t32_conlat_1 (TMHx1iD5o8PBGZhuM5Pkns8QyuYRL5RvWZw)

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Let $v1\_conlat\_1 : \iota \Rightarrow o$ be given. Let $l1\_conlat\_1 : \iota \Rightarrow o$ be given. Let $v4\_conlat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5\_conlat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v7\_conlat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l2\_conlat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9\_conlat\_1 : \iota \Rightarrow \iota$ be given. Let $l5\_struct\_0 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u3\_conlat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $u4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $u2\_conlat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8\_conlat\_1 : \iota \Rightarrow \iota$ be given. Let $g2\_conlat\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9\_setfam\_1 : \iota \Rightarrow \iota$ be given. Let $k1\_conlat\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_conlat\_1 : \iota \Rightarrow \iota$ be given. Let $k4\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.((l5\_struct\_0\ X0) \wedge (l2\_conlat\_1\ X1\ X0)) \Rightarrow (m1\_subset\_1\ (u3\_conlat\_1\ X0\ X1)\ (k1\_zfmisc\_1\ (u4\_struct\_0\ X0))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((l5\_struct\_0\ X0) \wedge (l2\_conlat\_1\ X1\ X0)) \Rightarrow (m1\_subset\_1\ (u2\_conlat\_1\ X0\ X1)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \tag{2}$$

Assume the following.

$$\forall X0.(l1\_conlat\_1\ X0) \Rightarrow (l5\_struct\_0\ X0) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v1\_conlat\_1\ X0) \wedge (l1\_conlat\_1\ X0)) \Rightarrow ((v1\_funct\_1\ (k9\_conlat\_1\ X0)) \wedge ((v1\_funct\_2\ (k9\_conlat\_1\ X0)\ (k2\_zfmisc\_1\ (k8\_conlat\_1\ X0)\ (k8\_conlat\_1\ X0))\ (k8\_conlat\_1\ X0)) \wedge (m1\_subset\_1\ (k9\_conlat\_1\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (k8\_conlat\_1\ X0)\ (k8\_conlat\_1\ X0))\ (k8\_conlat\_1\ X0))))))) \tag{4}$$

Assume the following.

$$\forall X0.((\neg v1\_conlat\_1\ X0)\wedge(l1\_conlat\_1\ X0))\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ (k2\_zfmisc\_1\ (k8\_conlat\_1\ X0)\ (k8\_conlat\_1\ X0))\ (k8\_conlat\_1\ X0))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (k8\_conlat\_1\ X0)\ (k8\_conlat\_1\ X0))\ (k8\_conlat\_1\ X0))))))\Rightarrow((X1 = k9\_conlat\_1\ X0)\Leftrightarrow(\forall X2.((v4\_conlat\_1\ X2\ X0)\wedge((\neg v5\_conlat\_1\ X2\ X0)\wedge((v7\_conlat\_1\ X2\ X0)\wedge(l2\_conlat\_1\ X2\ X0))))\Rightarrow(\forall X3.((v4\_conlat\_1\ X3\ X0)\wedge((\neg v5\_conlat\_1\ X3\ X0)\wedge((v7\_conlat\_1\ X3\ X0)\wedge(l2\_conlat\_1\ X3\ X0))))\Rightarrow(\exists X4.(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\wedge(\exists X5.(m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (u4\_struct\_0\ X0)))\wedge((k1\_binop\_1\ X1\ X2\ X3 = g2\_conlat\_1\ X0\ X4\ X5)\wedge((X4 = k9\_subset\_1\ (u1\_struct\_0\ X0)\ (u2\_conlat\_1\ X0\ X2)\ (u2\_conlat\_1\ X0\ X3))\wedge(X5 = k3\_funct\_2\ (k9\_setfam\_1\ (u1\_struct\_0\ X0))\ (k9\_setfam\_1\ (u4\_struct\_0\ X0))\ (k1\_conlat\_1\ X0)\ (k3\_funct\_2\ (k1\_zfmisc\_1\ (u4\_struct\_0\ X0))\ (k9\_setfam\_1\ (u1\_struct\_0\ X0))\ (k2\_conlat\_1\ X0)\ (k4\_subset\_1\ (u4\_struct\_0\ X0)\ (u3\_conlat\_1\ X0\ X2)\ (u3\_conlat\_1\ X0\ X3)))))))))))) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X0))\Rightarrow(k9\_subset\_1\ X0\ X1\ X2 = k9\_subset\_1\ X0\ X2\ X1) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X0)))\Rightarrow(k4\_subset\_1\ X0\ X1\ X2 = k4\_subset\_1\ X0\ X2\ X1) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.((l5\_struct\_0\ X0)\wedge(l2\_conlat\_1\ X1\ X0))\Rightarrow((v4\_conlat\_1\ X1\ X0)\Rightarrow(X1 = g2\_conlat\_1\ X0\ (u2\_conlat\_1\ X0\ X1)\ (u3\_conlat\_1\ X0\ X1))) \tag{8}$$

Theorem 1

$$\forall X0.((\neg v1\_conlat\_1\ X0)\wedge(l1\_conlat\_1\ X0))\Rightarrow(\forall X1.((v4\_conlat\_1\ X1\ X0)\wedge((\neg v5\_conlat\_1\ X1\ X0)\wedge((v7\_conlat\_1\ X1\ X0)\wedge(l2\_conlat\_1\ X1\ X0))))\Rightarrow(\forall X2.((v4\_conlat\_1\ X2\ X0)\wedge((\neg v5\_conlat\_1\ X2\ X0)\wedge((v7\_conlat\_1\ X2\ X0)\wedge(l2\_conlat\_1\ X2\ X0))))\Rightarrow(k1\_binop\_1\ (k9\_conlat\_1\ X0)\ X1\ X2 = k1\_binop\_1\ (k9\_conlat\_1\ X0)\ X2\ X1)))$$