

t4\_jordan1k  
(TMaTXsb7Wiq9RdEFjmWH4vC8ri6r9otW4DZ)

October 27, 2020

Let  $v1\_xboole\_0 : \iota \Rightarrow o$  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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_funct\_1 : \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(\neg v1\_xboole\_0 X1) \Rightarrow (\forall X2.((v1\_funct\_1 \\ & X2) \wedge ((v1\_funct\_2 X2 X0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X1)))))) \Rightarrow ((v2\_funct\_1 X2) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ & X0) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (k1\_zfmisc\_1 X1)) \Rightarrow ((r1\_tarski \\ & X4 (k7\_relset\_1 X0 X1 X2 X3)) \Rightarrow (r1\_tarski (k8\_relset\_1 X0 X1 X2 X4) \\ & X3)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.r1\_tarski X0 X0 \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(m1\_subset\_1 X2 ( \\ & k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)) \Rightarrow (k8\_relset\_1 X0 X1 X2 X3 = k8\_relat\_1 \\ & X2 X3) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(k7\_relset\_1 X0 X1 X2 X3 = k7\_relat\_1 X2 X3) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(m1\_subset\_1 (k7\_relset\_1 X0 X1 X2 X3) (k1\_zfmisc\_1 X1)) \quad (6)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0))\Rightarrow(\forall X1.\forall X2.(X2 = k8\_relat\_1 X0 X1)\Leftrightarrow(\forall X3.(X3 \in X2)\Leftrightarrow((X3 \in k9\_xtuple\_0 X0)\wedge(k1\_funct\_1 X0 X3 \in X1)))) \quad (7)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0))\Rightarrow(\forall X1.\forall X2.(X2 = k7\_relat\_1 X0 X1)\Leftrightarrow(\forall X3.(X3 \in X2)\Leftrightarrow(\exists X4.(X4 \in k9\_xtuple\_0 X0)\wedge((X4 \in X1)\wedge(X3 = k1\_funct\_1 X0 X4)))))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k4\_xboole\_0 X0 X1)\Leftrightarrow(\forall X3.(X3 \in X2)\Leftrightarrow((X3 \in X0)\wedge(\neg X3 \in X1))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))\Rightarrow(k3\_subset\_1 X0 X1 = k4\_xboole\_0 X0 X1) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski X0 X1)\Leftrightarrow(\forall X2.(X2 \in X0)\Rightarrow(X2 \in X1)) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v1\_relat\_1 X2) \quad (12)$$

**Theorem 1**

$$\forall X0.\forall X1.(\neg v1\_xboole\_0 X1)\Rightarrow(\forall X2.((v1\_funct\_1 X2)\wedge((v1\_funct\_2 X2 X0 X1)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))))\Rightarrow(\forall X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 X0))\Rightarrow((v2\_funct\_1 X2)\Rightarrow(r1\_tarski (k7\_relset\_1 X0 X1 X2 (k3\_subset\_1 X0 X3)) (k3\_subset\_1 X1 (k7\_relset\_1 X0 X1 X2 X3))))))$$