t21_alg_1 (TMQzTjrrkEBxSHdgsVzhVLA-CaB6e9dVbDBM)

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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 $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ 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 $r3\_alg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r5\_alg\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_alg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_alg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r4\_alg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7\_alg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1\_alg\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_unialg\_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_unialg\_1\ X0) \wedge ((v3\_unialg\_1\ X0) \wedge ((v4\_unialg\_1\ X0) \wedge (l1\_unialg\_1\ X0))))) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge ((v2\_unialg\_1\ X1) \wedge ((v3\_unialg\_1\ X1) \wedge ((v4\_unialg\_1\ X1) \wedge (l1\_unialg\_1\ X1))))) \Rightarrow (\forall X2.((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)))))) \Rightarrow ((r3\_alg\_1\ X0\ X1\ X2) \Rightarrow (r4\_alg\_1\ (k4\_alg\_1\ X0\ (k6\_alg\_1\ X0\ X1\ X2))\ X1\ (k7\_alg\_1\ X0\ X1\ X2))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0) \wedge ((v2\_unialg\_1\ X0) \wedge ((v3\_unialg\_1\ X0) \wedge ((v4\_unialg\_1\ X0) \wedge (l1\_unialg\_1\ X0))))) \wedge (((\neg v2\_struct\_0\ X1) \wedge ((v2\_unialg\_1\ X1) \wedge ((v3\_unialg\_1\ X1) \wedge ((v4\_unialg\_1\ X1) \wedge (l1\_unialg\_1\ X1))))) \wedge ((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))))))) \Rightarrow ((v1\_funct\_1\ (k7\_alg\_1\ X0\ X1\ X2)) \wedge ((v1\_funct\_2\ (k7\_alg\_1\ X0\ X1\ X2)\ (u1\_struct\_0\ (k4\_alg\_1\ X0\ (k6\_alg\_1\ X0\ X1\ X2)))\ (u1\_struct\_0\ X1)) \wedge (m1\_subset\_1\ (k7\_alg\_1\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ (k4\_alg\_1\ X0\ (k6\_alg\_1\ X0\ X1\ X2)))\ (u1\_struct\_0\ X1))))))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0)\wedge((v2\_unialg\_1\ X0)\wedge((v3\_unialg\_1\ X0)\wedge((v4\_unialg\_1\ X0)\wedge(l1\_unialg\_1\ X0)))))\wedge(((\neg v2\_struct\_0\ X1)\wedge((v2\_unialg\_1\ X1)\wedge((v3\_unialg\_1\ X1)\wedge((v4\_unialg\_1\ X1)\wedge(l1\_unialg\_1\ X1)))))\wedge((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))))))))\Rightarrow(m1\_alg\_1\ (k6\_alg\_1\ X0\ X1\ X2)\ X0) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v2\_unialg\_1\ X0)\wedge((v3\_unialg\_1\ X0)\wedge((v4\_unialg\_1\ X0)\wedge(l1\_unialg\_1\ X0)))))\wedge(m1\_alg\_1\ X1\ X0))\Rightarrow((\neg v2\_struct\_0\ (k4\_alg\_1\ X0\ X1))\wedge((v1\_unialg\_1\ (k4\_alg\_1\ X0\ X1))\wedge((v2\_unialg\_1\ (k4\_alg\_1\ X0\ X1))\wedge((v3\_unialg\_1\ (k4\_alg\_1\ X0\ X1))\wedge((v4\_unialg\_1\ (k4\_alg\_1\ X0\ X1))\wedge(l1\_unialg\_1\ (k4\_alg\_1\ X0\ X1))))))) \tag{4}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_unialg\_1\ X0)\wedge((v3\_unialg\_1\ X0)\wedge((v4\_unialg\_1\ X0)\wedge(l1\_unialg\_1\ X0)))))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v2\_unialg\_1\ X1)\wedge((v3\_unialg\_1\ X1)\wedge((v4\_unialg\_1\ X1)\wedge(l1\_unialg\_1\ X1)))))\Rightarrow((r5\_alg\_1\ X0\ X1)\Leftrightarrow(\exists X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))))))\wedge(r4\_alg\_1\ X0\ X1\ X2)))) \tag{5}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_unialg\_1\ X0)\wedge((v3\_unialg\_1\ X0)\wedge((v4\_unialg\_1\ X0)\wedge(l1\_unialg\_1\ X0)))))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v2\_unialg\_1\ X1)\wedge((v3\_unialg\_1\ X1)\wedge((v4\_unialg\_1\ X1)\wedge(l1\_unialg\_1\ X1)))))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))))))\Rightarrow((r3\_alg\_1\ X0\ X1\ X2)\Rightarrow(r5\_alg\_1\ (k4\_alg\_1\ X0\ (k6\_alg\_1\ X0\ X1\ X2))\ X1))))$$