

t22\_conlat\_1

(TMXB1MwT9g5fvTribXeCXLSAxXf68LXkhV9)

October 27, 2020

Let  $v1\_conlat\_1 : \iota \Rightarrow o$  be given. Let  $l1\_conlat\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v5\_conlat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $g2\_conlat\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  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. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1\_conlat\_1 X0) \wedge (l1\_conlat\_1 X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u4\_struct\_0 X0))) \Rightarrow (r1\_tarski X1 \\ & (k3\_funct\_2 (k9\_setfam\_1 (u1\_struct\_0 X0)) (k9\_setfam\_1 (u4\_struct\_0 \\ & X0)) (k1\_conlat\_1 X0) (k3\_funct\_2 (k1\_zfmisc\_1 (u4\_struct\_0 X0)) \\ & (k9\_setfam\_1 (u1\_struct\_0 X0)) (k2\_conlat\_1 X0) X1)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1\_conlat\_1 X0) \wedge (l1\_conlat\_1 X0)) \Rightarrow (\forall X1. \\
& (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u4\_struct\_0 X0))) \Rightarrow (((\neg v5\_conlat\_1 \\
& (g2\_conlat\_1 X0 (k3\_funct\_2 (k1\_zfmisc\_1 (u4\_struct\_0 X0)) (k9\_setfam\_1 \\
& (u1\_struct\_0 X0) (k2\_conlat\_1 X0) X1) (k3\_funct\_2 (k9\_setfam\_1 \\
& (u1\_struct\_0 X0) (k9\_setfam\_1 (u4\_struct\_0 X0)) (k1\_conlat\_1 \\
& X0) (k3\_funct\_2 (k1\_zfmisc\_1 (u4\_struct\_0 X0)) (k9\_setfam\_1 ( \\
& u1\_struct\_0 X0) (k2\_conlat\_1 X0) X1))) X0) \wedge ((v7\_conlat\_1 (g2\_conlat\_1 \\
& X0 (k3\_funct\_2 (k1\_zfmisc\_1 (u4\_struct\_0 X0)) (k9\_setfam\_1 (u1\_struct\_0 \\
& X0) (k2\_conlat\_1 X0) X1) (k3\_funct\_2 (k9\_setfam\_1 (u1\_struct\_0 \\
& X0) (k9\_setfam\_1 (u4\_struct\_0 X0)) (k1\_conlat\_1 X0) (k3\_funct\_2 \\
& (k1\_zfmisc\_1 (u4\_struct\_0 X0)) (k9\_setfam\_1 (u1\_struct\_0 X0)) \\
& (k2\_conlat\_1 X0) X1))) X0) \wedge (l2\_conlat\_1 (g2\_conlat\_1 X0 (k3\_funct\_2 \\
& (k1\_zfmisc\_1 (u4\_struct\_0 X0)) (k9\_setfam\_1 (u1\_struct\_0 X0)) \\
& (k2\_conlat\_1 X0) X1) (k3\_funct\_2 (k9\_setfam\_1 (u1\_struct\_0 X0)) \\
& (k9\_setfam\_1 (u4\_struct\_0 X0)) (k1\_conlat\_1 X0) (k3\_funct\_2 ( \\
& k1\_zfmisc\_1 (u4\_struct\_0 X0)) (k9\_setfam\_1 (u1\_struct\_0 X0)) \\
& (k2\_conlat\_1 X0) X1))) X0))) \wedge (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\
& (u1\_struct\_0 X0))) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 \\
& (u4\_struct\_0 X0))) \Rightarrow (((\neg v5\_conlat\_1 (g2\_conlat\_1 X0 X2 X3) X0) \wedge \\
& ((v7\_conlat\_1 (g2\_conlat\_1 X0 X2 X3) X0) \wedge (l2\_conlat\_1 (g2\_conlat\_1 \\
& X0 X2 X3) X0))) \wedge (r1\_tarski X1 X3)) \Rightarrow (r1\_tarski (k3\_funct\_2 (k9\_setfam\_1 \\
& (u1\_struct\_0 X0) (k9\_setfam\_1 (u4\_struct\_0 X0)) (k1\_conlat\_1 \\
& X0) (k3\_funct\_2 (k1\_zfmisc\_1 (u4\_struct\_0 X0)) (k9\_setfam\_1 ( \\
& u1\_struct\_0 X0) (k2\_conlat\_1 X0) X1) X3))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. r1\_tarski X0 X0 \tag{3}$$

Assume the following.

$$\forall X0. k9\_setfam\_1 X0 = k1\_zfmisc\_1 X0 \tag{4}$$

Assume the following.

$$\forall X0. \neg v1\_xboole\_0 (k1\_zfmisc\_1 X0) \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1\_xboole\_0 X0) \wedge \\
& (((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 X0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 X0 X1)))))) \wedge (m1\_subset\_1 X3 X0))) \Rightarrow (m1\_subset\_1 ( \\
& k3\_funct\_2 X0 X1 X2 X3) X1)
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v1\_conlat\_1 X0) \wedge (l1\_conlat\_1 X0)) \Rightarrow ((v1\_funct\_1 \\ (k2\_conlat\_1 X0)) \wedge ((v1\_funct\_2 (k2\_conlat\_1 X0) (k9\_setfam\_1 \\ (u4\_struct\_0 X0)) (k9\_setfam\_1 (u1\_struct\_0 X0))) \wedge (m1\_subset\_1 \\ (k2\_conlat\_1 X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k9\_setfam\_1 (u4\_struct\_0 \\ X0)) (k9\_setfam\_1 (u1\_struct\_0 X0))))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. (X0 = X1) \Leftrightarrow ((r1\_tarSKI X0 X1) \wedge (r1\_tarSKI X1 X0)) \quad (8)$$

**Theorem 1**

$$\begin{aligned} \forall X0. ((\neg v1\_conlat\_1 X0) \wedge (l1\_conlat\_1 X0)) \Rightarrow (\forall X1. \\ (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u4\_struct\_0 X0))) \Rightarrow ((\exists X2. \\ (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \wedge ((\neg v5\_conlat\_1 \\ (g2\_conlat\_1 X0 X2 X1) X0) \wedge ((v7\_conlat\_1 (g2\_conlat\_1 X0 X2 X1) \\ X0) \wedge (l2\_conlat\_1 (g2\_conlat\_1 X0 X2 X1) X0)))) \Leftrightarrow (k3\_funct\_2 (k9\_setfam\_1 \\ (u1\_struct\_0 X0)) (k9\_setfam\_1 (u4\_struct\_0 X0)) (k1\_conlat\_1 \\ X0) (k3\_funct\_2 (k1\_zfmisc\_1 (u4\_struct\_0 X0)) (k9\_setfam\_1 ( \\ u1\_struct\_0 X0)) (k2\_conlat\_1 X0) X1) = X1))) \end{aligned}$$