

# t31\_heyting3

(TMJVza8RG5JadJdz2r2mu9ZPC7oCyyya8Nx)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_heyting3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $r1\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k13\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. 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  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $r3\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $r1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_lattice3 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 \\ & X0) \wedge ((v1\_lattice3 X0) \wedge (l1\_orders\_2 X0)))))) \Rightarrow (\forall X1.(m1\_subset\_1 \\ & X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (((r3\_orders\_2 \\ & X0 X1 X3) \wedge (r3\_orders\_2 X0 X2 X3)) \Rightarrow (r3\_orders\_2 X0 (k13\_lattice3 \\ & X0 X1 X2) X3)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 \\ & X0) \wedge (l1\_orders\_2 X0))) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge ( \\ & m1\_subset\_1 X2 (u1\_struct\_0 X0)))) \Rightarrow ((r3\_orders\_2 X0 X1 X2) \Leftrightarrow (r1\_orders\_2 \\ & X0 X1 X2)) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (v3\_orders\_2 (k1\_heyting3 X0 X1)) \wedge ((v4\_orders\_2 (k1\_heyting3 X0 X1)) \wedge (v5\_orders\_2 (k1\_heyting3 X0 X1))) \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. (v1\_lattice3 (k1\_heyting3 X0 X1)) \wedge (v2\_lattice3 (k1\_heyting3 X0 X1)) \tag{4}$$

Assume the following.

$$\forall X0. \forall X1. l1\_orders\_2 (k1\_heyting3 X0 X1) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v5\_orders\_2 X0)\wedge((v1\_lattice3 X0)\wedge(l1\_orders\_2 X0)))\wedge((m1\_subset\_1 X1 (u1\_struct\_0 X0))\wedge(m1\_subset\_1 X2 (u1\_struct\_0 X0))))\Rightarrow(m1\_subset\_1 (k13\_lattice3 X0 X1 X2) (u1\_struct\_0 X0)) \quad (6)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0)\Rightarrow(\forall X1.\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0))\Rightarrow((r1\_lattice3 X0 X1 X2)\Leftrightarrow(\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0))\Rightarrow((X3 \in X1)\Rightarrow(r1\_orders\_2 X0 X2 X3)))))) \quad (7)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0)\Rightarrow((v2\_lattice3 X0)\Rightarrow(\neg v2\_struct\_0 X0)) \quad (8)$$

**Theorem 1**

$$\forall X0.(m1\_subset\_1 X0 k5\_numbers)\Rightarrow(\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k1\_heyting3 k5\_numbers (k6\_domain\_1 k5\_numbers X0))))\Rightarrow(\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k1\_heyting3 k5\_numbers (k6\_domain\_1 k5\_numbers X0))))\Rightarrow(\forall X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_struct\_0 (k1\_heyting3 k5\_numbers (k6\_domain\_1 k5\_numbers X0))))\Rightarrow(((r1\_lattice3 (k1\_heyting3 k5\_numbers (k6\_domain\_1 k5\_numbers X0)) X3 X1)\wedge(r1\_lattice3 (k1\_heyting3 k5\_numbers (k6\_domain\_1 k5\_numbers X0)) X3 X2))\Rightarrow(r1\_lattice3 (k1\_heyting3 k5\_numbers (k6\_domain\_1 k5\_numbers X0)) X3 (k13\_lattice3 (k1\_heyting3 k5\_numbers (k6\_domain\_1 k5\_numbers X0)) X1 X2)))))))$$