l101_group_9 (TMZGR5hfnETig6G1rJGRfKPTKWM546fsNY2)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v2\_group\_1 : \iota \Rightarrow o$ be given. Let $v3\_group\_1 : \iota \Rightarrow o$ be given. Let $v3\_group\_9 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1\_group\_9 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_group\_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k17\_group\_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2\_group\_9 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.((\neg v2\_struct\_0\ X1) \wedge ((v2\_group\_1\ X1) \wedge ((v3\_group\_1\ X1) \wedge ((v3\_group\_9\ X1\ X0) \wedge (l1\_group\_9\ X1\ X0))))) \Rightarrow (\forall X2.(m1\_group\_9\ X2\ X0\ X1) \Rightarrow (\forall X3.(m1\_group\_9\ X3\ X0\ X1) \Rightarrow ((\forall X4.(m1\_group\_9\ X4\ X0\ X1) \Rightarrow ((X4 = k17\_group\_9\ X0\ X1\ X2\ X3) \Rightarrow (u1\_struct\_0\ X4 = k3\_xboole\_0\ (u1\_struct\_0\ X2)\ (u1\_struct\_0\ X3)))) \wedge (\forall X4.((v2\_group\_9\ X4\ X0) \wedge (m1\_group\_9\ X4\ X0\ X1)) \Rightarrow ((u1\_struct\_0\ X4 = k3\_xboole\_0\ (u1\_struct\_0\ X2)\ (u1\_struct\_0\ X3)) \Rightarrow (X4 = k17\_group\_9\ X0\ X1\ X2\ X3))))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.r1\_tarski\ (k3\_xboole\_0\ X0\ X1)\ X0 \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v2\_struct\_0\ X1) \wedge ((v2\_group\_1\ X1) \wedge ((v3\_group\_1\ X1) \wedge ((v3\_group\_9\ X1\ X0) \wedge (l1\_group\_9\ X1\ X0))))) \Rightarrow (\forall X2.(m1\_group\_9\ X2\ X0\ X1) \Rightarrow (\forall X3.(m1\_group\_9\ X3\ X0\ X1) \Rightarrow ((r1\_tarski\ (u1\_struct\_0\ X2)\ (u1\_struct\_0\ X3)) \Rightarrow (m1\_group\_9\ X2\ X0\ X3)))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((\neg v2\_struct\_0\ X1) \wedge ((v2\_group\_1\ X1) \wedge ((v3\_group\_1\ X1) \wedge ((v3\_group\_9\ X1\ X0) \wedge (l1\_group\_9\ X1\ X0))))) \wedge ((m1\_group\_9\ X2\ X0\ X1) \wedge (m1\_group\_9\ X3\ X0\ X1))) \Rightarrow ((v2\_group\_9\ (k17\_group\_9\ X0\ X1\ X2\ X3)\ X0) \wedge (m1\_group\_9\ (k17\_group\_9\ X0\ X1\ X2\ X3)\ X0\ X1)) \tag{4}$$

Theorem 1

$$\forall X0.\forall X1.((\neg v2_struct_0\ X1)\wedge((v2_group_1\ X1)\wedge(
(v3_group_1\ X1)\wedge((v3_group_9\ X1\ X0)\wedge(l1_group_9\ X1\ X0)))))\Rightarrow(
\forall X2.(m1_group_9\ X2\ X0\ X1)\Rightarrow(\forall X3.(m1_group_9\ X3\ X0
X1)\Rightarrow(m1_group_9\ (k17_group_9\ X0\ X1\ X2\ X3)\ X0\ X2)))$$