t44_aofa_i00 (TMafKitAVaSJosYyqL6KZyCdxHepsCpvT12)

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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 $v3\_aofa\_000 : \iota \Rightarrow o$ be given. Let $v4\_aofa\_000 : \iota \Rightarrow o$ be given. Let $v5\_aofa\_000 : \iota \Rightarrow o$ be given. Let $v6\_aofa\_000 : \iota \Rightarrow o$ be given. Let $v2\_aofa\_i00 : \iota \Rightarrow o$ be given. Let $l1\_unialg\_1 : \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v4\_card\_3 : \iota \Rightarrow o$ be given. Let $m2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_numbers : \iota$ be given. Let $k9\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_aofa\_i00 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_aofa\_000 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_aofa\_i00 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k21\_aofa\_i00 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k83\_aofa\_i00 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_int\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m3\_aofa\_i00 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k55\_aofa\_i00 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k42\_aofa\_i00 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k47\_aofa\_i00 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k36\_aofa\_i00 :$

$\iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_unialg\_1\ X0) \wedge ((v3\_unialg\_1\ X0) \wedge ((v4\_unialg\_1\ X0) \wedge ((v3\_aofa\_000\ X0) \wedge ((v4\_aofa\_000\ X0) \wedge ((v5\_aofa\_000\ X0) \wedge ((v6\_aofa\_000\ X0) \wedge ((v2\_aofa\_i00\ X0) \wedge (l1\_unialg\_1\ X0))))))))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0\ X1) \wedge (v4\_card\_3\ X1)) \Rightarrow (\forall X2.(m2\_funct\_2\ X2\ X1\ k4\_numbers\ (k9\_funct\_2\ X1\ k4\_numbers)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k9\_funct\_2\ X1\ k4\_numbers))) \Rightarrow (\forall X4.((v1\_aofa\_i00\ X4\ X0\ X1\ X3) \wedge (m1\_aofa\_000\ X4\ X0\ (k9\_funct\_2\ X1\ k4\_numbers)\ X3)) \Rightarrow (\forall X5.(m1\_aofa\_i00\ X5\ X1\ (u1\_struct\_0\ X0)\ (k9\_funct\_2\ X1\ k4\_numbers)\ X4) \Rightarrow (\forall X6.(m3\_aofa\_i00\ X6\ X0\ X1\ X3\ X4) \Rightarrow ((k21\_aofa\_i00\ X1\ k4\_numbers\ (k2\_binop\_1\ (k9\_funct\_2\ X1\ k4\_numbers)\ (u1\_struct\_0\ X0)\ (k9\_funct\_2\ X1\ k4\_numbers)\ X4\ X2\ (k55\_aofa\_i00\ X0\ X1\ X3\ X4\ X5\ X6))\ X5 = k6\_int\_1\ (k21\_aofa\_i00\ X1\ k4\_numbers\ X2\ X5)\ (k3\_funct\_2\ (k9\_funct\_2\ X1\ k4\_numbers)\ k4\_numbers\ X6\ X2)) \wedge (\forall X7.(m1\_subset\_1\ X7\ X1) \Rightarrow ((X7 \neq X5) \Rightarrow (k21\_aofa\_i00\ X1\ k4\_numbers\ (k2\_binop\_1\ (k9\_funct\_2\ X1\ k4\_numbers)\ (u1\_struct\_0\ X0)\ (k9\_funct\_2\ X1\ k4\_numbers)\ X4\ X2\ (k55\_aofa\_i00\ X0\ X1\ X3\ X4\ X5\ X6))\ X7 = k21\_aofa\_i00\ X1\ k4\_numbers\ X2\ X7)))))))))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_unialg\_1\ X0) \wedge ((v3\_unialg\_1\ X0) \wedge ((v4\_unialg\_1\ X0) \wedge ((v3\_aofa\_000\ X0) \wedge ((v4\_aofa\_000\ X0) \wedge ((v5\_aofa\_000\ X0) \wedge ((v6\_aofa\_000\ X0) \wedge ((v2\_aofa\_i00\ X0) \wedge (l1\_unialg\_1\ X0))))))))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0\ X1) \wedge (v4\_card\_3\ X1)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k9\_funct\_2\ X1\ k4\_numbers))) \Rightarrow (\forall X3.((v1\_aofa\_i00\ X3\ X0\ X1\ X2) \wedge (m1\_aofa\_000\ X3\ X0\ (k9\_funct\_2\ X1\ k4\_numbers)\ X2)) \Rightarrow (\forall X4.(m1\_aofa\_i00\ X4\ X1\ (u1\_struct\_0\ X0)\ (k9\_funct\_2\ X1\ k4\_numbers)\ X3) \Rightarrow (\forall X5.(m2\_funct\_2\ X5\ X1\ k4\_numbers\ (k9\_funct\_2\ X1\ k4\_numbers)) \Rightarrow (k3\_funct\_2\ (k9\_funct\_2\ X1\ k4\_numbers)\ k4\_numbers\ (k42\_aofa\_i00\ X0\ X1\ X2\ X3\ X4)\ X5 = k21\_aofa\_i00\ X1\ k4\_numbers\ X5\ X4)))))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(((\neg v2\_struct\_0\ X0) \wedge ((v2\_unialg\_1\ X0) \wedge ((v3\_unialg\_1\ X0) \wedge ((v4\_unialg\_1\ X0) \wedge ((v3\_aofa\_000\ X0) \wedge ((v4\_aofa\_000\ X0) \wedge ((v5\_aofa\_000\ X0) \wedge ((v6\_aofa\_000\ X0) \wedge ((v2\_aofa\_i00\ X0) \wedge (l1\_unialg\_1\ X0))))))))) \wedge (((\neg v1\_xboole\_0\ X1) \wedge (v4\_card\_3\ X1)) \wedge ((m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k9\_funct\_2\ X1\ k4\_numbers))) \wedge (((v1\_aofa\_i00\ X3\ X0\ X1\ X2) \wedge (m1\_aofa\_000\ X3\ X0\ (k9\_funct\_2\ X1\ k4\_numbers)\ X2)) \wedge (m1\_aofa\_i00\ X4\ X1\ (u1\_struct\_0\ X0)\ (k9\_funct\_2\ X1\ k4\_numbers)\ X3))))) \Rightarrow (m3\_aofa\_i00\ (k42\_aofa\_i00\ X0\ X1\ X2\ X3\ X4)\ X0\ X1\ X2\ X3) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_unialg\_1\ X0)\wedge((v3\_unialg\_1\ X0)\wedge((v4\_unialg\_1\ X0)\wedge((v3\_aofa\_000\ X0)\wedge((v4\_aofa\_000\ X0)\wedge((v5\_aofa\_000\ X0)\wedge((v6\_aofa\_000\ X0)\wedge((v2\_aofa\_i00\ X0)\wedge(l1\_unialg\_1\ X0))))))))))\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge(v4\_card\_3\ X1))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k9\_funct\_2\ X1\ k4\_numbers)))\Rightarrow(\forall X3.((v1\_aofa\_i00\ X3\ X0\ X1\ X2)\wedge(m1\_aofa\_000\ X3\ X0\ (k9\_funct\_2\ X1\ k4\_numbers)\ X2))\Rightarrow(\forall X4.(m1\_aofa\_i00\ X4\ X1\ (u1\_struct\_0\ X0)\ (k9\_funct\_2\ X1\ k4\_numbers)\ X3)\Rightarrow(\forall X5.(m1\_aofa\_i00\ X5\ X1\ (u1\_struct\_0\ X0)\ (k9\_funct\_2\ X1\ k4\_numbers)\ X3)\Rightarrow(k83\_aofa\_i00\ X0\ X1\ X2\ X3\ X4\ X5 = k47\_aofa\_i00\ X0\ X1\ X2\ X3\ X4\ (k36\_aofa\_i00\ X0\ X1\ X2\ X3\ (k42\_aofa\_i00\ X0\ X1\ X2\ X3\ X4)\ (k42\_aofa\_i00\ X0\ X1\ X2\ X3\ X5)))))))) \tag{4}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_unialg\_1\ X0)\wedge((v3\_unialg\_1\ X0)\wedge((v4\_unialg\_1\ X0)\wedge((v3\_aofa\_000\ X0)\wedge((v4\_aofa\_000\ X0)\wedge((v5\_aofa\_000\ X0)\wedge((v6\_aofa\_000\ X0)\wedge((v2\_aofa\_i00\ X0)\wedge(l1\_unialg\_1\ X0)))))))))\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge(v4\_card\_3\ X1))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k9\_funct\_2\ X1\ k4\_numbers)))\Rightarrow(\forall X3.((v1\_aofa\_i00\ X3\ X0\ X1\ X2)\wedge(m1\_aofa\_000\ X3\ X0\ (k9\_funct\_2\ X1\ k4\_numbers)\ X2))\Rightarrow(\forall X4.(m1\_aofa\_i00\ X4\ X1\ (u1\_struct\_0\ X0)\ (k9\_funct\_2\ X1\ k4\_numbers)\ X3)\Rightarrow(\forall X5.(m3\_aofa\_i00\ X5\ X0\ X1\ X2\ X3)\Rightarrow(k55\_aofa\_i00\ X0\ X1\ X2\ X3\ X4\ X5 = k47\_aofa\_i00\ X0\ X1\ X2\ X3\ X4\ (k36\_aofa\_i00\ X0\ X1\ X2\ X3\ (k42\_aofa\_i00\ X0\ X1\ X2\ X3\ X4)\ X5))))))) \tag{5}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_unialg\_1\ X0)\wedge((v3\_unialg\_1\ X0)\wedge((v4\_unialg\_1\ X0)\wedge((v3\_aofa\_000\ X0)\wedge((v4\_aofa\_000\ X0)\wedge((v5\_aofa\_000\ X0)\wedge((v6\_aofa\_000\ X0)\wedge((v2\_aofa\_i00\ X0)\wedge(l1\_unialg\_1\ X0)))))))))\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge(v4\_card\_3\ X1))\Rightarrow(\forall X2.(m2\_funct\_2\ X2\ X1\ k4\_numbers\ (k9\_funct\_2\ X1\ k4\_numbers))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k9\_funct\_2\ X1\ k4\_numbers)))\Rightarrow(\forall X4.((v1\_aofa\_i00\ X4\ X0\ X1\ X3)\wedge(m1\_aofa\_000\ X4\ X0\ (k9\_funct\_2\ X1\ k4\_numbers)\ X3))\Rightarrow(\forall X5.(m1\_aofa\_i00\ X5\ X1\ (u1\_struct\_0\ X0)\ (k9\_funct\_2\ X1\ k4\_numbers)\ X4)\Rightarrow(\forall X6.(m1\_aofa\_i00\ X6\ X1\ (u1\_struct\_0\ X0)\ (k9\_funct\_2\ X1\ k4\_numbers)\ X4)\Rightarrow((k21\_aofa\_i00\ X1\ k4\_numbers\ (k2\_binop\_1\ (k9\_funct\_2\ X1\ k4\_numbers)\ (u1\_struct\_0\ X0)\ (k9\_funct\_2\ X1\ k4\_numbers)\ X4\ X2\ (k83\_aofa\_i00\ X0\ X1\ X3\ X4\ X5\ X6))\ X5 = k6\_int\_1\ (k21\_aofa\_i00\ X1\ k4\_numbers\ X2\ X5)\ (k21\_aofa\_i00\ X1\ k4\_numbers\ X2\ X6))\wedge(\forall X7.(m1\_subset\_1\ X7\ X1)\Rightarrow((X7\neq X5)\Rightarrow(k21\_aofa\_i00\ X1\ k4\_numbers\ (k2\_binop\_1\ (k9\_funct\_2\ X1\ k4\_numbers)\ (u1\_struct\_0\ X0)\ (k9\_funct\_2\ X1\ k4\_numbers)\ X4\ X2\ (k83\_aofa\_i00\ X0\ X1\ X3\ X4\ X5\ X6))\ X7 = k21\_aofa\_i00\ X1\ k4\_numbers\ X2\ X7)))))))))$$