dedu}_8(\mathsf{p},\mathsf{b}) \stackrel{\text{tex}}{=}$ “
Dedu_8(#1.
, #2.
)”]

[$\mathrm{Dedu}_8^*(\mathsf{p},\mathsf{b}) \stackrel{\text{tex}}{=}$ “
Dedu_8ˆ∗(#1.
, #2.
)”]

[$\mathrm{Ex}_1 \stackrel{\text{tex}}{=}$ “Ex_{1}”]

[$\mathrm{Ex}_2 \stackrel{\text{tex}}{=}$ “Ex_{2}”]

[$\mathrm{Ex}_{10} \stackrel{\text{tex}}{=}$ “Ex_{10}”]

[$\mathrm{Ex}_{20} \stackrel{\text{tex}}{=}$ “Ex_{20}”]

[$\mathsf{x}_{\mathrm{Ex}} \stackrel{\text{tex}}{=}$ “#1.
_{Ex}”]

[$\mathsf{x}^{\mathrm{Ex}} \stackrel{\text{tex}}{=}$ “#1.
ˆ{Ex}”]

[$\langle \mathsf{x}{\equiv}\mathsf{y}|\mathsf{z}{:==}\mathsf{u}\rangle_{\mathrm{Ex}} \stackrel{\text{tex}}{=}$ “\langle #1.
{\equiv} #2.
| #3.
{:==} #4.
\rangle_{Ex} ”]

[$\langle \mathsf{x}{\equiv}^0\mathsf{y}|\mathsf{z}{:==}\mathsf{u}\rangle_{\mathrm{Ex}} \stackrel{\text{tex}}{=}$ “\langle #1.
{\equiv}ˆ0 #2.
| #3.
{:==} #4.
\rangle_{Ex} ”]

[$\langle \mathsf{x}{\equiv}^1\mathsf{y}|\mathsf{z}{:==}\mathsf{u}\rangle_{\mathrm{Ex}} \stackrel{\text{tex}}{=}$ “\langle #1.
{\equiv}ˆ1 #2.
| #3.
{:==} #4.
\rangle_{Ex} ”]

[$\langle \mathsf{x} \equiv^* \mathsf{y} | \mathsf{z} :== \mathsf{u} \rangle_{\mathrm{Ex}} \stackrel{\mathrm{tex}}{=}$ "\langle #1.
{\equiv}^* #2.
| #3.
{:==} #4.
\rangle_{Ex} "]

[$\mathrm{ph}_1 \stackrel{\mathrm{tex}}{=}$ "ph_{1}"]

[$\mathrm{ph}_2 \stackrel{\mathrm{tex}}{=}$ "ph_{2}"]

[$\mathrm{ph}_3 \stackrel{\mathrm{tex}}{=}$ "ph_{3}"]

[$\mathrm{ph}_4 \stackrel{\mathrm{tex}}{=}$ "ph_{4}"]

[$\mathrm{ph}_5 \stackrel{\mathrm{tex}}{=}$ "ph_{5}"]

[$\mathrm{ph}_6 \stackrel{\mathrm{tex}}{=}$ "ph_{6}"]

[$*_{\mathrm{Ph}} \stackrel{\mathrm{tex}}{=}$ "#1.
_{Ph} "]

[$\mathsf{x}^{\mathrm{Ph}} \stackrel{\mathrm{tex}}{=}$ "#1.
^{Ph}"]

[$\langle \mathsf{x} \equiv \mathsf{y} | \mathsf{z} :== \mathsf{u} \rangle_{\mathrm{Ph}} \stackrel{\mathrm{tex}}{=}$ "\langle #1.
{\equiv} #2.
| #3.
{:==} #4.
\rangle_{Ph} "]

[$\langle \mathsf{x} \equiv^0 \mathsf{y} | \mathsf{z} :== \mathsf{u} \rangle_{\mathrm{Ph}} \stackrel{\mathrm{tex}}{=}$ "\langle #1.
{\equiv}^0 #2.
| #3.
{:==} #4.
\rangle_{Ph} "]

[$\langle \mathsf{x} \equiv^1 \mathsf{y} | \mathsf{z} :== \mathsf{u} \rangle_{\mathrm{Ph}} \stackrel{\mathrm{tex}}{=}$ "\langle #1.
{\equiv}^1 #2.
| #3.
{:==} #4.
\rangle_{Ph} "]

[$\langle \mathsf{x} \equiv^* \mathsf{y} | \mathsf{z} :== \mathsf{u} \rangle_{\mathrm{Ph}} \stackrel{\mathrm{tex}}{=}$ "\langle #1.
{\equiv}^* #2.
| #3.
{:==} #4.
\rangle_{Ph} "]

[$\mathsf{bs} \stackrel{\text{tex}}{=}$ "\mathsf {bs}"]

[$\mathsf{OBS} \stackrel{\text{tex}}{=}$ " \mathsf {OBS}"]

[$\mathcal{BS} \stackrel{\text{tex}}{=}$ "{\cal BS}"]

[$\mathrm{\O} \stackrel{\text{tex}}{=}$ "\mathrm{\O}"]

[SystemQ $\stackrel{\text{tex}}{=}$ "SystemQ"]

[MP $\stackrel{\text{tex}}{=}$ "MP"]

[Gen $\stackrel{\text{tex}}{=}$ "Gen"]

[Repetition $\stackrel{\text{tex}}{=}$ "Repetition"]

[Neg $\stackrel{\text{tex}}{=}$ "Neg"]

[Ded $\stackrel{\text{tex}}{=}$ "Ded"]

[ExistIntro $\stackrel{\text{tex}}{=}$ "ExistIntro"]

[Extensionality $\stackrel{\text{tex}}{=}$ "Extensionality"]

[Ødef $\stackrel{\text{tex}}{=}$ "\O{}def"]

[PairDef $\stackrel{\text{tex}}{=}$ "PairDef"]

[UnionDef $\stackrel{\text{tex}}{=}$ "UnionDef"]

[PowerDef $\stackrel{\text{tex}}{=}$ "PowerDef"]

[SeparationDef $\stackrel{\text{tex}}{=}$ "SeparationDef"]

[AddDoubleNeg $\stackrel{\text{tex}}{=}$ "AddDoubleNeg"]

[RemoveDoubleNeg $\stackrel{\text{tex}}{=}$ "RemoveDoubleNeg"]

[AndCommutativity $\stackrel{\text{tex}}{=}$ "AndCommutativity"]

[AutoImply $\stackrel{\text{tex}}{=}$ "AutoImply"]

[Contrapositive $\stackrel{\text{tex}}{=}$ "Contrapositive"]

[FirstConjunct $\stackrel{\text{tex}}{=}$ "FirstConjunct"]

[SecondConjunct $\stackrel{\text{tex}}{=}$ "SecondConjunct"]

[FromContradiction $\stackrel{\text{tex}}{=}$ "FromContradiction"]

$[\text{FromDisjuncts} \stackrel{\text{tex}}{=} \text{“FromDisjuncts”}]$

$[\text{IffCommutativity} \stackrel{\text{tex}}{=} \text{“IffCommutativity”}]$

$[\text{IffFirst} \stackrel{\text{tex}}{=} \text{“IffFirst”}]$

$[\text{IffSecond} \stackrel{\text{tex}}{=} \text{“IffSecond”}]$

$[\text{ImplyTransitivity} \stackrel{\text{tex}}{=} \text{“ImplyTransitivity”}]$

$[\text{JoinConjuncts} \stackrel{\text{tex}}{=} \text{“JoinConjuncts”}]$

$[\text{MP2} \stackrel{\text{tex}}{=} \text{“MP2”}]$

$[\text{MP3} \stackrel{\text{tex}}{=} \text{“MP3”}]$

$[\text{MP4} \stackrel{\text{tex}}{=} \text{“MP4”}]$

$[\text{MP5} \stackrel{\text{tex}}{=} \text{“MP5”}]$

$[\text{MT} \stackrel{\text{tex}}{=} \text{“MT”}]$

$[\text{NegativeMT} \stackrel{\text{tex}}{=} \text{“NegativeMT”}]$

$[\text{Technicality} \stackrel{\text{tex}}{=} \text{“Technicality”}]$

$[\text{Weakening} \stackrel{\text{tex}}{=} \text{“Weakening”}]$

$[\text{WeakenOr1} \stackrel{\text{tex}}{=} \text{“WeakenOr1”}]$

$[\text{WeakenOr2} \stackrel{\text{tex}}{=} \text{“WeakenOr2”}]$

$[\text{Pair2Formula} \stackrel{\text{tex}}{=} \text{“Pair2Formula”}]$

$[\text{Formula2Pair} \stackrel{\text{tex}}{=} \text{“Formula2Pair”}]$

$[\text{Union2Formula} \stackrel{\text{tex}}{=} \text{“Union2Formula”}]$

$[\text{Formula2Union} \stackrel{\text{tex}}{=} \text{“Formula2Union”}]$

$[\text{Formula2Power} \stackrel{\text{tex}}{=} \text{“Formula2Power”}]$

$[\text{Sep2Formula} \stackrel{\text{tex}}{=} \text{“Sep2Formula”}]$

$[\text{Formula2Sep} \stackrel{\text{tex}}{=} \text{“Formula2Sep”}]$

$[\text{SubsetInPower} \stackrel{\text{tex}}{=} \text{“SubsetInPower”}]$

$[\text{HelperPowerIsSub} \stackrel{\text{tex}}{=} \text{“HelperPowerIsSub”}]$

[PowerIsSub $\stackrel{\text{tex}}{=}$ “PowerIsSub”]

[(Switch)HelperPowerIsSub $\stackrel{\text{tex}}{=}$ “(Switch)HelperPowerIsSub”]

[(Switch)PowerIsSub $\stackrel{\text{tex}}{=}$ “(Switch)PowerIsSub”]

[ToSetEquality $\stackrel{\text{tex}}{=}$ “ToSetEquality”]

[HelperToSetEquality(t) $\stackrel{\text{tex}}{=}$ “HelperToSetEquality(t)”]

[ToSetEquality(t) $\stackrel{\text{tex}}{=}$ “ToSetEquality(t)”]

[HelperFromSetEquality $\stackrel{\text{tex}}{=}$ “HelperFromSetEquality”]

[FromSetEquality $\stackrel{\text{tex}}{=}$ “FromSetEquality”]

[HelperReflexivity $\stackrel{\text{tex}}{=}$ “HelperReflexivity”]

[Reflexivity $\stackrel{\text{tex}}{=}$ “Reflexivity”]

[HelperSymmetry $\stackrel{\text{tex}}{=}$ “HelperSymmetry”]

[Symmetry $\stackrel{\text{tex}}{=}$ “Symmetry”]

[HelperTransitivity $\stackrel{\text{tex}}{=}$ “HelperTransitivity”]

[Transitivity $\stackrel{\text{tex}}{=}$ “Transitivity”],

[ERisReflexive $\stackrel{\text{tex}}{=}$ “ERisReflexive”]

[ERisSymmetric $\stackrel{\text{tex}}{=}$ “ERisSymmetric”]

[ERisTransitive $\stackrel{\text{tex}}{=}$ “ERisTransitive”]

[ØisSubset $\stackrel{\text{tex}}{=}$ “\O{}isSubset”]

[HelperMemberNotØ $\stackrel{\text{tex}}{=}$ “HelperMemberNot\O{}”]

[MemberNotØ $\stackrel{\text{tex}}{=}$ “MemberNot\O{}”]

[HelperUniqueØ $\stackrel{\text{tex}}{=}$ “HelperUnique\O{}”]

[UniqueØ $\stackrel{\text{tex}}{=}$ “Unique\O{}”]

[==Reflexivity $\stackrel{\text{tex}}{=}$ “==\!{}Reflexivity”]

[==Symmetry $\stackrel{\text{tex}}{=}$ “==\!{}Symmetry”]

[Helper==Transitivity $\stackrel{\text{tex}}{=}$ “Helper\!{}==\!{}Transitivity”]

[==Transitivity $\stackrel{\text{tex}}{=}$ “\!{}==\!{}Transitivity”]

[HelperTransferNotEq $\stackrel{\text{tex}}{=}$ “HelperTransferNotEq”]

[TransferNotEq $\stackrel{\text{tex}}{=}$ “TransferNotEq”]

[HelperPairSubset $\stackrel{\text{tex}}{=}$ “HelperPairSubset”]

[Helper(2)PairSubset $\stackrel{\text{tex}}{=}$ “Helper(2)PairSubset”]

[PairSubset $\stackrel{\text{tex}}{=}$ “PairSubset”]

[SamePair $\stackrel{\text{tex}}{=}$ “SamePair”]

[SameSingleton $\stackrel{\text{tex}}{=}$ “SameSingleton”]

[UnionSubset $\stackrel{\text{tex}}{=}$ “UnionSubset”]

[SameUnion $\stackrel{\text{tex}}{=}$ “SameUnion”]

[SeparationSubset $\stackrel{\text{tex}}{=}$ “SeparationSubset”]

[SameSeparation $\stackrel{\text{tex}}{=}$ “SameSeparation”]

[SameBinaryUnion $\stackrel{\text{tex}}{=}$ “SameBinaryUnion”]

[IntersectionSubset $\stackrel{\text{tex}}{=}$ “IntersectionSubset”]

[SameIntersection $\stackrel{\text{tex}}{=}$ “SameIntersection”]

[AutoMember $\stackrel{\text{tex}}{=}$ “AutoMember”]

[HelperEqSysNot∅ $\stackrel{\text{tex}}{=}$ “HelperEqSysNot\O{}”]

[EqSysNot∅ $\stackrel{\text{tex}}{=}$ “EqSysNot\O{}”]

[HelperEqSubset $\stackrel{\text{tex}}{=}$ “HelperEqSubset”]

[EqSubset $\stackrel{\text{tex}}{=}$ “EqSubset”]

[EqNecessary $\stackrel{\text{tex}}{=}$ “EqNecessary”]

[HelperEqNecessary $\stackrel{\text{tex}}{=}$ “HelperEqNecessary”]

[HelperNoneEqNecessary $\stackrel{\text{tex}}{=}$ “HelperNoneEqNecessary”]

[Helper(2)NoneEqNecessary $\stackrel{\text{tex}}{=}$ “Helper(2)NoneEqNecessary”]

[NoneEqNecessary $\stackrel{\text{tex}}{=}$ “NoneEqNecessary”]

[EqClassIsSubset $\stackrel{\text{tex}}{=}$ “EqClassIsSubset”]

[EqClassesAreDisjoint $\stackrel{\text{tex}}{=}$ “EqClassesAreDisjoint”]

[AllDisjoint $\stackrel{\text{tex}}{=}$ “AllDisjoint”]

[AllDisjointImply $\stackrel{\text{tex}}{=}$ “AllDisjointImply”]

[BSsubset $\stackrel{\text{tex}}{=}$ “BSsubset”]

[Union(BS/R)subset $\stackrel{\text{tex}}{=}$ “Union(BS/R)subset”]

[UnionIdentity $\stackrel{\text{tex}}{=}$ “UnionIdentity”]

[EqSysIsPartition $\stackrel{\text{tex}}{=}$ “EqSysIsPartition”]

[x/y $\stackrel{\text{tex}}{=}$ “#1.
/ #2.”]

[$\mathsf{x} \cap \mathsf{y}$ $\stackrel{\text{tex}}{=}$ “#1.
\cap #2.”]

[$\cup\mathsf{x}$ $\stackrel{\text{tex}}{=}$ “\cup #1.”]

[$\mathsf{x} \cup \mathsf{y}$ $\stackrel{\text{tex}}{=}$ “#1.
\mathrel{\cup} #2.”]

[P(x) $\stackrel{\text{tex}}{=}$ “P(#1.
)”]

[$\{\mathsf{x}\}$ $\stackrel{\text{tex}}{=}$ “\{#1.
\}”]

[$\{\mathsf{x}, \mathsf{y}\}$ $\stackrel{\text{tex}}{=}$ “\{#1.
, #2.
\}”]

[$\langle \mathsf{x}, \mathsf{y} \rangle$ $\stackrel{\text{tex}}{=}$ “\langle #1.
, #2.
\rangle”],

[$\mathsf{x} \in \mathsf{y}$ $\stackrel{\text{tex}}{=}$ “#1.
\mathrel{\in} #2.”]

[$\mathsf{z}(\mathsf{x}, \mathsf{y})$ $\stackrel{\text{tex}}{=}$ “#3.
(#1.
, #2.
)”]

[ReflRel(r, x) $\stackrel{\text{tex}}{=}$ "ReflRel(#1.
, #2.
)"]

[SymRel(r, x) $\stackrel{\text{tex}}{=}$ "SymRel(#1.
, #2.
)"]

[TransRel(r, x) $\stackrel{\text{tex}}{=}$ "TransRel(#1.
, #2.
)"]

[EqRel(r, x) $\stackrel{\text{tex}}{=}$ "EqRel(#1.
, #2.
)"]

[[x ∈ bs]$_{r}$ $\stackrel{\text{tex}}{=}$ "[#1.
\mathrel{\in} #2.
]_{#3.
}"]

[Partition(x, y) $\stackrel{\text{tex}}{=}$ "Partition(#1.
, #2.
)"]

[x==y $\stackrel{\text{tex}}{=}$ "#1.
\!\mathrel{==}\! #2."]

[x ⊆ y $\stackrel{\text{tex}}{=}$ "#1.
\mathrel{\subseteq} #2."]

[$\dot{\neg}$ (x)n $\stackrel{\text{tex}}{=}$ "\dot{\neg}\, (#1.
)n"]

[x ∉ y $\stackrel{\text{tex}}{=}$ "#1.
\mathrel{\notin} #2."]

[x ≠ y $\stackrel{\text{tex}}{=}$ "#1.
\mathrel{\neq} #2."]

[x $\dot{\wedge}$ y $\stackrel{\text{tex}}{=}$ "#1.
\mathrel{\dot{\wedge}} #2."]

[x $\dot{\vee}$ y $\stackrel{\text{tex}}{=}$ "#1.
\mathrel{\dot{\vee}} #2."]

[x $\dot{\Leftrightarrow}$ y $\stackrel{\text{tex}}{=}$ "#1.
\mathrel{\dot{\Leftrightarrow}} #2."]

[{ph ∈ x | a} $\stackrel{\text{tex}}{=}$ " \{ ph \mathrel{\in} #1.
\mid #2.
\}"]

[x ⇒ y $\stackrel{\text{tex}}{=}$ "(i#1.
\Rightarrow #2.
)i"]

[Nat(x) $\stackrel{\text{tex}}{=}$ "Nat(#1.
)"]

[⟨x≡y|z:==u⟩$_{\text{Me}}$ $\stackrel{\text{tex}}{=}$ "\langle #1.
{\equiv} #2.
| #3.
{:==} #4.
\rangle_{Me}"]

[⟨x≡^{1}y|z:==u⟩$_{\text{Me}}$ $\stackrel{\text{tex}}{=}$ "\langle #1.
{\equiv}^1 #2.
| #3.
{:==} #4.
\rangle_{Me} "]

[⟨x≡*y|z:==u⟩$_{\text{Me}}$ $\stackrel{\text{tex}}{=}$ "\langle #1.
{\equiv}^* #2.
| #3.
{:==} #4.
\rangle_{Me} "]

[∃x: y $\stackrel{\text{tex}}{=}$ "
\exists #1.
\colon #2."]

[(x1) $\stackrel{\text{tex}}{=}$ "(x1)"]

[(x2) $\stackrel{\text{tex}}{=}$ "(x2)"]

[(y1) $\stackrel{\text{tex}}{=}$ "(y1)"]

[(y2) $\stackrel{\text{tex}}{=}$ "(y2)"]

[(v1) $\stackrel{\text{tex}}{=}$ "(v1)"]

[(v2) $\stackrel{\text{tex}}{=}$ "(v2)"]

[(v3) $\stackrel{\text{tex}}{=}$ "(v3)"]

[(v4) $\stackrel{\text{tex}}{=}$ "(v4)"]

$[(\mathrm{v2n}) \stackrel{\text{tex}}{=} \text{“(v2n)”}]$

$[(\mathrm{n1}) \stackrel{\text{tex}}{=} \text{“(n1)”}]$

$[(\mathrm{n2}) \stackrel{\text{tex}}{=} \text{“(n2)”}]$

$[(\mathrm{n3}) \stackrel{\text{tex}}{=} \text{“(n3)”}]$

$[(\mathrm{m1}) \stackrel{\text{tex}}{=} \text{“(m1)”}]$

$[(\mathrm{m2}) \stackrel{\text{tex}}{=} \text{“(m2)”}]$

$[(\epsilon) \stackrel{\text{tex}}{=} \text{“(\textbackslash epsilon)”}]$

$[(\epsilon)_1 \stackrel{\text{tex}}{=} \text{“(\textbackslash epsilon)\_\{1\}”}]$

$[(\epsilon 2) \stackrel{\text{tex}}{=} \text{“(\textbackslash epsilon 2)”}]$

$[(\mathrm{fx}) \stackrel{\text{tex}}{=} \text{“(fx)”}]$

$[(\mathrm{fy}) \stackrel{\text{tex}}{=} \text{“(fy)”}]$

$[(\mathrm{fz}) \stackrel{\text{tex}}{=} \text{“(fz)”}]$

$[(\mathrm{fu}) \stackrel{\text{tex}}{=} \text{“(fu)”}]$

$[(\mathrm{fv}) \stackrel{\text{tex}}{=} \text{“(fv)”}]$

$[(\mathrm{fw}) \stackrel{\text{tex}}{=} \text{“(fw)”}]$

$[(\mathrm{fep}) \stackrel{\text{tex}}{=} \text{“(fep)”}]$

$[(\mathrm{rx}) \stackrel{\text{tex}}{=} \text{“(rx)”}]$

$[(\mathrm{ry}) \stackrel{\text{tex}}{=} \text{“(ry)”}]$

$[(\mathrm{rz}) \stackrel{\text{tex}}{=} \text{“(rz)”}]$

$[(\mathrm{ru}) \stackrel{\text{tex}}{=} \text{“(ru)”}]$

$[(\mathrm{sx}) \stackrel{\text{tex}}{=} \text{“(sx)”}]$

$[(\mathrm{sx1}) \stackrel{\text{tex}}{=} \text{“(sx1)”}]$

$[(\mathrm{sy}) \stackrel{\text{tex}}{=} \text{“(sy)”}]$

$[(\mathrm{sy1}) \stackrel{\text{tex}}{=} \text{“(sy1)”}]$

$[(\mathrm{sz}) \stackrel{\text{tex}}{=} \text{“(sz)”}]$

[(sz1) $\overset{\text{tex}}{=}$ “(sz1)”]

[(su) $\overset{\text{tex}}{=}$ “(su)”]

[(su1) $\overset{\text{tex}}{=}$ “(su1)”]

[(fxs) $\overset{\text{tex}}{=}$ “(fxs)”]

[(fys) $\overset{\text{tex}}{=}$ “(fys)”]

[(crs1) $\overset{\text{tex}}{=}$ “(crs1)”]

[(f1) $\overset{\text{tex}}{=}$ “(f1)”]

[(f2) $\overset{\text{tex}}{=}$ “(f2)”]

[(f3) $\overset{\text{tex}}{=}$ “(f3)”]

[(f4) $\overset{\text{tex}}{=}$ “(f4)”]

[(op1) $\overset{\text{tex}}{=}$ “(op1)”]

[(op2) $\overset{\text{tex}}{=}$ “(op2)”]

[(r1) $\overset{\text{tex}}{=}$ “(r1)”]

[(s1) $\overset{\text{tex}}{=}$ “(s1)”]

[(s2) $\overset{\text{tex}}{=}$ “(s2)”]

[$X_1 \overset{\text{tex}}{=}$ “X_{1}”]

[$X_2 \overset{\text{tex}}{=}$ “X_{2}”]

[$Y_1 \overset{\text{tex}}{=}$ “Y_{1}”]

[$Y_2 \overset{\text{tex}}{=}$ “Y_{2}”]

[$V_1 \overset{\text{tex}}{=}$ “V_{1}”]

[$V_2 \overset{\text{tex}}{=}$ “V_{2}”]

[$V_3 \overset{\text{tex}}{=}$ “V_{3}”]

[$V_4 \overset{\text{tex}}{=}$ “V_{4}”]

[$V_{2n} \overset{\text{tex}}{=}$ “V_{2n}”]

[$\epsilon \overset{\text{tex}}{=}$ “\epsilon”]

[$\mathrm{M}_1 \stackrel{\text{tex}}{=}$ “M_{1}”]

[$\mathrm{M}_2 \stackrel{\text{tex}}{=}$ “M_{2}”]

[$\mathrm{N}_1 \stackrel{\text{tex}}{=}$ “N_{1} ”]

[$\mathrm{N}_2 \stackrel{\text{tex}}{=}$ “N_{2} ”]

[$\mathrm{N}_3 \stackrel{\text{tex}}{=}$ “N_{3} ”]

[$\epsilon 1 \stackrel{\text{tex}}{=}$ “\epsilon 1”]

[$\epsilon 2 \stackrel{\text{tex}}{=}$ “\epsilon 2”]

[FX $\stackrel{\text{tex}}{=}$ “FX”]

[FY $\stackrel{\text{tex}}{=}$ “FY”]

[FZ $\stackrel{\text{tex}}{=}$ “FZ”]

[FU $\stackrel{\text{tex}}{=}$ “FU”]

[FV $\stackrel{\text{tex}}{=}$ “FV”]

[FW $\stackrel{\text{tex}}{=}$ “FW”]

[FEP $\stackrel{\text{tex}}{=}$ “FEP”]

[RX $\stackrel{\text{tex}}{=}$ “RX”]

[RY $\stackrel{\text{tex}}{=}$ “RY”]

[RZ $\stackrel{\text{tex}}{=}$ “RZ”]

[RU $\stackrel{\text{tex}}{=}$ “RU”]

[(SX) $\stackrel{\text{tex}}{=}$ “(SX)”]

[(SX1) $\stackrel{\text{tex}}{=}$ “(SX1)”]

[(SY) $\stackrel{\text{tex}}{=}$ “(SY)”]

[(SY1) $\stackrel{\text{tex}}{=}$ “(SY1)”]

[(SZ) $\stackrel{\text{tex}}{=}$ “(SZ)”]

[(SZ1) $\stackrel{\text{tex}}{=}$ “(SZ1)”]

[(SU) $\stackrel{\text{tex}}{=}$ “(SU)”]

[(SU1) $\stackrel{\text{tex}}{=}$ "(SU1)"]

[FXS $\stackrel{\text{tex}}{=}$ "FXS"]

[FYS $\stackrel{\text{tex}}{=}$ "FYS"]

[(F1) $\stackrel{\text{tex}}{=}$ "(F1)"]

[(F2) $\stackrel{\text{tex}}{=}$ "(F2)"]

[(F3) $\stackrel{\text{tex}}{=}$ "(F3)"]

[(F4) $\stackrel{\text{tex}}{=}$ "(F4)"]

[(OP1) $\stackrel{\text{tex}}{=}$ "(OP1)"]

[(OP2) $\stackrel{\text{tex}}{=}$ "(OP2)"]

[(R1) $\stackrel{\text{tex}}{=}$ "(R1)"]

[(S1) $\stackrel{\text{tex}}{=}$ "(S1)"]

[(S2) $\stackrel{\text{tex}}{=}$ "(S2)"]

[(EPob) $\stackrel{\text{tex}}{=}$ "(EPob)"]

[(CRS1ob) $\stackrel{\text{tex}}{=}$ "(CRS1ob)"]

[(F1ob) $\stackrel{\text{tex}}{=}$ "(F1ob)"]

[(F2ob) $\stackrel{\text{tex}}{=}$ "(F2ob)"]

[(F3ob) $\stackrel{\text{tex}}{=}$ "(F3ob)"]

[(F4ob) $\stackrel{\text{tex}}{=}$ "(F4ob)"]

[(N1ob) $\stackrel{\text{tex}}{=}$ "(N1ob)"]

[(N2ob) $\stackrel{\text{tex}}{=}$ "(N2ob)"]

[(OP1ob) $\stackrel{\text{tex}}{=}$ "(OP1ob)"]

[(OP2ob) $\stackrel{\text{tex}}{=}$ "(OP2ob)"]

[(R1ob) $\stackrel{\text{tex}}{=}$ "(R1ob)"]

[(S1ob) $\stackrel{\text{tex}}{=}$ "(S1ob)"]

[(S2ob) $\stackrel{\text{tex}}{=}$ "(S2ob)"]

$[\text{Ex3} \stackrel{\text{tex}}{=} \text{“Ex3”}]$

$[\text{NAT} \stackrel{\text{tex}}{=} \text{“NAT”}]$

$[\text{RATIONAL}_\text{S}\text{ERIES} \stackrel{\text{tex}}{=} \text{“RATIONAL\_SERIES”}]$

$[\text{SERIES} \stackrel{\text{tex}}{=} \text{“SERIES”}]$

$[\text{SetOfReals} \stackrel{\text{tex}}{=} \text{“SetOfReals”}]$

$[\text{SetOfFxs} \stackrel{\text{tex}}{=} \text{“SetOfFxs”}]$

$[\text{N} \stackrel{\text{tex}}{=} \text{“N”}]$

$[\text{Q} \stackrel{\text{tex}}{=} \text{“Q”}]$

$[\text{X} \stackrel{\text{tex}}{=} \text{“X”}]$

$[\text{xs} \stackrel{\text{tex}}{=} \text{“xs”}]$

$[\text{xaF} \stackrel{\text{tex}}{=} \text{“xaF”}]$

$[\text{ysF} \stackrel{\text{tex}}{=} \text{“ysF”}]$

$[\text{us} \stackrel{\text{tex}}{=} \text{“us”}]$

$[\text{usFoelge} \stackrel{\text{tex}}{=} \text{“usFoelge”}]$

$[0 \stackrel{\text{tex}}{=} \text{“0”}]$

$[1 \stackrel{\text{tex}}{=} \text{“1”}]$

$[(-1) \stackrel{\text{tex}}{=} \text{“(-1)”}]$

$[2 \stackrel{\text{tex}}{=} \text{“2”}]$

$[3 \stackrel{\text{tex}}{=} \text{“3”}]$

$[1/2 \stackrel{\text{tex}}{=} \text{“1/2”}]$

$[1/3 \stackrel{\text{tex}}{=} \text{“1/3”}]$

$[2/3 \stackrel{\text{tex}}{=} \text{“2/3”}]$

$[0\text{f} \stackrel{\text{tex}}{=} \text{“0f”}]$

$[00 \stackrel{\text{tex}}{=} \text{“00”}]$

$[(--01) \stackrel{\text{tex}}{=} \text{“(--01)”}]$

$[02 \stackrel{\text{tex}}{=}$ "02"]

$[01//02 \stackrel{\text{tex}}{=}$ "01//02"]

$[\mathsf{x} = \mathsf{y} \stackrel{\text{tex}}{=}$ "#1.
= #2."]

$[\mathsf{x} \neq \mathsf{y} \stackrel{\text{tex}}{=}$ "#1.
\neq #2."]

$[\mathsf{x} < \mathsf{y} \stackrel{\text{tex}}{=}$ "#1.
< #2."]

$[\mathsf{x} <= \mathsf{y} \stackrel{\text{tex}}{=}$ "#1.
<= #2."]

$[\mathsf{x} <_{\mathrm{f}} \mathsf{y} \stackrel{\text{tex}}{=}$ "#1.
<_{f}#2."]

$[\mathsf{x} \leq_{\mathrm{f}} \mathsf{y} \stackrel{\text{tex}}{=}$ "#1.
\leq_{f}#2."]

$[\mathrm{SF}(\mathsf{x}, \mathsf{y}) \stackrel{\text{tex}}{=}$ "SF(#1.
, #2.
)"]

$[\mathsf{x} == \mathsf{y} \stackrel{\text{tex}}{=}$ "#1.
== #2."]

$[\mathsf{x}!! == \mathsf{y} \stackrel{\text{tex}}{=}$ "#1.
!!== #2."]

$[\mathsf{x} << \mathsf{y} \stackrel{\text{tex}}{=}$ "#1.
<< #2."]

$[\mathsf{x} <<== \mathsf{y} \stackrel{\text{tex}}{=}$ "#1.
<<== #2."]

$[\mathsf{x}[\mathsf{y}] \stackrel{\text{tex}}{=}$ "#1.
[#2.
]"]

$[(-\mathrm{u}\mathsf{x}) \stackrel{\text{tex}}{=}$ "(-u#1.
)"]

$[-_{\mathrm{f}}\mathsf{x} \stackrel{\text{tex}}{=}$ "-_{f}#1."]

[$(- - \mathsf{x}) \stackrel{\text{tex}}{=}$ "(--#1.
)"]

[$1f/\mathsf{x} \stackrel{\text{tex}}{=}$ "1f/#1."]

[$01//\text{temp}\mathsf{x} \stackrel{\text{tex}}{=}$ "01//temp#1."]

[$(\mathsf{x} + \mathsf{y}) \stackrel{\text{tex}}{=}$ "(#1.
+#2.
)"]

[$(\mathsf{x} - \mathsf{y}) \stackrel{\text{tex}}{=}$ "(#1.
-#2.
)"]

[$(\text{fx}) +_{\text{f}} (\text{fy}) \stackrel{\text{tex}}{=}$ "#1.
+_{f}#2."]

[$(\text{fx}) -_{\text{f}} (\text{fy}) \stackrel{\text{tex}}{=}$ "#1.
-_{f}#2."]

[$(\text{fx}) *_{\text{f}} (\text{fy}) \stackrel{\text{tex}}{=}$ "#1.
*_{f}#2."]

[$\mathsf{x} + + \mathsf{y} \stackrel{\text{tex}}{=}$ "#1.
++#2."]

[$\text{R}((\text{fx})) - -\text{R}((\text{fy})) \stackrel{\text{tex}}{=}$ "R(#1.
) -- R(#2.
)"]

[$(\mathsf{x} * \mathsf{y}) \stackrel{\text{tex}}{=}$ "(#1.
*#2.
)"]

[$\mathsf{x} * * \mathsf{y} \stackrel{\text{tex}}{=}$ "#1.
**#2."]

[$\mathsf{x}(\text{exp})\mathsf{y} \stackrel{\text{tex}}{=}$ " #1.
(exp) #2."]

[leqReflexivity $\stackrel{\text{tex}}{=}$ "leqReflexivity"]

[$\text{rec}\mathsf{x} \stackrel{\text{tex}}{=}$ "rec#1."]

[$|\mathsf{x}| \stackrel{\text{tex}}{=}$ "|#1.
|"]

[$\mathrm{StateExpand}(\mathsf{t}, \mathsf{s}, \mathsf{c}) \stackrel{\text{tex}}{=}$ "StateExpand(#1.
, #2.
, #3.
)"]

[$\mathrm{extractSeries}(\mathsf{t}) \stackrel{\text{tex}}{=}$ "extractSeries(#1.
)"]

[$|\mathrm{f}\mathsf{x}| \stackrel{\text{tex}}{=}$ "|f#1.
|"]

[$|\mathrm{r}\mathsf{x}| \stackrel{\text{tex}}{=}$ "|r#1.
|"]

[$\mathrm{SetOfSeries}(\mathsf{x}) \stackrel{\text{tex}}{=}$ "SetOfSeries(#1.
)"]

[$\mathrm{ExpandList}(\mathsf{x}, \mathsf{y}, \mathsf{z}) \stackrel{\text{tex}}{=}$ "ExpandList(#1.
, #2.
, #3.
)"]

[$* * \mathrm{Macro}(\mathsf{x}) \stackrel{\text{tex}}{=}$ "**Macro(#1.
)"]

[$+ + \mathrm{Macro}(\mathsf{x}) \stackrel{\text{tex}}{=}$ "++Macro(#1.
)"]

[$- - \mathrm{Macro}(\mathsf{x}) \stackrel{\text{tex}}{=}$ "--Macro(#1.
)"]

[$<< \mathrm{Macro}(\mathsf{x}) \stackrel{\text{tex}}{=}$ "<<Macro(#1.
)"]

[$||\mathrm{Macro}(\mathsf{x}) \stackrel{\text{tex}}{=}$ "||Macro(#1.
)"]

[$01//\mathrm{Macro}(\mathsf{x}) \stackrel{\text{tex}}{=}$ "01//Macro(#1.
)"]

[$\mathrm{Max}(\mathsf{x}, \mathsf{y}) \stackrel{\text{tex}}{=}$ "Max(#1.
, #2.
)"]

[$\mathrm{Max}(\mathsf{x}, \mathsf{y}) \stackrel{\text{tex}}{=}$ "Max(#1.
, #2.
)"]

[Limit$(\mathsf{x}, \mathsf{y}) \stackrel{\text{tex}}{=}$ "Limit(#1.
, #2.
)"]

[Union$(\mathsf{x}) \stackrel{\text{tex}}{=}$ "Union(#1.
)"]

[if$(\mathsf{x}, \mathsf{y}, \mathsf{z}) \stackrel{\text{tex}}{=}$ "if(#1.
, #2.
, #3.
)"]

[IsOrderedPair$(\mathsf{x}, \mathsf{y}, \mathsf{z}) \stackrel{\text{tex}}{=}$ "IsOrderedPair(#1.
, #2.
, #3.
)"]

[IsRelation$(\mathsf{x}, \mathsf{y}, \mathsf{z}) \stackrel{\text{tex}}{=}$ "IsRelation(#1.
, #2.
, #3.
)"]

[isFunction$(\mathsf{x}, \mathsf{y}, \mathsf{z}) \stackrel{\text{tex}}{=}$ "isFunction(#1.
, #2.
, #3.
)"]

[TypeNat$(\mathsf{x}) \stackrel{\text{tex}}{=}$ "TypeNat(#1.
)"]

[TypeNat0$(\mathsf{x}) \stackrel{\text{tex}}{=}$ "TypeNat0(#1.
)"]

[TypeRational$(\mathsf{x}) \stackrel{\text{tex}}{=}$ "TypeRational(#1.
)"]

[TypeRational0$(\mathsf{x}) \stackrel{\text{tex}}{=}$ "TypeRational0(#1.
)"]

[TypeSeries$(\mathsf{x}, \mathsf{y}) \stackrel{\text{tex}}{=}$ "TypeSeries(#1.
, #2.
)"]

[Typeseries0$(\mathsf{x}, \mathsf{y}) \stackrel{\text{tex}}{=}$ "Typeseries0(#1.
, #2.
)"]

[$\mathsf{UB}(\mathsf{x}, \mathsf{y}) \stackrel{\text{tex}}{=}$ "UB(#1.
, #2.
)"]

[$\mathsf{LUB}(\mathsf{x}, \mathsf{y}) \stackrel{\text{tex}}{=}$ "LUB(#1.
, #2.
)"]

[$\mathsf{BS}(\mathsf{x}, \mathsf{y}) \stackrel{\text{tex}}{=}$ "BS(#1.
, #2.
)"]

[$\mathsf{UStelescope}(\mathsf{x}, \mathsf{y}) \stackrel{\text{tex}}{=}$ "UStelescope(#1.
, #2.
)"]

[$(\mathsf{x}) \stackrel{\text{tex}}{=}$ "(#1.
)"]

[$\mathrm{R}(\mathsf{x}) \stackrel{\text{tex}}{=}$ "R(#1.
)"]

[$- - \mathrm{R}(\mathsf{x}) \stackrel{\text{tex}}{=}$ "--R(#1.
)"]

[$\mathrm{IsSeries}(\mathsf{x}, \mathsf{y}) \stackrel{\text{tex}}{=}$ "IsSeries(#1.
, #2.
)"]

[$\mathrm{IsNatural}(\mathsf{xy}, *) \stackrel{\text{tex}}{=}$ "IsNatural(#1.
, #2.
)"]

[$\mathrm{OrderedPair}(\mathsf{x}, \mathsf{y}) \stackrel{\text{tex}}{=}$ "OrderedPair(#1.
, #2.
)"]

[leqAntisymmetryAxiom $\stackrel{\text{tex}}{=}$ "leqAntisymmetryAxiom"]

[leqTransitivityAxiom $\stackrel{\text{tex}}{=}$ "leqTransitivityAxiom"]

[leqTotality $\stackrel{\text{tex}}{=}$ "leqTotality"]

[leqAdditionAxiom $\stackrel{\text{tex}}{=}$ "leqAdditionAxiom"]

[leqMultiplicationAxiom $\stackrel{\text{tex}}{=}$ "leqMultiplicationAxiom"]

[plusAssociativity $\stackrel{\text{tex}}{=}$ "plusAssociativity"] [plusCommutativity $\stackrel{\text{tex}}{=}$ "plusCommutativity"]

[Negative $\stackrel{\text{tex}}{=}$ "Negative"]

[plus0 $\stackrel{\text{tex}}{=}$ "plus0"]

[timesAssociativity $\stackrel{\text{tex}}{=}$ "timesAssociativity"]

[timesCommutativity $\stackrel{\text{tex}}{=}$ "timesCommutativity"]

[ReciprocalAxiom $\stackrel{\text{tex}}{=}$ "ReciprocalAxiom"]

[times1 $\stackrel{\text{tex}}{=}$ "times1"]

[plusAssociativity $\stackrel{\text{tex}}{=}$ "plusAssociativity"]

[plusCommutativity $\stackrel{\text{tex}}{=}$ "plusCommutativity"]

[Negative $\stackrel{\text{tex}}{=}$ "Negative"]

[Distribution $\stackrel{\text{tex}}{=}$ "Distribution"]

[0not1 $\stackrel{\text{tex}}{=}$ "0not1"]

[A4(Axiom) $\stackrel{\text{tex}}{=}$ "A4(Axiom)"]

[InductionAxiom $\stackrel{\text{tex}}{=}$ "InductionAxiom"]

[EqualityAxiom $\stackrel{\text{tex}}{=}$ "EqualityAxiom"]

[EqLeqAxiom $\stackrel{\text{tex}}{=}$ "EqLeqAxiom"]

[EqAdditionAxiom $\stackrel{\text{tex}}{=}$ "EqAdditionAxiom"]

[EqMultiplicationAxiom $\stackrel{\text{tex}}{=}$ "EqMultiplicationAxiom"]

[SENC1 $\stackrel{\text{tex}}{=}$ "SENC1"]

[SENC2 $\stackrel{\text{tex}}{=}$ "SENC2"]

[Cauchy $\stackrel{\text{tex}}{=}$ "Cauchy"]

[PlusF $\stackrel{\text{tex}}{=}$ "PlusF"]

[ReciprocalF $\stackrel{\text{tex}}{=}$ "ReciprocalF"]

[From $==\stackrel{\text{tex}}{=}$ "From=="]

[To $==\stackrel{\text{tex}}{=}$ "To=="]

[FromInR $\stackrel{\text{tex}}{=}$ "FromInR"]

[ReciprocalR(Axiom) $\stackrel{\text{tex}}{=}$ "ReciprocalR(Axiom)"]

[US0 $\stackrel{\text{tex}}{=}$ "US0"]

[NextXS(UpperBound) $\stackrel{\text{tex}}{=}$ "NextXS(UpperBound)"]

[NextXS(NoUpperBound) $\stackrel{\text{tex}}{=}$ "NextXS(NoUpperBound)"]

[NextUS(UpperBound) $\stackrel{\text{tex}}{=}$ "NextUS(UpperBound)"]

[NextUS(NoUpperBound) $\stackrel{\text{tex}}{=}$ "NextUS(NoUpperBound)"]

[ExpZero $\stackrel{\text{tex}}{=}$ "ExpZero"]

[ExpPositive $\stackrel{\text{tex}}{=}$ "ExpPositive"]

[ExpZero(R) $\stackrel{\text{tex}}{=}$ "ExpZero(R)"]

[ExpPositive(R) $\stackrel{\text{tex}}{=}$ "ExpPositive(R)"]

[LessMinus1(N) $\stackrel{\text{tex}}{=}$ "LessMinus1(N)"]

[Nonnegative(N) $\stackrel{\text{tex}}{=}$ "Nonnegative(N)"]

[BSzero $\stackrel{\text{tex}}{=}$ "BSzero"]

[BSpositive $\stackrel{\text{tex}}{=}$ "BSpositive"]

[UStelescope(Zero) $\stackrel{\text{tex}}{=}$ "UStelescope(Zero)"]

[UStelescope(Positive) $\stackrel{\text{tex}}{=}$ "UStelescope(Positive)"]

[EqAddition(R) $\stackrel{\text{tex}}{=}$ "EqAddition(R)"]

[FromLimit $\stackrel{\text{tex}}{=}$ "FromLimit"]

[ToUpperBound $\stackrel{\text{tex}}{=}$ "ToUpperBound"]

[FromUpperBound $\stackrel{\text{tex}}{=}$ "FromUpperBound"]

[USisUpperBound $\stackrel{\text{tex}}{=}$ "USisUpperBound"]

[0not1(R) $\stackrel{\text{tex}}{=}$ "0not1(R)"]

[ExpUnbounded(R) $\stackrel{\text{tex}}{=}$ "ExpUnbounded(R)"]

[FromLeq(Advanced)(N) $\stackrel{\text{tex}}{=}$ "FromLeq(Advanced)(N)"]

[FromLeastUpperBound $\stackrel{\text{tex}}{=}$ "FromLeastUpperBound"]

[ToLeastUpperBound $\stackrel{\text{tex}}{=}$ "ToLeastUpperBound"]

[XSisNotUpperBound $\stackrel{\text{tex}}{=}$ "XSisNotUpperBound"]

[ysFGreater $\stackrel{\text{tex}}{=}$ "ysFGreater"]

[ysFLess $\stackrel{\text{tex}}{=}$ "ysFLess"]

[SmallInverse $\stackrel{\text{tex}}{=}$ "SmallInverse"]

[MemberOfSeries(Imply) $\stackrel{\text{tex}}{=}$ "MemberOfSeries(Imply)"]

[NatType $\stackrel{\text{tex}}{=}$ "NatType"]

[RationalType $\stackrel{\text{tex}}{=}$ "RationalType"]

[SeriesType $\stackrel{\text{tex}}{=}$ "SeriesType"]

[JoinConjuncts(2conditions) $\stackrel{\text{tex}}{=}$ "JoinConjuncts(2conditions)"]

[TND $\stackrel{\text{tex}}{=}$ "TND"]

[FromNegatedImply $\stackrel{\text{tex}}{=}$ "FromNegatedImply"]

[ToNegatedImply $\stackrel{\text{tex}}{=}$ "ToNegatedImply"]

[FromNegated($2 * $Imply) $\stackrel{\text{tex}}{=}$ "FromNegated(2*Imply)"]

[FromNegatedAnd $\stackrel{\text{tex}}{=}$ "FromNegatedAnd"]

[FromNegatedOr $\stackrel{\text{tex}}{=}$ "FromNegatedOr"]

[ToNegatedOr $\stackrel{\text{tex}}{=}$ "ToNegatedOr"]

[FromNegations $\stackrel{\text{tex}}{=}$ "FromNegations"]

[From3Disjuncts $\stackrel{\text{tex}}{=}$ "From3Disjuncts"]

[NegateDisjunct1 $\stackrel{\text{tex}}{=}$ "NegateDisjunct1"]

[NegateDisjunct2 $\stackrel{\text{tex}}{=}$ "NegateDisjunct2"]

[ExpandDisjuncts $\stackrel{\text{tex}}{=}$ "ExpandDisjuncts"]

[From$2 * 2$Disjuncts $\stackrel{\text{tex}}{=}$ "From2*2Disjuncts"]

[PlusR(Sym) $\stackrel{\text{tex}}{=}$ "PlusR(Sym)"]

[LessLeq(R) $\stackrel{\text{tex}}{=}$ "LessLeq(R)"]

[LeqAntisymmetry(R) $\stackrel{\text{tex}}{=}$ "LeqAntisymmetry(R)"]

[LeqTransitivity(R) $\stackrel{\text{tex}}{=}$ "LeqTransitivity(R)"]

[Plus0(R) $\stackrel{\text{tex}}{=}$ "Plus0(R)"]

[lessAddition(R) $\stackrel{\text{tex}}{=}$ "lessAddition(R)"]

[leqAddition(R) $\stackrel{\text{tex}}{=}$ "leqAddition(R)"]

[PlusAssociativity(R)XX $\stackrel{\text{tex}}{=}$ "PlusAssociativity(R)XX"]

[PlusAssociativity(R) $\stackrel{\text{tex}}{=}$ "PlusAssociativity(R)"]

[Negative(R) $\stackrel{\text{tex}}{=}$ "Negative(R)"]

[PlusCommutativity(R) $\stackrel{\text{tex}}{=}$ "PlusCommutativity(R)"]

[Times1(R) $\stackrel{\text{tex}}{=}$ "Times1(R)"]

[TimesAssociativity(R) $\stackrel{\text{tex}}{=}$ "TimesAssociativity(R)"]

[TimesCommutativity(R) $\stackrel{\text{tex}}{=}$ "TimesCommutativity(R)"]

[Distribution(R) $\stackrel{\text{tex}}{=}$ "Distribution(R)"]

[$\exists \mathsf{x}\colon \mathsf{y}$ $\stackrel{\text{tex}}{=}$ "(AARRGGHH!-exist-bug!)"]

[constantRationalSeries(x) $\stackrel{\text{tex}}{=}$ "constantRationalSeries(#1.
)"]

[Power(x) $\stackrel{\text{tex}}{=}$ "Power(#1.
)"]

[cartProd(x) $\stackrel{\text{tex}}{=}$ "cartProd(#1.
)"]

[binaryUnion(x, y) $\stackrel{\text{tex}}{=}$ "binaryUnion(#1.
, #2.
)"]

[SetOfRationalSeries $\stackrel{\text{tex}}{=}$ "SetOfRationalSeries"]

[MemberOfSeries $\stackrel{\text{tex}}{=}$ "MemberOfSeries"]

[IsSubset(x, y) $\stackrel{\text{tex}}{=}$ "IsSubset(#1.
, #2.
)"]

[memberOfSeries(Type) $\stackrel{\text{tex}}{=}$ "memberOfSeries(Type)"]

[UniqueMember $\stackrel{\text{tex}}{=}$ "UniqueMember"]

[UniqueMember(Type) $\stackrel{\text{tex}}{=}$ "UniqueMember(Type)"]

[SameSeries $\stackrel{\text{tex}}{=}$ "SameSeries"]

[A4 $\stackrel{\text{tex}}{=}$ "A4"]

[(sx) $\stackrel{\text{tex}}{=}$ "(s#1.
)"]

[(px, y) $\stackrel{\text{tex}}{=}$ "(p#1.
, #2.
)"]

[SameMember $\stackrel{\text{tex}}{=}$ "SameMember"]

[Qclosed(Addition) $\stackrel{\text{tex}}{=}$ "Qclosed(Addition)"]

[Qclosed(Multiplication) $\stackrel{\text{tex}}{=}$ "Qclosed(Multiplication)"]

[FromCartProd(1) $\stackrel{\text{tex}}{=}$ "FromCartProd(1)"]

[FromCartProd(1) $\stackrel{\text{tex}}{=}$ "FromCartProd(1)"]

[Max $\stackrel{\text{tex}}{=}$ "Max"]

[Numerical $\stackrel{\text{tex}}{=}$ "Numerical"]

[NumericalF $\stackrel{\text{tex}}{=}$ "NumericalF"]

[Separation2formula(1) $\stackrel{\text{tex}}{=}$ "Separation2formula(1)"]

[Separation2formula(2) $\stackrel{\text{tex}}{=}$ "Separation2formula(2)"]

[QisClosed(Reciprocal)(Imply) $\stackrel{\text{tex}}{=}$ "QisClosed(Reciprocal)(Imply)"]

[QisClosed(Reciprocal) $\stackrel{\text{tex}}{=}$ "QisClosed(Reciprocal)"]

[QisClosed(Negative)(Imply) $\stackrel{\text{tex}}{=}$ "QisClosed(Negative)(Imply)"]

[QisClosed(Negative) $\stackrel{\text{tex}}{=}$ "QisClosed(Negative)"]

$[(\text{Adgic})\text{SameR} \stackrel{\text{tex}}{=} \text{“(Adgic)SameR”}]$