

Assume the following.

$$True \quad (2)$$

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$$(\forall V0t1 \in 2. (\forall V1t2 \in 2. ((p V0t1) \Rightarrow (p V1t2)) \Rightarrow ((p V1t2) \Rightarrow (p V0t1)) \Rightarrow ((p V0t1) \Leftrightarrow (p V1t2)))) \quad (3)$$

Assume the following.

$$(\forall V0t \in 2. (((True \wedge (p V0t)) \Leftrightarrow (p V0t)) \wedge (((p V0t) \wedge True) \Leftrightarrow (p V0t)) \wedge (((False \wedge (p V0t)) \Leftrightarrow False) \wedge (((p V0t) \wedge False) \Leftrightarrow False) \wedge (((p V0t) \wedge (p V0t)) \Leftrightarrow (p V0t)))))) \quad (4)$$

Assume the following.

$$\forall A_27a.nonempty A_27a \Rightarrow (\forall V0x \in A_27a. ((V0x = V0x) \Leftrightarrow True)) \quad (5)$$

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$$(\forall V0t \in 2. (((True \Leftrightarrow (p V0t)) \Leftrightarrow (p V0t)) \wedge (((p V0t) \Leftrightarrow True) \Leftrightarrow (p V0t)) \wedge (((False \Leftrightarrow (p V0t)) \Leftrightarrow \neg(p V0t)) \wedge (((p V0t) \Leftrightarrow False) \Leftrightarrow \neg(p V0t)))))) \quad (6)$$

Assume the following.

$$\forall A_27a.nonempty A_27a \Rightarrow \forall A_27b.nonempty A_27b \Rightarrow (\forall V0f \in ((A_27b^{A_27a})^{A_27a}). (\forall V1x \in A_27a. ((ap (ap (c_2Ecombin_2EW A_27a A_27b) V0f) V1x) = (ap (ap V0f V1x) V1x)))) \quad (7)$$

Assume the following.

$$\forall A_27a.nonempty A_27a \Rightarrow (\forall V0P \in (2^{A_27a}). (\forall V1x \in A_27a. ((p (ap (ap (c_2Ebool_2EIN A_27a) V1x) V0P)) \Leftrightarrow (p (ap V0P V1x)))))) \quad (8)$$

Assume the following.

$$\forall A_27a.nonempty A_27a \Rightarrow \forall A_27b.nonempty A_27b \Rightarrow (\forall V0R \in ((2^{A_27a})^{A_27a}). (\forall V1abs \in (A_27b^{A_27a}). (\forall V2rep \in (A_27a^{A_27b}). ((p (ap (ap (ap (c_2Equotient_2EQUOTIENT A_27a A_27b) V0R) V1abs) V2rep)) \Rightarrow (\forall V3a \in A_27b. ((ap V1abs (ap V2rep V3a)) = V3a)))))) \quad (9)$$

Assume the following.

$$\forall A_27a.nonempty A_27a \Rightarrow \forall A_27b.nonempty A_27b \Rightarrow (\forall V0R \in ((2^{A_27a})^{A_27a}). (\forall V1abs \in (A_27b^{A_27a}). (\forall V2rep \in (A_27a^{A_27b}). ((p (ap (ap (ap (c_2Equotient_2EQUOTIENT A_27a A_27b) V0R) V1abs) V2rep)) \Rightarrow (\forall V3a \in A_27b. (p (ap (ap V0R (ap V2rep V3a)) (ap V2rep V3a)))))))))) \quad (10)$$

Assume the following.

$$\begin{aligned}
& \forall A_27a.nonempty\ A_27a \Rightarrow \forall A_27b.nonempty\ A_27b \Rightarrow \forall A_27c. \\
& nonempty\ A_27c \Rightarrow \forall A_27d.nonempty\ A_27d \Rightarrow (\forall V0f \in (A_27c^{A_27a}). \\
& (\forall V1g \in (A_27d^{A_27b}). (\forall V2h \in (A_27b^{A_27c}). (\forall V3x \in \\
& A_27a. ((ap\ (ap\ (ap\ (ap\ (c_2Equotient_2E_2D_2D_3E\ A_27a\ A_27b\ A_27c \\
& A_27d)\ V0f)\ V1g)\ V2h)\ V3x) = (ap\ V1g\ (ap\ V2h\ (ap\ V0f\ V3x))))))))) \\
& \tag{11}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall A_27a.nonempty\ A_27a \Rightarrow \forall A_27b.nonempty\ A_27b \Rightarrow (\\
& \forall V0p \in (2^{A_27a}). (\forall V1m \in (A_27b^{A_27a}). (\forall V2x \in \\
& A_27a. ((p\ (ap\ (ap\ (c_2Ebool_2EIN\ A_27a)\ V2x)\ V0p)) \Rightarrow ((ap\ (ap\ (ap \\
& (c_2Ebool_2ERES_ABSTRACT\ A_27a\ A_27b)\ V0p)\ V1m)\ V2x) = (ap\ V1m \\
& V2x)))))) \\
& \tag{12}
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall A_27a.nonempty\ A_27a \Rightarrow \forall A_27b.nonempty\ A_27b \Rightarrow \forall A_27c. \\
& nonempty\ A_27c \Rightarrow \forall A_27d.nonempty\ A_27d \Rightarrow (\forall V0R1 \in (\\
& (2^{A_27a})^{A_27a}). (\forall V1abs1 \in (A_27c^{A_27a}). (\forall V2rep1 \in \\
& (A_27a^{A_27c}). ((p\ (ap\ (ap\ (ap\ (c_2Equotient_2EQUOTIENT\ A_27a\ A_27c) \\
& V0R1)\ V1abs1)\ V2rep1)) \Rightarrow (\forall V3R2 \in ((2^{A_27b})^{A_27b}). (\forall V4abs2 \in \\
& (A_27d^{A_27b}). (\forall V5rep2 \in (A_27b^{A_27d}). ((p\ (ap\ (ap\ (ap\ (c_2Equotient_2EQUOTIENT \\
& A_27b\ A_27d)\ V3R2)\ V4abs2)\ V5rep2)) \Rightarrow (\forall V6f \in (A_27d^{A_27c}). \\
& (V6f = (ap\ (ap\ (ap\ (c_2Equotient_2E_2D_2D_3E\ A_27c\ A_27b\ A_27a\ A_27d) \\
& V2rep1)\ V4abs2)\ (ap\ (ap\ (c_2Ebool_2ERES_ABSTRACT\ A_27a\ A_27b) \\
& (ap\ (c_2Equotient_2Erespects\ A_27a\ 2)\ V0R1))\ (ap\ (ap\ (ap\ (c_2Equotient_2E_2D_2D_3E \\
& A_27a\ A_27d\ A_27c\ A_27b)\ V1abs1)\ V5rep2)\ V6f))))))))))))) \\
& \tag{13}
\end{aligned}$$