t16_waybel33 (TMXM5vWwQsh6C1Xkzai5ucooWXZ3T1HmFgt)

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Let $v3\_orders\_2 : \iota \Rightarrow o$ be given. Let $v4\_orders\_2 : \iota \Rightarrow o$ be given. Let $v5\_orders\_2 : \iota \Rightarrow o$ be given. Let $v1\_lattice3 : \iota \Rightarrow o$ be given. Let $v2\_lattice3 : \iota \Rightarrow o$ be given. Let $v3\_lattice3 : \iota \Rightarrow o$ be given. Let $l1\_orders\_2 : \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v2\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_yellow\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $v13\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3\_waybel\_7 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $m2\_yellow\_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_yellow19 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_waybel33 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_waybel11 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v1\_waybel28 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_waybel\_9 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_waybel28 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v7\_waybel\_0 : \iota \Rightarrow o$ be given. Let $l1\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_orders\_2 : \iota \Rightarrow o$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ be given. Let $v6\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((v3\_orders\_2\ X0) \wedge ((v4\_orders\_2\ X0) \wedge ((v5\_orders\_2\ X0) \wedge ((v1\_lattice3\ X0) \wedge ((v2\_lattice3\ X0) \wedge ((v3\_lattice3\ X0) \wedge (l1\_orders\_2\ X0)))))))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0\ X1) \wedge ((v2\_waybel\_0\ X1\ (k3\_yellow\_1\ (k2\_struct\_0\ X0))) \wedge ((v13\_waybel\_0\ X1\ (k3\_yellow\_1\ (k2\_struct\_0\ X0))) \wedge ((v3\_waybel\_7\ X1\ (k3\_yellow\_1\ (k2\_struct\_0\ X0))) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k3\_yellow\_1\ (k2\_struct\_0\ X0)))))))))) \Rightarrow (\forall X2.((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ (u1\_struct\_0\ (k3\_yellow19\ X0\ (k2\_struct\_0\ X0)\ X1))\ (u1\_struct\_0\ (k3\_yellow19\ X0\ (k2\_struct\_0\ X0)\ X1))) \wedge ((v1\_waybel28\ X2\ (k3\_yellow19\ X0\ (k2\_struct\_0\ X0)\ X1)) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ (k3\_yellow19\ X0\ (k2\_struct\_0\ X0)\ X1))\ (u1\_struct\_0\ (k3\_yellow19\ X0\ (k2\_struct\_0\ X0)\ X1)))))))) \Rightarrow (r1\_orders\_2\ X0\ (k1\_waybel\_9\ X0\ (k2\_waybel28\ X0\ (k3\_yellow19\ X0\ (k2\_struct\_0\ X0)\ X1)\ X2))\ (k1\_waybel33\ X0\ (k2\_struct\_0\ X0)\ X1)))) \tag{1}$$

Assume the following.

$$\forall X0.((v3\_orders\_2\ X0)\wedge((v4\_orders\_2\ X0)\wedge((v5\_orders\_2\ X0)\wedge((v1\_lattice3\ X0)\wedge((v2\_lattice3\ X0)\wedge((v3\_lattice3\ X0)\wedge(l1\_orders\_2\ X0)))))))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v4\_orders\_2\ X1)\wedge((v7\_waybel\_0\ X1)\wedge(l1\_waybel\_0\ X1\ X0))))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(((X2 = k1\_waybel11\ X0\ X1)\wedge(\forall X3.((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X1))\wedge((v1\_waybel28\ X3\ X1)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X1))))))))\Rightarrow(r1\_orders\_2\ X0\ (k1\_waybel\_9\ X0\ (k2\_waybel28\ X0\ X1\ X3))\ X2)))\Rightarrow(\forall X3.(m2\_yellow\_6\ X3\ X0\ X1)\Rightarrow(X2 = k1\_waybel11\ X0\ X3)))))) \tag{2}$$

Assume the following.

$$\forall X0.((v3\_orders\_2\ X0)\wedge((v4\_orders\_2\ X0)\wedge((v5\_orders\_2\ X0)\wedge((v1\_lattice3\ X0)\wedge((v2\_lattice3\ X0)\wedge((v3\_lattice3\ X0)\wedge(l1\_orders\_2\ X0)))))))\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge((v1\_subset\_1\ X1\ (u1\_struct\_0\ (k3\_yellow\_1\ (k2\_struct\_0\ X0))))\wedge((v2\_waybel\_0\ X1\ (k3\_yellow\_1\ (k2\_struct\_0\ X0)))\wedge((v13\_waybel\_0\ X1\ (k3\_yellow\_1\ (k2\_struct\_0\ X0)))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k3\_yellow\_1\ (k2\_struct\_0\ X0)))))))))\Rightarrow(k1\_waybel33\ X0\ (k2\_struct\_0\ X0)\ X1 = k1\_waybel11\ X0\ (k3\_yellow19\ X0\ (k2\_struct\_0\ X0)\ X1))) \tag{3}$$

Assume the following.

$$\forall X0.(\neg v2\_struct\_0\ (k3\_yellow\_1\ X0))\wedge((v1\_orders\_2\ (k3\_yellow\_1\ X0))\wedge((v3\_orders\_2\ (k3\_yellow\_1\ X0))\wedge((v4\_orders\_2\ (k3\_yellow\_1\ X0))\wedge(v5\_orders\_2\ (k3\_yellow\_1\ X0))))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0)\wedge(l1\_struct\_0\ X0))\wedge(((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\wedge((\neg v1\_xboole\_0\ X2)\wedge((v1\_subset\_1\ X2\ (u1\_struct\_0\ (k3\_yellow\_1\ X1)))\wedge((v2\_waybel\_0\ X2\ (k3\_yellow\_1\ X1))\wedge((v13\_waybel\_0\ X2\ (k3\_yellow\_1\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k3\_yellow\_1\ X1))))))))))\Rightarrow((\neg v2\_struct\_0\ (k3\_yellow19\ X0\ X1\ X2))\wedge((v6\_waybel\_0\ (k3\_yellow19\ X0\ X1\ X2)\ X0)\wedge(v7\_waybel\_0\ (k3\_yellow19\ X0\ X1\ X2)))) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0)\wedge(l1\_struct\_0\ X0))\wedge(((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\wedge((\neg v1\_xboole\_0\ X2)\wedge((v2\_waybel\_0\ X2\ (k3\_yellow\_1\ X1))\wedge((v13\_waybel\_0\ X2\ (k3\_yellow\_1\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k3\_yellow\_1\ X1)))))))))\Rightarrow((\neg v2\_struct\_0\ (k3\_yellow19\ X0\ X1\ X2))\wedge((v3\_orders\_2\ (k3\_yellow19\ X0\ X1\ X2))\wedge((v4\_orders\_2\ (k3\_yellow19\ X0\ X1\ X2))\wedge(v6\_waybel\_0\ (k3\_yellow19\ X0\ X1\ X2)\ X0))))) \tag{6}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_orders\_2\ X0))\Rightarrow(\neg v1\_xboole\_0\ (k2\_struct\_0\ X0)) \tag{7}$$

Assume the following.

$$\forall X0.(l1\_orders\_2\ X0)\Rightarrow(l1\_struct\_0\ X0) \tag{8}$$

Assume the following.

$$\forall X0.(v1\_orders\_2\ (k3\_yellow\_1\ X0))\wedge(l1\_orders\_2\ (k3\_yellow\_1\ X0)) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0)\wedge(l1\_struct\_0\ X0))\wedge(((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\wedge((\neg v1\_xboole\_0\ X2)\wedge((v2\_waybel\_0\ X2\ (k3\_yellow\_1\ X1))\wedge((v13\_waybel\_0\ X2\ (k3\_yellow\_1\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k3\_yellow\_1\ X1)))))))))\Rightarrow((\neg v2\_struct\_0\ (k3\_yellow19\ X0\ X1\ X2))\wedge((v6\_waybel\_0\ (k3\_yellow19\ X0\ X1\ X2)\ X0)\wedge(l1\_waybel\_0\ (k3\_yellow19\ X0\ X1\ X2)\ X0))) \tag{10}$$

Assume the following.

$$\forall X0.(l1\_struct\_0\ X0)\Rightarrow(m1\_subset\_1\ (k2\_struct\_0\ X0)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0)\wedge((v3\_orders\_2\ X0)\wedge((v4\_orders\_2\ X0)\wedge((v5\_orders\_2\ X0)\wedge(l1\_orders\_2\ X0)))))\wedge(((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\wedge((\neg v1\_xboole\_0\ X2)\wedge((v2\_waybel\_0\ X2\ (k3\_yellow\_1\ X1))\wedge((v13\_waybel\_0\ X2\ (k3\_yellow\_1\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k3\_yellow\_1\ X1)))))))))\Rightarrow(m1\_subset\_1\ (k1\_waybel33\ X0\ X1\ X2)\ (u1\_struct\_0\ X0)) \tag{12}$$

Assume the following.

$$\forall X0.(l1\_orders\_2\ X0) \Rightarrow ((v2\_lattice3\ X0) \Rightarrow (\neg v2\_struct\_0\ X0)) \tag{13}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v3\_orders\_2\ X0) \wedge ((v4\_orders\_2\ X0) \wedge ((v5\_orders\_2\ X0) \wedge (l1\_orders\_2\ X0))))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow (((\neg v1\_xboole\_0\ X1) \wedge ((v2\_waybel\_0\ X1\ X0) \wedge ((v13\_waybel\_0\ X1\ X0) \wedge (v3\_waybel\_7\ X1\ X0)))) \Rightarrow ((\neg v1\_xboole\_0\ X1) \wedge ((v1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \wedge ((v2\_waybel\_0\ X1\ X0) \wedge (v13\_waybel\_0\ X1\ X0)))))) \tag{14}$$

Theorem 1

$$\forall X0.((v3\_orders\_2\ X0) \wedge ((v4\_orders\_2\ X0) \wedge ((v5\_orders\_2\ X0) \wedge ((v1\_lattice3\ X0) \wedge ((v2\_lattice3\ X0) \wedge ((v3\_lattice3\ X0) \wedge (l1\_orders\_2\ X0))))))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0\ X1) \wedge ((v2\_waybel\_0\ X1\ (k3\_yellow\_1\ (k2\_struct\_0\ X0))) \wedge ((v13\_waybel\_0\ X1\ (k3\_yellow\_1\ (k2\_struct\_0\ X0))) \wedge ((v3\_waybel\_7\ X1\ (k3\_yellow\_1\ (k2\_struct\_0\ X0))) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k3\_yellow\_1\ (k2\_struct\_0\ X0)))))))))) \Rightarrow (\forall X2.(m2\_yellow\_6\ X2\ X0\ (k3\_yellow19\ X0\ (k2\_struct\_0\ X0)\ X1)) \Rightarrow (k1\_waybel33\ X0\ (k2\_struct\_0\ X0)\ X1 = k1\_waybel11\ X0\ X2)))$$