

# t1\_autalg\_1 (TM- cqH9AXC1AxAK3sqtJDVaWhgu6tCxHNjF5)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_unialg\_1 : \iota \Rightarrow o$  be given. Let  $v3\_unialg\_1 : \iota \Rightarrow o$  be given. Let  $v4\_unialg\_1 : \iota \Rightarrow o$  be given. Let  $l1\_unialg\_1 : \iota \Rightarrow o$  be given. Let  $r4\_alg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_partfun1 : \iota \Rightarrow \iota$  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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_alg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k4\_relat\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_unialg\_1 X0) \wedge ((v3\_unialg\_1 \\ & \quad X0) \wedge ((v4\_unialg\_1 X0) \wedge (l1\_unialg\_1 X0)))))) \Rightarrow (\forall X1.((\neg \\ & \quad v2\_struct\_0 X1) \wedge ((v2\_unialg\_1 X1) \wedge ((v3\_unialg\_1 X1) \wedge ((v4\_unialg\_1 \\ & \quad X1) \wedge (l1\_unialg\_1 X1)))))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 \\ & \quad X2 (u1\_struct\_0 X0) (u1\_struct\_0 X1)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & \quad (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X1)))))) \Rightarrow ((r4\_alg\_1 \\ & \quad X0 X1 X2) \Leftrightarrow ((r1\_alg\_1 X0 X1 X2) \wedge ((k2\_relset\_1 (u1\_struct\_0 X1) X2 = \\ & \quad u1\_struct\_0 X1) \wedge (v2\_funct\_1 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_unialg\_1 X0) \wedge ((v3\_unialg\_1 X0) \wedge ((v4\_unialg\_1 X0) \wedge (l1\_unialg\_1 X0)))))) \Rightarrow (r1\_alg\_1 X0 X0 (k6\_partfun1 (u1\_struct\_0 X0))) \tag{2}$$

Assume the following.

$$\forall X0.k6\_partfun1 X0 = k4\_relat\_1 X0 \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1) \wedge (v5\_relat\_1 X1 X0)) \Rightarrow (k2\_relset\_1 X0 X1 = k10\_xtuple\_0 X1) \tag{4}$$

Assume the following.

$$\forall X0.k10\_xtuple\_0 (k4\_relat\_1 X0) = X0 \quad (5)$$

Assume the following.

$$\forall X0.(v1\_relat\_1 (k4\_relat\_1 X0)) \wedge (v2\_funct\_1 (k4\_relat\_1 X0)) \quad (6)$$

Assume the following.

$$\forall X0.(v1\_relat\_1 (k4\_relat\_1 X0)) \wedge (v1\_funct\_1 (k4\_relat\_1 X0)) \quad (7)$$

Assume the following.

$$\forall X0.(v1\_partfun1 (k6\_partfun1 X0) X0) \wedge (m1\_subset\_1 (k6\_partfun1 X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow ((v4\_relat\_1 X2 X0) \wedge (v5\_relat\_1 X2 X1)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow ((v1\_partfun1 X2 X0) \Rightarrow (v1\_funct\_2 X2 X0 X1)) \quad (10)$$

**Theorem 1**

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_unialg\_1 X0) \wedge ((v3\_unialg\_1 X0) \wedge ((v4\_unialg\_1 X0) \wedge (l1\_unialg\_1 X0))))) \Rightarrow (r4\_alg\_1 X0 X0 (k6\_partfun1 (u1\_struct\_0 X0)))$$