

t22\_anproj\_1 (TMaT-  
NYYNBBS4ErpH2LUyvQygRYjkoQE2goL)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v7\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v13\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v2\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v3\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v4\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v5\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v6\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v7\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v8\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $l1\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v9\_struct\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_anproj\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_anproj\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_relat\_2 : \iota \Rightarrow o$  be given. Let  $v8\_relat\_2 : \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_eqrel\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_anproj\_1 : \iota \Rightarrow \iota$  be given. Let  $l2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $k8\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $l2\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l1\_algstr\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v3\_relat\_2 X2) \wedge ((v8\_relat\_2 \\ & X2) \wedge ((v1\_partfun1 X2 X0) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X0)))))) \Rightarrow (\forall X3. (X3 \in X0) \Rightarrow ((k4\_tarski X3 X1 \in X2) \Leftrightarrow (k6\_eqrel\_1 \\ & X0 X0 X2 X3 = k6\_eqrel\_1 X0 X0 X2 X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\ & X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\ & ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge (l1\_rlvect\_1 \\ & X0)))))))))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow \\ & (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((k4\_tarski X1 \\ & X2 \in k1\_anproj\_1 X0) \Leftrightarrow ((\neg v9\_struct\_0 X1 X0) \wedge ((\neg v9\_struct\_0 X2 X0) \wedge \\ & (r1\_anproj\_1 X0 X1 X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge (l2\_struct\_0 X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow ((X1 \in k8\_struct\_0 X0) \Leftrightarrow (\neg v9\_struct\_0 \\ & X1 X0))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.(l2\_algstr\_0 X0) \Rightarrow ((l2\_struct\_0 X0) \wedge (l1\_algstr\_0 X0)) \quad (4)$$

Assume the following.

$$\forall X0.(l1\_rlvect\_1 X0) \Rightarrow (l2\_algstr\_0 X0) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0. (& (\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\ & X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\ & ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge (l1\_rlvect\_1 \\ & X0)))))))))) \Rightarrow ((v3\_relat\_2 (k1\_anproj\_1 X0)) \wedge ((v8\_relat\_2 ( \\ & k1\_anproj\_1 X0)) \wedge ((v1\_partfun1 (k1\_anproj\_1 X0) (k8\_struct\_0 \\ & X0)) \wedge (m1\_subset\_1 (k1\_anproj\_1 X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & (k8\_struct\_0 X0) (k8\_struct\_0 X0))))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0. (& (\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\ & X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\ & ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge (l1\_rlvect\_1 \\ & X0)))))))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow \\ & (k2\_anproj\_1 X0 X1 = k6\_eqrel\_1 (k8\_struct\_0 X0) (k8\_struct\_0 X0) \\ & (k1\_anproj\_1 X0) X1)) \end{aligned} \quad (7)$$

### Theorem 1

$$\begin{aligned} \forall X0. (& (\neg v2\_struct\_0 X0) \wedge ((\neg v7\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\ & X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge \\ & ((v5\_rlvect\_1 X0) \wedge ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 \\ & X0) \wedge (l1\_rlvect\_1 X0)))))))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 \\ & (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow \\ & (\neg(\neg v9\_struct\_0 X1 X0) \wedge ((\neg v9\_struct\_0 X2 X0) \wedge (\neg(k2\_anproj\_1 \\ & X0 X1 = k2\_anproj\_1 X0 X2)) \Leftrightarrow (r1\_anproj\_1 X0 X1 X2)))))) \end{aligned}$$