

# t8\_heyting3 (TMHnSmRkR- FWaTYVHw56TaJcNEVAW2SF91JH)

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Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_finsub\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k3\_heyting2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_tarski : \iota \Rightarrow \iota$  be given. Let  $k6\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(v1\_finset\_1 X1) \Rightarrow (\forall X2.(m1\_subset\_1 \\ & X2 (k5\_finsub\_1 (k4\_partfun1 X0 X1))) \Rightarrow (\forall X3.(m1\_subset\_1 \\ & X3 (k5\_finsub\_1 (k4\_partfun1 X0 X1))) \Rightarrow (\forall X4.\neg(X4 \in k3\_heyting2 \\ & X0 X1 X2 X3) \wedge (\forall X5.((v1\_funct\_1 X5) \wedge (m1\_subset\_1 X5 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X2 X3)))) \Rightarrow (\neg(X4 = k3\_tarski (ReplSep (toset (\lambda X6 : \\ & \iota.m1\_subset\_1 X6 (k4\_partfun1 X0 X1))) (\lambda X6 : \iota.X6 \in X2) ( \\ & \lambda X6 : \iota.k6\_subset\_1 (k1\_funct\_1 X5 X6) X6)))) \wedge (k1\_relset\_1 \\ & X2 X5 = X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 X0)) \Rightarrow (k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\exists X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \wedge ((v1\_xboole\_0 X2) \wedge ((v1\_relat\_1 X2) \wedge ((v4\_relat\_1 X2 X0) \wedge (v5\_relat\_1 X2 X1)))) \quad (4)$$

Assume the following.

$$v1\_xboole\_0 k1\_xboole\_0 \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v4\_relat\_1 X1 X0))\Rightarrow(m1\_subset\_1 (k1\_relset\_1 X0 X1) (k1\_zfmisc\_1 X0)) \quad (6)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0)\Leftrightarrow(\forall X1.\neg X1 \in X0) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(v1\_xboole\_0 X0)\Rightarrow(\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X1 X0)))\Rightarrow(v1\_xboole\_0 X2)) \quad (8)$$

**Theorem 1**

$$\forall X0.\forall X1.(v1\_finset\_1 X1)\Rightarrow(\forall X2.(m1\_subset\_1 X2 (k5\_finsub\_1 (k4\_partfun1 X0 X1)))\Rightarrow(\forall X3.(m1\_subset\_1 X3 (k5\_finsub\_1 (k4\_partfun1 X0 X1)))\Rightarrow((X2 = k1\_xboole\_0)\Rightarrow((X3 = k1\_xboole\_0)\vee(k3\_heyting2 X0 X1 X3 X2 = k1\_xboole\_0))))))$$