

t14\_yellow20  
(TMW2opNh4qGE19PhdYVdmBNkQ4JUP9htBCT)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_yellow20 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. r1\_tarski X0 X0 \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 X0)) \Rightarrow (k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \wedge ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1))) \Rightarrow ((v1\_relat\_1 (k1\_yellow20 X0 X1)) \wedge (v1\_funct\_1 (k1\_yellow20 X0 X1))) \tag{3}$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1. ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (\forall X2. ((v1\_relat\_1 X2) \wedge (v1\_funct\_1 X2)) \Rightarrow ((X2 = k1\_yellow20 X0 X1) \Leftrightarrow ((k9\_xtuple\_0 X2 = k3\_xboole\_0 (k9\_xtuple\_0 X0) (k9\_xtuple\_0 X1)) \wedge (\forall X3. (X3 \in k3\_xboole\_0 (k9\_xtuple\_0 X0) (k9\_xtuple\_0 X1)) \Rightarrow (k1\_funct\_1 X2 X3 = k3\_xboole\_0 (k1\_funct\_1 X0 X3) (k1\_funct\_1 X1 X3)))))))) \tag{4}$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 X0)) \Rightarrow ((v1\_partfun1 X1 X0) \Leftrightarrow (k1\_relset\_1 X0 X1 = X0)) \tag{5}$$

Assume the following.

$$\forall X0. \forall X1. (v1\_relat\_1 X1) \Rightarrow ((v4\_relat\_1 X1 X0) \Leftrightarrow (r1\_tarski (k9\_xtuple\_0 X1) X0)) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.k3\_xboole\_0 X0 X1 = k3\_xboole\_0 X1 X0 \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0))\wedge((v1\_relat\_1 X1)\wedge(v1\_funct\_1 X1)))\Rightarrow(k1\_yellow20 X0 X1 = k1\_yellow20 X1 X0) \quad (8)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v1\_relat\_1 X2)\wedge((v4\_relat\_1 \\ & X2 X0)\wedge((v1\_funct\_1 X2)\wedge(v1\_partfun1 X2 X0))))\Rightarrow(\forall X3.( \\ & (v1\_relat\_1 X3)\wedge((v4\_relat\_1 X3 X1)\wedge((v1\_funct\_1 X3)\wedge(v1\_partfun1 \\ & X3 X1))))\Rightarrow((v1\_relat\_1 (k1\_yellow20 X2 X3))\wedge((v4\_relat\_1 (k1\_yellow20 \\ & X2 X3) (k3\_xboole\_0 X0 X1))\wedge((v1\_funct\_1 (k1\_yellow20 X2 X3))\wedge \\ & (v1\_partfun1 (k1\_yellow20 X2 X3) (k3\_xboole\_0 X0 X1)))))) \end{aligned}$$