

# t38\_afproj

(TMGHqsM5Y3Rbbsbna6tg3mD69Cssd8rXdhF)

October 27, 2020

Let  $v7\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_diraf : \iota \Rightarrow o$  be given. Let  $l1\_analoaf : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_incsp\_1 : \iota \Rightarrow \iota$  be given. Let  $k14\_afproj : \iota \Rightarrow \iota$  be given. Let  $u2\_incsp\_1 : \iota \Rightarrow \iota$  be given. Let  $r1\_incsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_aff\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_aff\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_aff\_4 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r5\_aff\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_afproj : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_afproj : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k8\_afproj : \iota \Rightarrow \iota$  be given. Let  $k7\_afproj : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $g1\_incsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l1\_incsp\_1 : \iota \Rightarrow o$  be given. Let  $u3\_incsp\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_incsp\_1 : \iota \Rightarrow o$  be given. Let  $k12\_afproj : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v7\_struct\_0 X0) \wedge ((v1\_diraf X0) \wedge (l1\_analoaf X0))) \Rightarrow \\
& (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow \\
& (\forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow \\
& (\forall X3. (m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow \\
& (\forall X4. (m1\_subset\_1 X4 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow \\
& (((r1\_aff\_4 X0 X1 X3) \wedge ((r1\_aff\_4 X0 X1 X4) \wedge ((r1\_aff\_4 X0 X2 X3) \wedge \\
& ((r1\_aff\_4 X0 X2 X4) \wedge ((v1\_aff\_1 X1 X0) \wedge ((v1\_aff\_1 X2 X0) \wedge ((v1\_aff\_4 \\
& X3 X0) \wedge (v1\_aff\_4 X4 X0)))))) \Rightarrow ((r5\_aff\_1 X0 X1 X2) \vee (r1\_aff\_4 \\
& X0 X3 X4))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v7\_struct\_0 X0) \wedge ((v1\_diraf X0) \wedge (l1\_analoaf X0))) \Rightarrow \\
& (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow \\
& (\forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow \\
& (\forall X3. (m1\_subset\_1 X3 (u1\_incsp\_1 (k14\_afproj X0))) \Rightarrow (\forall X4. \\
& (m1\_subset\_1 X4 (u2\_incsp\_1 (k14\_afproj X0))) \Rightarrow (((X3 = k5\_afproj \\
& X0 X1) \wedge ((X4 = k6\_afproj X0 X2) \wedge ((v1\_aff\_1 X1 X0) \wedge (v1\_aff\_4 X2 X0)))) \Rightarrow \\
& ((r1\_incsp\_1 (k14\_afproj X0) X3 X4) \Leftrightarrow (r1\_aff\_4 X0 X1 X2))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X0 X1)\Rightarrow((v1\_xboole\_0 X1)\vee (X0 \in X1)) \quad (3)$$

Assume the following.

$$\begin{aligned} &\forall X0.((\neg v7\_struct\_0 X0)\wedge((v1\_diraf X0)\wedge(l1\_analoaf X0)))\Rightarrow \\ &(\forall X1.(X1 \in k8\_afproj X0)\Leftrightarrow(\exists X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ &(u1\_struct\_0 X0)))\wedge((X1 = k6\_afproj X0 X2)\wedge(v1\_aff\_4 X2 X0)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} &\forall X0.((\neg v7\_struct\_0 X0)\wedge((v1\_diraf X0)\wedge(l1\_analoaf X0)))\Rightarrow \\ &(\forall X1.(X1 \in k7\_afproj X0)\Leftrightarrow(\exists X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ &(u1\_struct\_0 X0)))\wedge((X1 = k5\_afproj X0 X2)\wedge(v1\_aff\_1 X2 X0)))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} &\forall X0.((\neg v7\_struct\_0 X0)\wedge((v1\_diraf X0)\wedge(l1\_analoaf X0)))\Rightarrow \\ &(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))\Rightarrow \\ &(\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))\Rightarrow \\ &(((v1\_aff\_4 X1 X0)\wedge(v1\_aff\_4 X2 X0))\Rightarrow((k6\_afproj X0 X1 = k6\_afproj \\ &X0 X2)\Leftrightarrow(r1\_aff\_4 X0 X1 X2)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} &\forall X0.((\neg v7\_struct\_0 X0)\wedge((v1\_diraf X0)\wedge(l1\_analoaf X0)))\Rightarrow \\ &(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))\Rightarrow \\ &(\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))\Rightarrow \\ &(((v1\_aff\_1 X1 X0)\wedge(v1\_aff\_1 X2 X0))\Rightarrow((k5\_afproj X0 X1 = k5\_afproj \\ &X0 X2)\Leftrightarrow(r5\_aff\_1 X0 X1 X2)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0)\wedge((\neg v1\_xboole\_0 \\ &X1)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))\Rightarrow(\forall X3. \\ &\forall X4.\forall X5.(g1\_incsp\_1 X0 X1 X2 = g1\_incsp\_1 X3 X4 X5)\Rightarrow \\ &((X0 = X3)\wedge((X1 = X4)\wedge(X2 = X5)))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.(l1\_incsp\_1 X0)\Rightarrow(m1\_subset\_1 (u3\_incsp\_1 X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_incsp\_1 X0) (u2\_incsp\_1 X0)))) \quad (9)$$

Assume the following.

$$\forall X0.(l1\_incsp\_1 X0)\Rightarrow(\neg v1\_xboole\_0 (u2\_incsp\_1 X0)) \quad (10)$$

Assume the following.

$$\forall X0.(l1\_incsp\_1 X0) \Rightarrow (\neg v1\_xboole\_0 (u1\_incsp\_1 X0)) \quad (11)$$

Assume the following.

$$\forall X0.((\neg v7\_struct\_0 X0) \wedge ((v1\_diraf X0) \wedge (l1\_analoaf X0))) \Rightarrow ((v1\_incsp\_1 (k14\_afproj X0)) \wedge (l1\_incsp\_1 (k14\_afproj X0))) \quad (12)$$

Assume the following.

$$\forall X0.((\neg v7\_struct\_0 X0) \wedge ((v1\_diraf X0) \wedge (l1\_analoaf X0))) \Rightarrow (k14\_afproj X0 = g1\_incsp\_1 (k7\_afproj X0) (k8\_afproj X0) (k12\_afproj X0)) \quad (13)$$

Assume the following.

$$\forall X0.(l1\_incsp\_1 X0) \Rightarrow ((v1\_incsp\_1 X0) \Rightarrow (X0 = g1\_incsp\_1 (u1\_incsp\_1 X0) (u2\_incsp\_1 X0) (u3\_incsp\_1 X0))) \quad (14)$$

**Theorem 1**

$$\forall X0.((\neg v7\_struct\_0 X0) \wedge ((v1\_diraf X0) \wedge (l1\_analoaf X0))) \Rightarrow ((\forall X1.(m1\_subset\_1 X1 (u1\_incsp\_1 (k14\_afproj X0))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_incsp\_1 (k14\_afproj X0))) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u2\_incsp\_1 (k14\_afproj X0))) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u2\_incsp\_1 (k14\_afproj X0))) \Rightarrow (\neg(r1\_incsp\_1 (k14\_afproj X0) X1 X3) \wedge ((r1\_incsp\_1 (k14\_afproj X0) X1 X4) \wedge ((r1\_incsp\_1 (k14\_afproj X0) X2 X3) \wedge ((r1\_incsp\_1 (k14\_afproj X0) X2 X4) \wedge ((X1 \neq X2) \wedge (X3 \neq X4))))))))))))))$$