Logiweb codex of logik rapport

Up Help

S′, A1′, A2′, A3′, A4′, A5′, S1′, S2′, S3′, S4′, S5′, S6′, S7′, S8′, S9′, MP′, Gen′, logik rapport, $A2'^*$, $A1'^*$, DoubleHypothesis, C1.10a, C1.10(b), L1.8, L3.2(b)′, L3.2(c)′, L3.2(d)′, L3.2(f)′, $L3.2(f)'_{BASE}$, $L3.2(f)'_{HYP}$, L3.2(g)′, $L3.2(g)'_{BASE}$, $L3.2(g)'_{HYP}$, L3.2(h)′, $L3.2(h)'_{BASE}$, $L3.2(h)'_{HYP}$, $L3.2h_{SWAP}$, Tautology1,

S′

$[S' \stackrel{stmt}{\rightarrow} x]$

A1′

$[A1' \stackrel{proof}{\rightarrow} \text{Rule tactic}]$

$[A1' \stackrel{stmt}{\rightarrow} S' \vdash \forall \underline{a} \colon \forall \underline{b} \colon [\ [\underline{a} \dot{\Rightarrow} \underline{b}] \dot{\Rightarrow} \underline{a}\ ]\ ]$

A2′

$[A2' \stackrel{proof}{\rightarrow} \text{Rule tactic}]$

$[A2' \stackrel{stmt}{\rightarrow} S' \vdash \forall \underline{a} \colon \forall \underline{b} \colon \forall \underline{c} \colon [\ [\ [\ [\ [\underline{a} \dot{\Rightarrow} \underline{b}] \dot{\Rightarrow} \underline{c}\ ] \dot{\Rightarrow} [\underline{a} \dot{\Rightarrow} \underline{b}]\ ] \dot{\Rightarrow} \underline{a}\ ] \dot{\Rightarrow} \underline{c}\ ]\ ]$

A3′

$[A3' \stackrel{proof}{\rightarrow} \text{Rule tactic}]$

$[A3' \stackrel{stmt}{\rightarrow} S' \vdash \forall \underline{a} \colon \forall \underline{b} \colon [\ [\ [\ [\dot{\neg} \underline{b}] \dot{\Rightarrow} \dot{\neg} \underline{a}\ ] \dot{\Rightarrow} [\ [\dot{\neg} \underline{b}] \dot{\Rightarrow} \underline{a}\ ]\ ] \dot{\Rightarrow} \underline{b}\ ]\ ]$

A4′

$[A4' \stackrel{proof}{\rightarrow} \text{Rule tactic}]$

$[A4' \stackrel{stmt}{\rightarrow} S' \vdash \forall \underline{c} \colon \forall \underline{a} \colon \forall \underline{x} \colon \forall \underline{b} \colon [\ \lceil \underline{a} \rceil \equiv \langle \lceil \underline{b} \rceil | \lceil \underline{x} \rceil := \lceil \underline{c} \rceil \rangle \Vdash [\ [\dot{\forall} \underline{x} \colon \underline{b}] \dot{\Rightarrow} \underline{a}\ ]\ ]\ ]$

A5′

[A5′ $\xrightarrow{\text{proof}}$ Rule tactic]

[A5′ $\xrightarrow{\text{stmt}}$ $S' \vdash \forall \underline{x}\colon \forall \underline{a}\colon \forall \underline{b}\colon$ [nonfree($\lceil \underline{x} \rceil, \lceil \underline{a} \rceil$) $\Vdash$ [[[$\dot{\forall}\underline{x}\colon$ [$\underline{a} \mathrel{\dot{\Rightarrow}} \underline{b}$]] $\mathrel{\dot{\Rightarrow}} \underline{a}$] $\mathrel{\dot{\Rightarrow}} \dot{\forall}\underline{x}\colon \underline{b}$]]]

S1′

[S1′ $\xrightarrow{\text{proof}}$ Rule tactic]

[S1′ $\xrightarrow{\text{stmt}}$ $S' \vdash \forall \underline{a}\colon \forall \underline{b}\colon \forall \underline{c}\colon$ [[[$\underline{a} \stackrel{p}{=} \underline{b}$] $\mathrel{\dot{\Rightarrow}}$ [$\underline{a} \stackrel{p}{=} \underline{c}$]] $\mathrel{\dot{\Rightarrow}}$ [$\underline{b} \stackrel{p}{=} \underline{c}$]]]

S2′

[S2′ $\xrightarrow{\text{proof}}$ Rule tactic]

[S2′ $\xrightarrow{\text{stmt}}$ $S' \vdash \forall \underline{a}\colon \forall \underline{b}\colon$ [[$\underline{a} \stackrel{p}{=} \underline{b}$] $\mathrel{\dot{\Rightarrow}}$ [$\underline{a}' \stackrel{p}{=}$ [$\underline{b}'$]]]]

S3′

[S3′ $\xrightarrow{\text{proof}}$ Rule tactic]

[S3′ $\xrightarrow{\text{stmt}}$ $S' \vdash \forall \underline{a}\colon \neg$ [$\dot{0} \stackrel{p}{=}$ [$\underline{a}'$]]]

S4′

[S4′ $\xrightarrow{\text{proof}}$ Rule tactic]

[S4′ $\xrightarrow{\text{stmt}}$ $S' \vdash \forall \underline{a}\colon \forall \underline{b}\colon$ [[$\underline{a}' \stackrel{p}{=}$ [$\underline{b}'$]] $\mathrel{\dot{\Rightarrow}}$ [$\underline{a} \stackrel{p}{=} \underline{b}$]]]

S5′

[S5′ $\xrightarrow{\text{proof}}$ Rule tactic]

[S5′ $\xrightarrow{\text{stmt}}$ $S' \vdash \forall \underline{a}\colon$ [[$\underline{a} \mathbin{\dot{+}} \dot{0}$] $\stackrel{p}{=} \underline{a}$]]

S6′

[S6′ $\xrightarrow{\text{proof}}$ Rule tactic]

$[S6' \overset{\text{stmt}}{\rightarrow} S' \vdash \forall \underline{a} \colon \forall \underline{b} \colon [\ [\ \underline{a} \dot{+} [\ \underline{b}'\ ]\ ] \overset{p}{=} [\ [\ \underline{a} \dot{+} \underline{b}\ ]'\ ]\ ]]$

S7′

$[S7' \overset{\text{proof}}{\rightarrow} \text{Rule tactic}]$

$[S7' \overset{\text{stmt}}{\rightarrow} S' \vdash \forall \underline{a} \colon [\ [\ \underline{a} \dot{\cdot} \dot{0}\ ] \overset{p}{=} \dot{0}\ ]]$

S8′

$[S8' \overset{\text{proof}}{\rightarrow} \text{Rule tactic}]$

$[S8' \overset{\text{stmt}}{\rightarrow} S' \vdash \forall \underline{a} \colon \forall \underline{b} \colon [\ [\ \underline{a} \dot{\cdot} [\ \underline{b}'\ ]\ ] \overset{p}{=} [\ [\ \underline{a} \dot{\cdot} \underline{b}\ ] \dot{+} \underline{a}\ ]\ ]]$

S9′

$[S9' \overset{\text{proof}}{\rightarrow} \text{Rule tactic}]$

$[S9' \overset{\text{stmt}}{\rightarrow} S' \vdash \forall \underline{a} \colon \forall \underline{b} \colon \forall \underline{c} \colon \forall \underline{x} \colon [\ \underline{b} \equiv \langle \underline{a} | \underline{x} := \dot{0} \rangle \Vdash [\ \underline{c} \equiv \langle \underline{a} | \underline{x} := \underline{x}' \rangle \Vdash [\ [\ \underline{b} \dot{\Rightarrow} \dot{\forall} \underline{x} \colon [\ \underline{a} \dot{\Rightarrow} \underline{c}\ ]\ ] \dot{\Rightarrow} \dot{\forall} \underline{x} \colon \underline{a}\ ]\ ]\ ]]$

MP′

$[MP' \overset{\text{proof}}{\rightarrow} \text{Rule tactic}]$

$[MP' \overset{\text{stmt}}{\rightarrow} S' \vdash \forall \underline{a} \colon \forall \underline{b} \colon [\ [\ \underline{a} \dot{\Rightarrow} \underline{b}\ ] \vdash [\ \underline{a} \vdash \underline{b}\ ]\ ]]$

Gen′

$[Gen' \overset{\text{proof}}{\rightarrow} \text{Rule tactic}]$

$[Gen' \overset{\text{stmt}}{\rightarrow} S' \vdash \forall \underline{x} \colon \forall \underline{a} \colon [\ \underline{a} \vdash \dot{\forall} \underline{x} \colon \underline{a}\ ]]$

logik rapport

$[\text{logik rapport} \overset{\text{pyk}}{\rightarrow} \text{“logik rapport”}]$

A2′*

$[A2'^{*} \stackrel{\text{proof}}{\rightarrow} \lambda c.\lambda x.\mathcal{P}(\lceil S' \vdash \forall \underline{h}\colon \forall \underline{a}\colon \forall \underline{b}\colon [\,[\underline{h} \dot{\Rightarrow} [\underline{a} \dot{\Rightarrow} \underline{b}]\,]\, \vdash [\,[A2' \gg [\,[\underline{h} \dot{\Rightarrow} [\underline{a} \dot{\Rightarrow} \underline{b}]\,] \dot{\Rightarrow} [\,[\underline{h} \dot{\Rightarrow} \underline{a}] \dot{\Rightarrow} [\underline{h} \dot{\Rightarrow} \underline{b}]\,]\,]\,]\,]; [\,[\,[MP' \rhd [\,[\underline{h} \dot{\Rightarrow} [\underline{a} \dot{\Rightarrow} \underline{b}]\,] \dot{\Rightarrow} [\,[\underline{h} \dot{\Rightarrow} \underline{a}] \dot{\Rightarrow} [\underline{h} \dot{\Rightarrow} \underline{b}]\,]\,]\,]\,] \rhd [\underline{h} \dot{\Rightarrow} [\underline{a} \dot{\Rightarrow} \underline{b}]\,]\,]\,] \gg [\,[\underline{h} \dot{\Rightarrow} \underline{a}] \dot{\Rightarrow} [\underline{h} \dot{\Rightarrow} \underline{b}]\,]\,]\,]\,]\,] \rceil, p_0, c)]$

$[A2'^{*} \stackrel{\text{stmt}}{\rightarrow} S' \vdash \forall \underline{h}\colon \forall \underline{a}\colon \forall \underline{b}\colon [\,[\underline{h} \dot{\Rightarrow} [\underline{a} \dot{\Rightarrow} \underline{b}]\,]\, \vdash [\,[\underline{h} \dot{\Rightarrow} \underline{a}] \dot{\Rightarrow} [\underline{h} \dot{\Rightarrow} \underline{b}]\,]\,]\,]$

[$A2'^{*} \stackrel{\text{tex}}{\rightarrow}$ “{A2’}^*”]

[$A2'^{*} \stackrel{\text{pyk}}{\rightarrow}$ “lemma prime a two star”]

A1′*

$[A1'^{*} \stackrel{\text{proof}}{\rightarrow} \lambda c.\lambda x.\mathcal{P}(\lceil S' \vdash \forall \underline{a}\colon \forall \underline{h}\colon [\underline{a} \vdash [\,[A1' \gg [\underline{a} \dot{\Rightarrow} [\underline{h} \dot{\Rightarrow} \underline{a}]\,]\,]\,]; [\,[\,[MP' \rhd [\underline{a} \dot{\Rightarrow} [\underline{h} \dot{\Rightarrow} \underline{a}]\,]\,]\,] \rhd \underline{a}] \gg [\underline{h} \dot{\Rightarrow} \underline{a}]\,]\,]\,]\,] \rceil, p_0, c)]$

$[A1'^{*} \stackrel{\text{stmt}}{\rightarrow} S' \vdash \forall \underline{a}\colon \forall \underline{h}\colon [\underline{a} \vdash [\underline{h} \dot{\Rightarrow} \underline{a}]\,]\,]$

[$A1'^{*} \stackrel{\text{tex}}{\rightarrow}$ “{A1’}^*”]

[$A1'^{*} \stackrel{\text{pyk}}{\rightarrow}$ “lemma prime a one star”]

DoubleHypothesis

$[\text{DoubleHypothesis} \stackrel{\text{proof}}{\rightarrow} \lambda c.\lambda x.\mathcal{P}(\lceil S' \vdash \forall \underline{a}\colon \forall \underline{b}\colon \forall \underline{h}\colon [\,[\underline{a} \dot{\Rightarrow} \underline{b}]\, \vdash [\,[\,[A1'^{*} \rhd [\underline{a} \dot{\Rightarrow} \underline{b}]\,]\,] \gg [\underline{h} \dot{\Rightarrow} [\underline{a} \dot{\Rightarrow} \underline{b}]\,]\,]\,]; [\,[A2'^{*} \rhd [\underline{h} \dot{\Rightarrow} [\underline{a} \dot{\Rightarrow} \underline{b}]\,]\,]\,] \gg [\,[\underline{h} \dot{\Rightarrow} \underline{a}] \dot{\Rightarrow} [\underline{h} \dot{\Rightarrow} \underline{b}]\,]\,]\,]\,]\,] \rceil, p_0, c)]$

$[\text{DoubleHypothesis} \stackrel{\text{stmt}}{\rightarrow} S' \vdash \forall \underline{a}\colon \forall \underline{b}\colon \forall \underline{h}\colon [\,[\underline{a} \dot{\Rightarrow} \underline{b}]\, \vdash [\,[\underline{h} \dot{\Rightarrow} \underline{a}] \dot{\Rightarrow} [\underline{h} \dot{\Rightarrow} \underline{b}]\,]\,]\,]$

[DoubleHypothesis $\stackrel{\text{tex}}{\rightarrow}$ “Double Hypothesis”]

[DoubleHypothesis $\stackrel{\text{pyk}}{\rightarrow}$ “lemma double hyp”]

C1.10a

$[C1.10a \stackrel{\text{proof}}{\rightarrow} \lambda c.\lambda x.\mathcal{P}(\lceil S' \vdash \forall \underline{b}\colon \forall \underline{c}\colon \forall \underline{d}\colon [\,[\underline{b} \dot{\Rightarrow} \underline{c}]\, \vdash [\,[\underline{c} \dot{\Rightarrow} \underline{d}]\, \vdash [\,[A1' \gg [\,[\underline{c} \dot{\Rightarrow} \underline{d}] \dot{\Rightarrow} [\underline{b} \dot{\Rightarrow} [\underline{c} \dot{\Rightarrow} \underline{d}]\,]\,]\,]\,]; [\,[\,[\,[MP' \rhd [\,[\underline{c} \dot{\Rightarrow} \underline{d}] \dot{\Rightarrow} [\underline{b} \dot{\Rightarrow} [\underline{c} \dot{\Rightarrow} \underline{d}]\,]\,]\,]\,] \rhd [\underline{c} \dot{\Rightarrow} \underline{d}]\,] \gg [\underline{b} \dot{\Rightarrow} [\underline{c} \dot{\Rightarrow} \underline{d}]\,]\,]; [\,[A2' \gg [\,[\underline{b} \dot{\Rightarrow} [\underline{c} \dot{\Rightarrow} \underline{d}]\,] \dot{\Rightarrow} [\,[\underline{b} \dot{\Rightarrow} \underline{c}] \dot{\Rightarrow} [\underline{b} \dot{\Rightarrow} \underline{d}]\,]\,]\,]\,]; [\,[\,[\,[MP' \rhd [\,[\underline{b} \dot{\Rightarrow} [\underline{c} \dot{\Rightarrow} \underline{d}]\,] \dot{\Rightarrow} [\,[\underline{b} \dot{\Rightarrow} \underline{c}] \dot{\Rightarrow} [\underline{b} \dot{\Rightarrow} \underline{d}]\,]\,]\,]\,] \rhd [\underline{b} \dot{\Rightarrow} [\underline{c} \dot{\Rightarrow} \underline{d}]\,]\,] \gg [\,[\underline{b} \dot{\Rightarrow} \underline{c}]$

$\dot{\Rightarrow} [\underline{b} \dot{\Rightarrow} \underline{d}]]] ; [[[\mathrm{MP}' \rhd [[\underline{b} \dot{\Rightarrow} \underline{c}] \dot{\Rightarrow} [\underline{b} \dot{\Rightarrow} \underline{d}]]] \rhd [\underline{b} \dot{\Rightarrow} \underline{c}]] \gg [\underline{b} \dot{\Rightarrow} \underline{d}]]]]]]]] \rceil, p_0, \mathsf{c})]$

$[\mathrm{C1.10a} \stackrel{\mathrm{stmt}}{\rightarrow} \mathrm{S}' \vdash \forall \underline{b} \colon \forall \underline{c} \colon \forall \underline{d} \colon [[\underline{b} \dot{\Rightarrow} \underline{c}] \vdash [[\underline{c} \dot{\Rightarrow} \underline{d}] \vdash [\underline{b} \dot{\Rightarrow} \underline{d}]]]]$

[C1.10a $\stackrel{\mathrm{tex}}{\rightarrow}$ "C1.10a"]

[C1.10a $\stackrel{\mathrm{pyk}}{\rightarrow}$ "corollary one point ten a"]

C1.10(b)

$[\mathrm{C1.10(b)} \stackrel{\mathrm{proof}}{\rightarrow} \lambda \mathsf{c}.\lambda \mathsf{x}.\mathcal{P}(\lceil \mathrm{S}' \vdash \forall \underline{b} \colon \forall \underline{c} \colon \forall \underline{d} \colon [[\underline{b} \dot{\Rightarrow} [\underline{c} \dot{\Rightarrow} \underline{d}]] \vdash [\underline{c} \vdash [[\mathrm{A1}' \gg [\underline{c} \dot{\Rightarrow} [\underline{b} \dot{\Rightarrow} \underline{c}]]] ; [[[[\mathrm{MP}' \rhd [\underline{c} \dot{\Rightarrow} [\underline{b} \dot{\Rightarrow} \underline{c}]]] \rhd \underline{c}] \gg [\underline{b} \dot{\Rightarrow} \underline{c}]] ; [[\mathrm{A2}' \gg [[\underline{b} \dot{\Rightarrow} [\underline{c} \dot{\Rightarrow} \underline{d}]] \dot{\Rightarrow} [[\underline{b} \dot{\Rightarrow} \underline{c}] \dot{\Rightarrow} [\underline{b} \dot{\Rightarrow} \underline{d}]]]] ; [[[[\mathrm{MP}' \rhd [[\underline{b} \dot{\Rightarrow} [\underline{c} \dot{\Rightarrow} \underline{d}]] \dot{\Rightarrow} [[\underline{b} \dot{\Rightarrow} \underline{c}] \dot{\Rightarrow} [\underline{b} \dot{\Rightarrow} \underline{d}]]]] \rhd [\underline{b} \dot{\Rightarrow} [\underline{c} \dot{\Rightarrow} \underline{d}]]] \gg [[\underline{b} \dot{\Rightarrow} \underline{c}] \dot{\Rightarrow} [\underline{b} \dot{\Rightarrow} \underline{d}]]] ; [[[\mathrm{MP}' \rhd [[\underline{b} \dot{\Rightarrow} \underline{c}] \dot{\Rightarrow} [\underline{b} \dot{\Rightarrow} \underline{d}]]] \rhd [\underline{b} \dot{\Rightarrow} \underline{c}]] \gg [\underline{b} \dot{\Rightarrow} \underline{d}]]]]]]]] \rceil, p_0, \mathsf{c})]$

$[\mathrm{C1.10(b)} \stackrel{\mathrm{stmt}}{\rightarrow} \mathrm{S}' \vdash \forall \underline{b} \colon \forall \underline{c} \colon \forall \underline{d} \colon [[\underline{b} \dot{\Rightarrow} [\underline{c} \dot{\Rightarrow} \underline{d}]] \vdash [\underline{c} \vdash [\underline{b} \dot{\Rightarrow} \underline{d}]]]]$

[C1.10(b) $\stackrel{\mathrm{tex}}{\rightarrow}$ "C1.10(b)"]

[C1.10(b) $\stackrel{\mathrm{pyk}}{\rightarrow}$ "corollary one point ten b"]

L1.8

$[\mathrm{L1.8} \stackrel{\mathrm{proof}}{\rightarrow} \lambda \mathsf{c}.\lambda \mathsf{x}.\mathcal{P}(\lceil \mathrm{S}' \vdash \forall \underline{b} \colon [[\mathrm{A2}' \gg [[\underline{b} \dot{\Rightarrow} [[\underline{b} \dot{\Rightarrow} \underline{b}] \dot{\Rightarrow} \underline{b}]] \dot{\Rightarrow} [[\underline{b} \dot{\Rightarrow} [\underline{b} \dot{\Rightarrow} \underline{b}]] \dot{\Rightarrow} [\underline{b} \dot{\Rightarrow} \underline{b}]]]] ; [[\mathrm{A1}' \gg [\underline{b} \dot{\Rightarrow} [[\underline{b} \dot{\Rightarrow} \underline{b}] \dot{\Rightarrow} \underline{b}]]] ; [[[[\mathrm{MP}' \rhd [[\underline{b} \dot{\Rightarrow} [[\underline{b} \dot{\Rightarrow} \underline{b}] \dot{\Rightarrow} \underline{b}]] \dot{\Rightarrow} [[\underline{b} \dot{\Rightarrow} [\underline{b} \dot{\Rightarrow} \underline{b}]] \dot{\Rightarrow} [\underline{b} \dot{\Rightarrow} \underline{b}]]]] \rhd [\underline{b} \dot{\Rightarrow} [[\underline{b} \dot{\Rightarrow} \underline{b}] \dot{\Rightarrow} \underline{b}]]] \gg [[\underline{b} \dot{\Rightarrow} [\underline{b} \dot{\Rightarrow} \underline{b}]] \dot{\Rightarrow} [\underline{b} \dot{\Rightarrow} \underline{b}]]] ; [[\mathrm{A1}' \gg [\underline{b} \dot{\Rightarrow} [\underline{b} \dot{\Rightarrow} \underline{b}]]] ; [[[\mathrm{MP}' \rhd [[\underline{b} \dot{\Rightarrow} [\underline{b} \dot{\Rightarrow} \underline{b}]] \dot{\Rightarrow} [\underline{b} \dot{\Rightarrow} \underline{b}]]] \rhd [\underline{b} \dot{\Rightarrow} [\underline{b} \dot{\Rightarrow} \underline{b}]]] \gg [\underline{b} \dot{\Rightarrow} \underline{b}]]]]]] \rceil, p_0, \mathsf{c})]$

$[\mathrm{L1.8} \stackrel{\mathrm{stmt}}{\rightarrow} \mathrm{S}' \vdash \forall \underline{b} \colon [\underline{b} \dot{\Rightarrow} \underline{b}]]$

[L1.8 $\stackrel{\mathrm{tex}}{\rightarrow}$ "L1.8"]

[L1.8 $\stackrel{\mathrm{pyk}}{\rightarrow}$ "lemma one point eight"]

L3.2(b)′

$[\mathrm{L3.2(b)}' \stackrel{\mathrm{proof}}{\rightarrow} \lambda \mathsf{c}.\lambda \mathsf{x}.\mathcal{P}(\lceil \mathrm{S}' \vdash \forall \underline{t} \colon \forall \underline{r} \colon [[\mathrm{S1}' \gg [[\underline{t} \stackrel{p}{=} \underline{r}] \dot{\Rightarrow} [[\underline{t} \stackrel{p}{=} \underline{t}] \dot{\Rightarrow} [\underline{r} \stackrel{p}{=} \underline{t}]]]]] ; [[\mathrm{L3.2(a)}' \gg [\underline{t} \stackrel{p}{=} \underline{t}]] ; [[[\mathrm{C1.10(b)} \rhd [[\underline{t} \stackrel{p}{=} \underline{r}] \dot{\Rightarrow} [[\underline{t} \stackrel{p}{=} \underline{t}] \dot{\Rightarrow} [\underline{r} \stackrel{p}{=} \underline{t}]]]]] \rhd [\underline{t} \stackrel{p}{=} \underline{t}]] \gg [[\underline{t} \stackrel{p}{=} \underline{r}] \dot{\Rightarrow} [\underline{r} \stackrel{p}{=} \underline{t}]]]]]$

$\rceil, p_0, \mathsf{c})]$

$[\mathrm{L3.2(b)'} \stackrel{\mathrm{stmt}}{\rightarrow} \mathrm{S'} \vdash \forall \underline{t}\colon \forall \underline{r}\colon [\ [\underline{t} \stackrel{p}{=} \underline{r}] \dot{\Rightarrow} [\underline{r} \stackrel{p}{=} \underline{t}]\ ]]$

$[\mathrm{L3.2(b)'} \stackrel{\mathrm{tex}}{\rightarrow}$ "L3.2(b)'"]

$[\mathrm{L3.2(b)'} \stackrel{\mathrm{pyk}}{\rightarrow}$ "lemma prime l three two b"]

L3.2(c)′

$[\mathrm{L3.2(c)'} \stackrel{\mathrm{proof}}{\rightarrow} \lambda \mathsf{c}.\lambda \mathsf{x}.\mathcal{P}(\lceil \mathrm{S'} \vdash \forall \underline{t}\colon \forall \underline{r}\colon \forall \underline{s}\colon [\ [\ \mathrm{S1'} \gg [\ [\underline{r} \stackrel{p}{=} \underline{t}] \dot{\Rightarrow} [\ [\underline{r} \stackrel{p}{=} \underline{s}] \dot{\Rightarrow} [\underline{t} \stackrel{p}{=} \underline{s}]\ ]\ ]\ ]\ ];\ [\ [\ \mathrm{L3.2(b)'} \gg [\ [\underline{t} \stackrel{p}{=} \underline{r}] \dot{\Rightarrow} [\underline{r} \stackrel{p}{=} \underline{t}]\ ]\ ];\ [\ [\ [\ \mathrm{C1.10a} \rhd [\ [\underline{t} \stackrel{p}{=} \underline{r}] \dot{\Rightarrow} [\underline{r} \stackrel{p}{=} \underline{t}]\ ]\ ] \rhd [\ [\underline{r} \stackrel{p}{=} \underline{t}] \dot{\Rightarrow} [\ [\underline{r} \stackrel{p}{=} \underline{s}] \dot{\Rightarrow} [\underline{t} \stackrel{p}{=} \underline{s}]\ ]\ ]\ ] \gg [\ [\underline{t} \stackrel{p}{=} \underline{r}] \dot{\Rightarrow} [\ [\underline{r} \stackrel{p}{=} \underline{s}] \dot{\Rightarrow} [\underline{t} \stackrel{p}{=} \underline{s}]\ ]\ ]\ ]\ ]\ ]\ ]\ \rceil, p_0, \mathsf{c})]$

$[\mathrm{L3.2(c)'} \stackrel{\mathrm{stmt}}{\rightarrow} \mathrm{S'} \vdash \forall \underline{t}\colon \forall \underline{r}\colon \forall \underline{s}\colon [\ [\underline{t} \stackrel{p}{=} \underline{r}] \dot{\Rightarrow} [\ [\underline{r} \stackrel{p}{=} \underline{s}] \dot{\Rightarrow} [\underline{t} \stackrel{p}{=} \underline{s}]\ ]\ ]]$

$[\mathrm{L3.2(c)'} \stackrel{\mathrm{tex}}{\rightarrow}$ "L3.2(c)'"]

$[\mathrm{L3.2(c)'} \stackrel{\mathrm{pyk}}{\rightarrow}$ "lemma prime l three two c"]

L3.2(d)′

$[\mathrm{L3.2(d)'} \stackrel{\mathrm{proof}}{\rightarrow} \lambda \mathsf{c}.\lambda \mathsf{x}.\mathcal{P}(\lceil \mathrm{S'} \vdash \forall \underline{t}\colon \forall \underline{r}\colon \forall \underline{s}\colon [\ [\ \mathrm{L3.2(c)'} \gg [\ [\underline{r} \stackrel{p}{=} \underline{t}] \dot{\Rightarrow} [\ [\underline{t} \stackrel{p}{=} \underline{s}] \dot{\Rightarrow} [\underline{r} \stackrel{p}{=} \underline{s}]\ ]\ ]\ ];\ [\ [\ [\ \mathrm{Tautology1} \rhd [\ [\underline{r} \stackrel{p}{=} \underline{t}] \dot{\Rightarrow} [\ [\underline{t} \stackrel{p}{=} \underline{s}] \dot{\Rightarrow} [\underline{r} \stackrel{p}{=} \underline{s}]\ ]\ ]\ ] \gg [\ [\underline{t} \stackrel{p}{=} \underline{s}] \dot{\Rightarrow} [\ [\underline{r} \stackrel{p}{=} \underline{t}] \dot{\Rightarrow} [\underline{r} \stackrel{p}{=} \underline{s}]\ ]\ ]\ ]\ ];\ [\ [\ \mathrm{L3.2(b)'} \gg [\ [\underline{s} \stackrel{p}{=} \underline{t}] \dot{\Rightarrow} [\underline{t} \stackrel{p}{=} \underline{s}]\ ]\ ];\ [\ [\ [\ [\ \mathrm{C1.10a} \rhd [\ [\underline{s} \stackrel{p}{=} \underline{t}] \dot{\Rightarrow} [\underline{t} \stackrel{p}{=} \underline{s}]\ ]\ ] \rhd [\ [\underline{t} \stackrel{p}{=} \underline{s}] \dot{\Rightarrow} [\ [\underline{r} \stackrel{p}{=} \underline{t}] \dot{\Rightarrow} [\underline{r} \stackrel{p}{=} \underline{s}]\ ]\ ]\ ] \gg [\ [\underline{s} \stackrel{p}{=} \underline{t}] \dot{\Rightarrow} [\ [\underline{r} \stackrel{p}{=} \underline{t}] \dot{\Rightarrow} [\underline{r} \stackrel{p}{=} \underline{s}]\ ]\ ]\ ];\ [\ [\ \mathrm{Tautology1} \rhd [\ [\underline{s} \stackrel{p}{=} \underline{t}] \dot{\Rightarrow} [\ [\underline{r} \stackrel{p}{=} \underline{t}] \dot{\Rightarrow} [\underline{r} \stackrel{p}{=} \underline{s}]\ ]\ ]\ ] \gg [\ [\underline{r} \stackrel{p}{=} \underline{t}] \dot{\Rightarrow} [\ [\underline{s} \stackrel{p}{=} \underline{t}] \dot{\Rightarrow} [\underline{r} \stackrel{p}{=} \underline{s}]\ ]\ ]\ ]\ ]\ ]\ ]\ ]\ ]\ ]\ \rceil, p_0, \mathsf{c})]$

$[\mathrm{L3.2(d)'} \stackrel{\mathrm{stmt}}{\rightarrow} \mathrm{S'} \vdash \forall \underline{t}\colon \forall \underline{r}\colon \forall \underline{s}\colon [\ [\underline{r} \stackrel{p}{=} \underline{t}] \dot{\Rightarrow} [\ [\underline{s} \stackrel{p}{=} \underline{t}] \dot{\Rightarrow} [\underline{r} \stackrel{p}{=} \underline{s}]\ ]\ ]]$

$[\mathrm{L3.2(d)'} \stackrel{\mathrm{tex}}{\rightarrow}$ "L3.2(d)'"]

$[\mathrm{L3.2(d)'} \stackrel{\mathrm{pyk}}{\rightarrow}$ "lemma prime l three two d"]

L3.2(f)′

$[\mathrm{L3.2(f)'} \stackrel{\mathrm{proof}}{\rightarrow} \lambda \mathsf{c}.\lambda \mathsf{x}.\mathcal{P}(\lceil \mathrm{S'} \vdash [\ [\ \mathrm{L3.2(f)'}_{\mathrm{BASE}} \gg [\dot{0} \stackrel{p}{=} [\dot{0} \dot{+} \dot{0}]\ ]\ ];\ [\ [\ \mathrm{L3.2(f)'}_{\mathrm{HYP}} \gg \dot{\forall}\dot{t}\colon [\ [\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}]\ ]\ ] \Rightarrow [\dot{t}' \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}']\ ]\ ]\ ]\ ]\ ];\ [\ [\ \mathrm{S9'} \gg [\ [\dot{0} \stackrel{p}{=} [\dot{0} \dot{+} \dot{0}]\ ] \dot{\Rightarrow} [\ [\dot{\forall}\dot{t}\colon [\ [\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}]\ ]\ ] \Rightarrow [\dot{t}' \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}']\ ]\ ]\ ]\ ] \dot{\Rightarrow} \dot{\forall}\dot{t}\colon [\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}]\ ]\ ]\ ]\ ]\ ]\ ];\ [\ [\ [\ [\ \mathrm{MP'} \rhd [\ [\dot{0} \stackrel{p}{=} [\dot{0} \dot{+} \dot{0}]$

$] \mathrel{\dot{\Rightarrow}} [[\dot{\forall}\dot{t}\colon [[\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}]]] \mathrel{\dot{\Rightarrow}} [\dot{t}' \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}']]]]]] \mathrel{\dot{\Rightarrow}} \dot{\forall}\dot{t}\colon [\dot{t} \stackrel{p}{=} [$
$\dot{0} \dot{+} [\dot{t}]]]]]] \rhd [\dot{0} \stackrel{p}{=} [\dot{0} \dot{+} \dot{0}]]] \gg [[\dot{\forall}\dot{t}\colon [[\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}]]] \mathrel{\dot{\Rightarrow}}$
$[\dot{t}' \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}']]]]] \mathrel{\dot{\Rightarrow}} \dot{\forall}\dot{t}\colon [\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}]]]]] ; [[[\mathrm{MP}' \rhd [[\dot{\forall}\dot{t}\colon$
$[[\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}]]] \mathrel{\dot{\Rightarrow}} [\dot{t}' \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}']]]]] \mathrel{\dot{\Rightarrow}} \dot{\forall}\dot{t}\colon [\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}]]]$
$]] \rhd \dot{\forall}\dot{t}\colon [[\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}]]] \mathrel{\dot{\Rightarrow}} [\dot{t}' \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}']]]]] \gg \dot{\forall}\dot{t}\colon [\dot{t} \stackrel{p}{=} [$
$\dot{0} \dot{+} [\dot{t}]]]]]]] \rceil, p_0, \mathsf{c})]$

$[\mathrm{L3.2(f)}' \stackrel{\mathrm{stmt}}{\rightarrow} \mathrm{S}' \vdash \dot{\forall}\dot{t}\colon [\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}]]]]$

$[\mathrm{L3.2(f)}' \stackrel{\mathrm{tex}}{\rightarrow}$ "L3.2(f)'"]

$[\mathrm{L3.2(f)}' \stackrel{\mathrm{pyk}}{\rightarrow}$ "lemma prime l three two f"]

$\mathrm{L3.2(f)}'_{\mathrm{BASE}}$

$[\mathrm{L3.2(f)}'_{\mathrm{BASE}} \stackrel{\mathrm{proof}}{\rightarrow} \lambda \mathsf{c}.\lambda \mathsf{x}.\mathcal{P}(\lceil \mathrm{S}' \vdash [[\mathrm{S5}' \gg [[\dot{0} \dot{+} \dot{0}] \stackrel{p}{=} \dot{0}]] ; [[\mathrm{L3.2(b)}' \gg$
$[[[\dot{0} \dot{+} \dot{0}] \stackrel{p}{=} \dot{0}] \mathrel{\dot{\Rightarrow}} [\dot{0} \stackrel{p}{=} [\dot{0} \dot{+} \dot{0}]]]] ; [[[\mathrm{MP}' \rhd [[[\dot{0} \dot{+} \dot{0}] \stackrel{p}{=} \dot{0}] \mathrel{\dot{\Rightarrow}}$
$[\dot{0} \stackrel{p}{=} [\dot{0} \dot{+} \dot{0}]]]]] \rhd [[\dot{0} \dot{+} \dot{0}] \stackrel{p}{=} \dot{0}]] \gg [\dot{0} \stackrel{p}{=} [\dot{0} \dot{+} \dot{0}]]]]] \rceil, p_0, \mathsf{c})]$

$[\mathrm{L3.2(f)}'_{\mathrm{BASE}} \stackrel{\mathrm{stmt}}{\rightarrow} \mathrm{S}' \vdash [\dot{0} \stackrel{p}{=} [\dot{0} \dot{+} \dot{0}]]]$

$[\mathrm{L3.2(f)}'_{\mathrm{BASE}} \stackrel{\mathrm{tex}}{\rightarrow}$ "{L3.2(f)'}_{BASE}"]

$[\mathrm{L3.2(f)}'_{\mathrm{BASE}} \stackrel{\mathrm{pyk}}{\rightarrow}$ "lemma prime l three two f base"]

$\mathrm{L3.2(f)}'_{\mathrm{HYP}}$

$[\mathrm{L3.2(f)}'_{\mathrm{HYP}} \stackrel{\mathrm{proof}}{\rightarrow} \lambda \mathsf{c}.\lambda \mathsf{x}.\mathcal{P}(\lceil \mathrm{S}' \vdash [[\mathrm{L1.8} \gg [[\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}]]] \mathrel{\dot{\Rightarrow}} [\dot{t} \stackrel{p}{=} [$
$\dot{0} \dot{+} [\dot{t}]]]]] ; [[\mathrm{S6}' \gg [[\dot{0} \dot{+} [\dot{t}']] \stackrel{p}{=} [[\dot{0} \dot{+} [\dot{t}]] ']]] ; [[$
$\mathrm{A1}' \gg [[[\dot{0} \dot{+} [\dot{t}']] \stackrel{p}{=} [[\dot{0} \dot{+} [\dot{t}]] ']] \mathrel{\dot{\Rightarrow}} [[\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}]]] \mathrel{\dot{\Rightarrow}} [$
$[\dot{0} \dot{+} [\dot{t}']] \stackrel{p}{=} [[\dot{0} \dot{+} [\dot{t}]] ']]]]] ; [[[[\mathrm{MP}' \rhd [[[\dot{0} \dot{+} [\dot{t}']] \stackrel{p}{=}$
$[[\dot{0} \dot{+} [\dot{t}]] ']] \mathrel{\dot{\Rightarrow}} [[\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}]]] \mathrel{\dot{\Rightarrow}} [[\dot{0} \dot{+} [\dot{t}']] \stackrel{p}{=} [[\dot{0} \dot{+} [\dot{t}$
$]] ']]]]] \rhd [[\dot{0} \dot{+} [\dot{t}']] \stackrel{p}{=} [[\dot{0} \dot{+} [\dot{t}]] ']]] \gg [[\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}$
$]]] \mathrel{\dot{\Rightarrow}} [[\dot{0} \dot{+} [\dot{t}']] \stackrel{p}{=} [[\dot{0} \dot{+} [\dot{t}]] ']]]]] ; [[\mathrm{S2}' \gg [[\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [$
$\dot{t}]]] \mathrel{\dot{\Rightarrow}} [\dot{t}' \stackrel{p}{=} [[\dot{0} \dot{+} [\dot{t}]] ']]]] ; [[\mathrm{A1}' \gg [[[\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}]]]$
$\mathrel{\dot{\Rightarrow}} [\dot{t}' \stackrel{p}{=} [[\dot{0} \dot{+} [\dot{t}]] ']]] \mathrel{\dot{\Rightarrow}} [[\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}]]] \mathrel{\dot{\Rightarrow}} [[\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}$
$]]] \mathrel{\dot{\Rightarrow}} [\dot{t}' \stackrel{p}{=} [[\dot{0} \dot{+} [\dot{t}]] ']]]]]] ; [[[[\mathrm{MP}' \rhd [[[\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}$
$]]] \mathrel{\dot{\Rightarrow}} [\dot{t}' \stackrel{p}{=} [[\dot{0} \dot{+} [\dot{t}]] ']]] \mathrel{\dot{\Rightarrow}} [[\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}]]] \mathrel{\dot{\Rightarrow}} [[\dot{t} \stackrel{p}{=} [$
$\dot{0} \dot{+} [\dot{t}]]] \mathrel{\dot{\Rightarrow}} [\dot{t}' \stackrel{p}{=} [[\dot{0} \dot{+} [\dot{t}]] ']]]]]] \rhd [[\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}]]]$
$\mathrel{\dot{\Rightarrow}} [\dot{t}' \stackrel{p}{=} [[\dot{0} \dot{+} [\dot{t}]] ']]]] \gg [[\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}]]] \mathrel{\dot{\Rightarrow}} [[\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [$
$\dot{t}]]] \mathrel{\dot{\Rightarrow}} [\dot{t}' \stackrel{p}{=} [[\dot{0} \dot{+} [\dot{t}]] ']]]]] ; [[[\mathrm{A2}'^{*} \rhd [[\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}]]$
$] \mathrel{\dot{\Rightarrow}} [[\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}]]] \mathrel{\dot{\Rightarrow}} [\dot{t}' \stackrel{p}{=} [[\dot{0} \dot{+} [\dot{t}]] ']]]]] \gg [[[\dot{t} \stackrel{p}{=} [$

$\dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]\ ]\ \dot{\Rightarrow}\ [\ \dot{t} \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]\ ]\ ]\ \dot{\Rightarrow}\ [\ [\ \dot{t} \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]\ ]\ \dot{\Rightarrow}\ [\ \dot{t}' \overset{p}{=} [$
$[\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]'\ ]\ ]\ ]\ ]\ ]\ ;\ [\ [\ [\ [\ \mathrm{MP}' \rhd [\ [\ [\ \dot{t} \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]\ ]\ \dot{\Rightarrow}\ [\ \dot{t} \overset{p}{=} [$
$\dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]\ ]\ ]\ \dot{\Rightarrow}\ [\ [\ \dot{t} \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]\ ]\ \dot{\Rightarrow}\ [\ \dot{t}' \overset{p}{=} [\ [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]'\ ]\ ]\ ]\ ]\ ]$
$\rhd [\ [\ \dot{t} \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]\ ]\ \dot{\Rightarrow}\ [\ \dot{t} \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]\ ]\ ]\ ]\ ]\ \gg [\ [\ \dot{t} \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]$
$]\ \dot{\Rightarrow}\ [\ \dot{t}' \overset{p}{=} [\ [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]'\ ]\ ]\ ]\ ]\ ;\ [\ [\ \mathrm{L3.2(d)}' \gg [\ [\ \dot{t}' \overset{p}{=} [\ [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]'\ ]$
$]\ \dot{\Rightarrow}\ [\ [\ [\ \dot{0}\dot{+}\ [\ \dot{t}'\ ]\ ] \overset{p}{=} [\ [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]'\ ]\ ]\ \dot{\Rightarrow}\ [\ \dot{t}' \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}'\ ]\ ]\ ]\ ]\ ]\ ]\ ;$
$[\ [\ [\ \mathrm{Hypothesize} \rhd [\ [\ \dot{t}' \overset{p}{=} [\ [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]'\ ]\ ]\ \dot{\Rightarrow}\ [\ [\ [\ \dot{0}\dot{+}\ [\ \dot{t}'\ ]\ ] \overset{p}{=} [\ [$
$\dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]'\ ]\ ]\ \dot{\Rightarrow}\ [\ \dot{t}' \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}'\ ]\ ]\ ]\ ]\ ]\ ]\ ]\ \gg [\ [\ \dot{t} \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]\ ]\ \dot{\Rightarrow}\ [$
$[\ \dot{t}' \overset{p}{=} [\ [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]'\ ]\ ]\ \dot{\Rightarrow}\ [\ [\ [\ \dot{0}\dot{+}\ [\ \dot{t}'\ ]\ ] \overset{p}{=} [\ [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]'\ ]\ ]\ \dot{\Rightarrow}\ [\ \dot{t}' \overset{p}{=}$
$[\ \dot{0}\dot{+}\ [\ \dot{t}'\ ]\ ]\ ]\ ]\ ]\ ]\ ]\ ]\ ;\ [\ [\ [\ \mathrm{A2}'^{*} \rhd [\ [\ \dot{t} \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]\ ]\ \dot{\Rightarrow}\ [\ [\ \dot{t}' \overset{p}{=} [\ [$
$\dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]'\ ]\ ]\ \dot{\Rightarrow}\ [\ [\ [\ \dot{0}\dot{+}\ [\ \dot{t}'\ ]\ ] \overset{p}{=} [\ [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]'\ ]\ ]\ \dot{\Rightarrow}\ [\ \dot{t}' \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}'$
$]\ ]\ ]\ ]\ ]\ ]\ ]\ \gg [\ [\ [\ \dot{t} \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]\ ]\ \dot{\Rightarrow}\ [\ \dot{t}' \overset{p}{=} [\ [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]'\ ]\ ]\ ]\ \dot{\Rightarrow}$
$[\ [\ \dot{t} \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]\ ]\ \dot{\Rightarrow}\ [\ [\ [\ \dot{0}\dot{+}\ [\ \dot{t}'\ ]\ ] \overset{p}{=} [\ [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]'\ ]\ ]\ \dot{\Rightarrow}\ [\ \dot{t}' \overset{p}{=} [$
$\dot{0}\dot{+}\ [\ \dot{t}'\ ]\ ]\ ]\ ]\ ]\ ]\ ]\ ]\ ;\ [\ [\ [\ [\ \mathrm{MP}' \rhd [\ [\ [\ \dot{t} \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]\ ]\ \dot{\Rightarrow}\ [\ \dot{t}' \overset{p}{=} [\ [$
$\dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]'\ ]\ ]\ ]\ \dot{\Rightarrow}\ [\ [\ \dot{t} \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]\ ]\ \dot{\Rightarrow}\ [\ [\ [\ \dot{0}\dot{+}\ [\ \dot{t}'\ ]\ ] \overset{p}{=} [\ [\ \dot{0}\dot{+}\ [$
$\dot{t}\ ]\ ]'\ ]\ ]\ \dot{\Rightarrow}\ [\ \dot{t}' \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}'\ ]\ ]\ ]\ ]\ ]\ ]\ ]\ \rhd [\ [\ \dot{t} \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]\ ]\ \dot{\Rightarrow}\ [\ \dot{t}' \overset{p}{=}$
$[\ [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]'\ ]\ ]\ ]\ ]\ \gg [\ [\ \dot{t} \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]\ ]\ \dot{\Rightarrow}\ [\ [\ [\ \dot{0}\dot{+}\ [\ \dot{t}'\ ]\ ] \overset{p}{=} [\ [$
$\dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]'\ ]\ ]\ \dot{\Rightarrow}\ [\ \dot{t}' \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}'\ ]\ ]\ ]\ ]\ ]\ ]\ ;\ [\ [\ [\ \mathrm{A2}'^{*} \rhd [\ [\ \dot{t} \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}$
$]\ ]\ ]\ \dot{\Rightarrow}\ [\ [\ [\ \dot{0}\dot{+}\ [\ \dot{t}'\ ]\ ] \overset{p}{=} [\ [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]'\ ]\ ]\ \dot{\Rightarrow}\ [\ \dot{t}' \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}'\ ]\ ]\ ]\ ]\ ]$
$]\ \gg [\ [\ [\ \dot{t} \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]\ ]\ \dot{\Rightarrow}\ [\ [\ \dot{0}\dot{+}\ [\ \dot{t}'\ ]\ ] \overset{p}{=} [\ [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]'\ ]\ ]\ ]\ \dot{\Rightarrow}\ [$
$[\ \dot{t} \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]\ ]\ \dot{\Rightarrow}\ [\ \dot{t}' \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}'\ ]\ ]\ ]\ ]\ ]\ ]\ ]\ ;\ [\ [\ [\ [\ \mathrm{MP}' \rhd [\ [\ [\ \dot{t} \overset{p}{=}$
$[\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]\ ]\ \dot{\Rightarrow}\ [\ [\ \dot{0}\dot{+}\ [\ \dot{t}'\ ]\ ] \overset{p}{=} [\ [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]'\ ]\ ]\ ]\ \dot{\Rightarrow}\ [\ [\ \dot{t} \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}$
$]\ ]\ ]\ \dot{\Rightarrow}\ [\ \dot{t}' \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}'\ ]\ ]\ ]\ ]\ ]\ ]\ \rhd [\ [\ \dot{t} \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]\ ]\ \dot{\Rightarrow}\ [\ [\ \dot{0}\dot{+}\ [\ \dot{t}'$
$]\ ] \overset{p}{=} [\ [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]'\ ]\ ]\ ]\ ]\ \gg [\ [\ \dot{t} \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]\ ]\ \dot{\Rightarrow}\ [\ \dot{t}' \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}'\ ]$
$]\ ]\ ]\ ]\ ;\ [\ [\ \mathrm{Gen}' \rhd [\ [\ \dot{t} \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]\ ]\ \dot{\Rightarrow}\ [\ \dot{t}' \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}'\ ]\ ]\ ]\ ]\ ]$
$\gg \dot{\forall}\dot{t}\colon [\ [\ \dot{t} \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]\ ]\ \dot{\Rightarrow}\ [\ \dot{t}' \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}'\ ]\ ]\ ]\ ]\ ]\ ]\ ]\ ]\ ]\ ]\ ]\ ]\ ]\ ]\ ]\ ]$
$]\ ]\ ]\ ]\ ]\ \rceil, \mathrm{p}_0, \mathsf{c})]$

$[\mathrm{L3.2(f)}'_{\mathrm{HYP}} \overset{\mathrm{stmt}}{\rightarrow} \mathrm{S}' \vdash \dot{\forall}\dot{t}\colon [\ [\ \dot{t} \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}\ ]\ ]\ ]\ \dot{\Rightarrow}\ [\ \dot{t}' \overset{p}{=} [\ \dot{0}\dot{+}\ [\ \dot{t}'\ ]\ ]\ ]\ ]\ ]$

$[\mathrm{L3.2(f)}'_{\mathrm{HYP}} \overset{\mathrm{tex}}{\rightarrow}$ "{L3.2(f)'}_{HYP}"]

$[\mathrm{L3.2(f)}'_{\mathrm{HYP}} \overset{\mathrm{pyk}}{\rightarrow}$ "lemma prime l three two f hyp"]

L3.2(g)′

$[\mathrm{L3.2(g)}' \overset{\mathrm{proof}}{\rightarrow} \lambda \mathsf{c}.\lambda \mathsf{x}.\mathcal{P}(\lceil \mathrm{S}' \vdash [\ [\ \mathrm{L3.2(g)}'_{\mathrm{BASE}} \gg \dot{\forall}\dot{t}\colon [\ [\ \dot{t}' \dot{+} \dot{0}\ ] \overset{p}{=} [\ [\ \dot{t} \dot{+} \dot{0}\ ]'$
$]\ ]\ ]\ ;\ [\ [\ \mathrm{L3.2(g)}'_{\mathrm{HYP}} \gg \dot{\forall}\dot{r}\colon [\ [\ [\ \dot{t}' \dot{+}\ [\ \dot{r}\ ]\ ] \overset{p}{=} [\ [\ \dot{t} \dot{+}\ [\ \dot{r}\ ]\ ]'\ ]\ ]\ \dot{\Rightarrow}\ [\ [$
$\dot{t}' \dot{+}\ [\ \dot{r}'\ ]\ ] \overset{p}{=} [\ [\ \dot{t} \dot{+}\ [\ \dot{r}'\ ]\ ]'\ ]\ ]\ ]\ ]\ ;\ [\ [\ \mathrm{S9}' \gg [\ [\ \dot{\forall}\dot{t}\colon [\ [\ \dot{t}' \dot{+} \dot{0}\ ] \overset{p}{=} [\ [$
$\dot{t} \dot{+} \dot{0}\ ]'\ ]\ ]\ ]\ \dot{\Rightarrow}\ [\ [\ \dot{\forall}\dot{r}\colon [\ [\ [\ \dot{t}' \dot{+}\ [\ \dot{r}\ ]\ ] \overset{p}{=} [\ [\ \dot{t} \dot{+}\ [\ \dot{r}\ ]\ ]'\ ]\ ]\ \dot{\Rightarrow}\ [\ [\ \dot{t}' \dot{+}\ [$
$\dot{r}'\ ]\ ] \overset{p}{=} [\ [\ \dot{t} \dot{+}\ [\ \dot{r}'\ ]\ ]'\ ]\ ]\ ]\ ]\ \dot{\Rightarrow} \dot{\forall}\dot{r}\colon [\ [\ \dot{t}' \dot{+}\ [\ \dot{r}\ ]\ ] \overset{p}{=} [\ [\ \dot{t} \dot{+}\ [\ \dot{r}\ ]\ ]'\ ]\ ]\ ]$